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EVALUATING THE HETEROGENEOUS ROLE OF INSTITUTIONAL QUALITY IN MITIGATING THE ADVERSE EFFECTS OF CAPITAL FLIGHT ON NIGERIA'S ECONOMIC GROWTH: FRESH INSIGHTS FROM A QUANTILE NONLINEAR ARDL FRAMEWORK

ABSTRACT: *This study seeks to examine whether institutional quality mitigated the adverse effect of capital flight on economic growth in Nigeria between 1996 and 2022. The study utilised the novel quantile-based nonlinear autoregressive distributed lag*

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(QNARDL) estimation procedure to estimate the size-based and sign-based heterogeneous link between the investigated series. The following outcomes were obtained: First, capital flight substantially reduces economic growth at diverse quantiles. Second, institutional quality significantly affects economic growth positively. Third, the effects of capital flight and institutional quality on growth are sign- and size-dependent, upholding their heterogeneous link. Fourth, while capital flight is detrimental to economic growth, institutional quality mitigates the devastating effect of capital flight on economic growth at diverse quantiles, both in the short run and long run. The study therefore recommends a business-friendly environment and investment-oriented policy to spur investors to massively invest in the country rather than transferring capital to other countries. Furthermore, quality institutions through good governance, political stability, a strong regulatory system, transparency, fighting corruption, and adherence to rules are required to reduce capital flight and thus enhance economic growth.

KEY WORDS: *capital flight, economic growth, institutional quality, heterogeneous, quantile nonlinear ARDL*

JEL CLASSIFICATION: B41, C32, C52, E22, F21.

1. INTRODUCTION

The persistent discourse in the policy and academic communities about the impact of capital flight on economic growth has been sparked by the dire consequences of capital flight in economies with insufficient capital. This debate involves economists, researchers, and policymakers. Over the past ten years, the focus of development policy literature has shifted to the capital flight out of African nations (Kasongo, 2022). Financial exodus from capital-poor countries creates a need for measures to support the achievement of development and economic growth goals. Since domestic investment declines as a result of capital flight, economic growth is adversely impacted (Ani et al., 2018). Capital flight may also be a sign of impending economic catastrophes, including rising levels of external debt, taxation, and unstable currency rates, Salandy and Henry (2017) assert. Capital flight, according to Hermes and Lensink (2001), jeopardises a country's creditworthiness and chances for economic expansion. Salandy and Henry (2017) argued that one major issue influencing economic growth is financial bleeding caused by capital flight. According to some academics, there is no explanation for the massive capital flight from capital-deficient economies in Africa to economies with ample capital in industrialised nations (Boyce & Ndikumana, 2008; Kollamparambil & Gumbo, 2018; Lucas, 1990).

The quality of institutions in developing countries has become a focal point in empirical discussions. Institutional quality encompasses the rule of law, individual rights, and high-quality government regulation and services. It reflects how well a country's institutions facilitate local and international transactions and ensure their security and predictability (Utile et al., 2021). Institutional quality assesses the effectiveness of a country's institutions in enabling secure and predictable international transactions. In a nutshell, institutional quality refers to the efficiency of a country's institutions in providing a stable, transparent, and predictable environment for economic activities. The importance of institutional quality in fostering investment and economic growth is substantial (Abubakar, 2020; Azam et al., 2021; Nathan et al., 2024). Robust institutions are essential for the regulation and implementation of political, social, and economic activities worldwide, ensuring adequate oversight. Strong institutions promote social cohesion and macroeconomic stability, which, in turn, stimulate investment and growth (Boukhatem & Ben Moussa, 2023; Paersa & Datta, 2023; Tran et al., 2021; Uddin et al., 2023).

Institutional quality can mitigate the adverse effect of capital flight on economic growth and stability, especially in developing countries such as Nigeria (Baek & Yang, 2010; Das et al., 2021; Ngono, 2022). As noted by Abubakar (2020), the relationship between institutional quality and capital flight is deeply intertwined, with the effectiveness of a country's institutions playing a critical role in either exacerbating or mitigating the outflow of capital. At the core of this relationship are corruption and governance. Alexiou et al. (2014) concluded that high levels of corruption and poor governance often drive capital flight as individuals and businesses look to protect their assets from unstable or exploitative environments. Conversely, effective governance reduces the incentive for capital flight by creating a stable and predictable economic setting, thereby fostering confidence among investors.

A robust regulatory framework is also essential in this context. Inconsistent regulations, characterised by arbitrary or frequently changing rules, create uncertainty that can prompt capital flight (Baek & Yang, 2010). On the other hand, clear, consistent, and fair regulations foster confidence and reduce the likelihood of capital flight. This stability encourages investors to keep their capital within the country, knowing that the regulatory environment is reliable and predictable (Das et al., 2021; Ngono, 2022). Economic stability and the investment climate are other significant factors. Macroeconomic instability, manifested through high inflation, volatile exchange rates, and fiscal instability, can drive capital out of the country as investors look for more stable economic environments. Conversely, sound macroeconomic policies and stability create a conducive environment for retaining capital, reducing economic risks and uncertainties that typically drive capital flight. The investment climate is also influenced by institutional quality. Weak institutions can create a hostile investment climate, leading to capital flight as investors seek safer and more favourable environments. High institutional quality, however, promotes a positive investment climate, encouraging domestic and foreign investments to remain and grow within the country. This fosters economic development and stability, further reducing the incentive for capital flight (Abiodun & Yusuf, 2022; Boukhatem & Ben Moussa, 2023; Paersa & Datta, 2023; Tran et al., 2021; Uddin et al., 2023). Judicial efficiency further influences the movement of capital. Weak legal systems, marked by inefficiencies or biases, lead to a lack of trust in the enforcement of contracts and property rights, encouraging capital flight as investors seek more secure environments. In contrast, an efficient and fair judiciary ensures the protection of assets and contracts, reducing the incentive for capital to leave the country. This legal security is crucial for maintaining investor confidence and retaining capital. Some scholars have noted that the primary obstacles to economic growth in African countries include uncertainty and manipulation, deficiencies in the judicial system, corruption, bribery, tax evasion, poorly defined property rights, and the existence of inefficient institutions. These factors contribute to non-growth-enhancing policies and poorly conceived arrangements, making these nations unattractive to investors (Baliamoline, 2005). And all these seriously retard the growth of emerging economies, particularly those of Sub-Saharan Africa (SSA) Nigeria included.

The objective of Nigeria's Medium-Term National Development Plan (MTNDP) 2021–2025 is that 'Nigeria improves economic competitiveness with a gross domestic product (GDP) growth of 3.8% that drives job creation, generates inclusive national growth, and lifts at least 25 million Nigerians out of poverty' (Federal Ministry of Finance, Budget and National Planning [FMOFBNP], 2021, p. 5). Realising the economic growth rate of 3.8 per cent on average may become unrealistic with the magnitude of capital flight from Nigeria. The link between capital flight and economic growth has been the focal point of past empirical studies on international capital flows. Past studies on capital flight in Africa have focused mainly on its linear relationship with economic growth (Ani et al., 2018; Bello & Shittu, 2018; Bredino et al., 2018; Mazadu & Usman, 2021; Obidike et al., 2015; Orimolade & Olusola, 2018). These studies, especially in the context of African countries, did not consider the possibility that the reaction of economic growth to capital flight may vary depending on the size and sign (Effiom, 2021). Additionally, the prior studies in the region did not consider the modulating influence of institutional quality on capital flight-growth connectivity. To the best of our knowledge, no known past study exists on the asymmetric distribution of capital flight and institutional quality on economic growth in Nigeria and Africa. Against this backdrop, this study adds to the existing literature by, first, investigating the asymmetric and heterogenous influence of capital flight on economic growth and, second, examining the moderating role of institutional quality in mitigating the adverse effect of capital flight on economic growth in Nigeria using the novel quantile-based nonlinear autoregressive distributed lag model (QNARDL) as suggested by Cho et al. (2020, 2021). The major advantage of QNARDL over other estimation procedures is that it permits sign asymmetry (sign-based) concerning locational asymmetry across the distributional quantiles of explanatory variables (Cho et al., 2020, 2021). Specifically, the novelty of this study is that it estimates the quantile-based and sign-based influence of capital flight on growth as well as the moderating role of institutional quality on the series connectivity and the response series. Furthermore, it examines the time-series features of the investigated variables across diverse quantiles.

The rest of the study is ordered as follows: Section 2 presents the literature review and theoretical framework; Section 3 discusses the methodology; the empirical results are presented in Section 4; Section 5 focuses on the conclusion and policy recommendations.

2. LITERATURE REVIEW

Capital flight poses a significant threat to the economic stability and growth of developing nations as it exacerbates financial vulnerabilities and undermines development efforts. This study thematically reviews the links between capital flight and economic growth, between institutional quality and economic growth, and between capital flight and institutional quality. By synthesising existing research, this review aims to provide a comprehensive understanding of how institutional quality influences the dynamics of capital flight and economic performance.

Capital flight and economic growth

To investigate the capital flight–economic growth relationship, Orji, et al., (2020) employed the ARDL bounds estimation procedure, and the study identified a short- and long-term inverse relationship between unregulated financial outflows and economic growth. Additionally, they found that national investment, loans to the private sector, and money supply significantly predict economic growth. Their conclusion recommended preventative measures to reduce capital flight and create a more attractive economy to foster wealth development within the country. While the studies of Obidike et al. (2015); Igwemma et al. (2018), Musibau (2017), and Henry (2016) all found an adverse effect of capital flight on economic growth, the studies of Guesarova (2009), and Ameth (2014) found an inconsequential link between the investigated series. In another study, Rahmon (2017) found a positive relationship between capital flight and gross domestic product in Nigeria. Ogundipe et al. (2020) used secondary data sourced from the World Bank dataset from 1981 to 2019 to provide empirical evidence that capital flight exerts a negative impact on Nigerian economic growth. The error correction model was used to ascertain the long run relationship between the variables of the model. They further suggested that external debt and foreign direct investment should be employed in productive areas to ensure a steady increase in domestic production and reduce capital flight.

Institutional quality and economic growth

The relationship between institutional quality and economic growth has garnered considerable attention in the field of economic development. Numerous empirical studies have explored how various dimensions of institutional quality, such as governance, legal frameworks, property rights, and regulatory efficiency influence economic performance across different countries and regions. The consensus emerging from this body of research indicates that robust institutions are crucial for fostering sustainable economic growth. For instance, Utile et al. (2021) analysed the impact of institutional quality on Nigeria's economic development in the 21st century using annual time series data from 2001 to 2019. The findings revealed that institutional quality has a significant negative effect on economic growth. Nguyen et al. (2018) explored the relationship between the two in emerging economics. The study utilised the system generalised method of moments (SGMM) estimation procedure and discovered a direct and substantial link between the investigated series. In the context of SSA, Mohammed et al. (2023) investigated the effects of financial inclusion and institutional quality on growth in five SSA countries. Their study adopted a similar approach to Nguyen et al. (2018) and found a similar outcome. In another related study, Hussen (2023) found a positive impact of institutional quality on economic growth in SSA using SGMM. In Asian countries, Tran et al., (2021) examined the role institutional quality plays in economic growth. A panel of 48 Asian countries was analysed and the study adopted a quantile regression estimation procedure. The study found a heterogeneous relationship between the series and also that lower-income countries within the sample recorded better growth following improved institutional quality than the high-income countries did. Azam et al. (2021) examined the influence of institutional quality on sustainable development in emerging economies. The study employed the SGMM method and found evidence of institutional quality having an increasing influence on sustainable development in the selected nations. It further observed that the positive effect of institutional quality on sustainable development is more pronounced in middle-income nations than in low-income nation. Dirir (2023) explored the economic growth effect of institutional quality in war-torn nations, employing diverse long-term dynamic estimation procedures and finding varying levels of outcomes. Notably, he observed an inverse relationship between the variables investigated in most of the war-torn nations. Wandeda et al. (2021) adopted SGMM in their study on the relationship between institutional quality and economic growth in SSA nations, finding a varying influence depending on the region, and that its positive effect is greater in West Africa than in other regions of SSA. Adu-Darko (2024) examined the inter-connectivity between institutional quality, financial inclusion, and economic growth in SSA using linear and nonlinear estimation. The study found a positive relationship between the investigated series. The study of Heras Recuero and Pascual González (2019) and discovered that institutional quality and economic growth are positively related and that institutional quality plays a pivotal role in a country's growth and development.

Institutional quality and capital flight

The study by Lehne et al. (2014) focused on the role of democratic institutions as a potential determinant of economic performance. It highlights institutions are interconnected, with their relationship characterised as U-shaped rather than linear. The study finds that economic institutions tend to be stronger in countries that are more open to trade, investment, and financial flows, particularly those lacking significant natural resource endowments. Furthermore, the study underscores the influence of historical and geographical factors in shaping a country's economic institutions. Using the autoregressive distributed lag, Forson et al. (2017) observed that in the long run and the short run, capital flight in Ghana is reduced by an increase in the real GDP growth rate, higher domestic real interest rates over foreign interest rates, improved financial development, good governance, and strong property rights. They used data sourced from the Central Bank of Ghana for the period of the study and recommended, among other things, that the Public Accounts Committee in Ghana should improve accountability and transparency so as to strengthen domestic investors and increase the economic growth rate. Akinlo and Aderounmu (2024) investigated the rise in capital flight and how institutional quality may mitigate its effects on the real sector in SSA. Using the SGMM, they analysed data from 26 SSA countries between 1989 and 2020. The results show that capital flight does not have a direct effect on the real sector, while institutional quality negatively influences both the agricultural and industrial sectors. Additionally, the study finds that institutional quality fails to lessen the negative impact of capital flight on the industrial sector. The study is unique in assessing whether institutional quality can reduce the effects of capital flight on the real sector, as reflected in industrial and agricultural value-added.

3. METHODOLOGICAL FRAMEWORK

3.1 Data description

The study uses yearly series covering the period from 1996 to 2022 to highlight the heterogeneous effects of capital flight, CPF, and institutional quality, IQY, on economic growth, EG. The data was obtained from the World Bank data repository and the Central Bank of Nigeria Statistical Bulletin in accordance with the study's goal. Table 1 provides a detailed explanation of the series.

Table 1: Data descriptions

Series	Notation	Unit of measurement	Source
Gross domestic product	GDP	Gross domestic product at 2010 constant prices (Local currency)	CBN
Capital flight	CPF	World Bank definition (difference between sources of funds and uses of funds)	WDI
Financial development	FID	Credit to private sector (% GDP)	CBN
Exchange rate	EXR	Nigerian exchange rate vis-à-vis US dollar	CBN
Interest rate differentials	ITD	Different between foreign lending rate (USD) and Nigeria's prime lending rate (percentage)	CBN/WDI
Institutional quality	IQY	Institutional quality (index)	WDI
Trade openness	OPS	The ratio of the sum of import and export to GDP	CBN

Note: CBN denotes Central Bank of Nigeria, WDI represents World Development Indicators at the World Bank repository.

3.2 Method of data analysis

This study examined the varied effects of capital flight and institutional quality on economic growth in Nigeria using the innovative QNARDL model proposed by Cho et al. (2020, 2021), which is an improvement on the QARDL model developed by Cho et al. (2019). The choice of estimation procedure is predicated on its several advantages over QARDL and nonlinear ARDL as it permits the estimation of both sign-based and magnitude-based asymmetric distributional quantiles effect of regressor(s) on response (Cho et al., 2020, 2021). This has prompted its use in scientific studies in recent times (Odionye, Duru, et al., 2024). Furthermore, it is used in fractionally integrated series. Moreover, this procedure offers the advantage of indicating both the degree as well as the trajectory of extreme (minor/major) positive changes and extreme (minor/major) negative changes in capital flight and institutional quality on the economic growth in the country. This knowledge is crucial as not all changes in capital flight (negative or positive) will affect growth via investment; however, some of these changes will influence domestic investment and hence economic growth. However, the QNARDL estimation procedure breakdowns if series are higher order stationary series, which is the primary limitation of the estimation approach (Cho et al., 2015, 2020, 2021; Odionye & Chukwu, 2023; Odionye, Odo, et al., 2024).

3.3 Model specifications

In line with previous studies and the theoretical view, the functional form is given as:

LGDP = f (CPF, LIQY, LEXR, ITD, LFID, LOPS) (1)

LGDP = f (CPF, LIQY, CAF*LIQR, LEXR, ITD, LFID, LOPS) (2)

Eq. 1 expresses GDP as a function of capital flight, institutional quality (an index consists of political stability, control of corruption, good governance, rule of law, a sound regulatory system and accountability) and other relevant covariates, such as the exchange rate, interest rate differentials, financial sector deepening, and openness, respectively. In order to ascertain the moderating role of institutional quality on the heterogeneous link between growth and capital flight, Eq. 2 specifies GDP as a function of the interaction between IQY and CPF and other series as in Eq. 1, where L represents the natural logarithm of the respective variables. Potentially, the components of institutional quality could be perfectly correlated as they are members of one family index. To address this challenge, the study utilised principal component analysis (PCA) to generate an index IQY to represent the various forms of IQY. The choice of the control variables was guided by economic theory and the prior studies. The first step is to compute the QARDL in line with Cho et al. (2015), which specifies the model following Pesaran and Shin (1998) as:

$$Y_t[X(\tau)] = \beta_0(\tau) + \beta(\tau)Y_t + \sum_{i=1}^{m}\theta_i(\tau)Y_{t-i} + \sum_{i=0}^{n}\eta_i(\tau)X_{t-i} + \mu_t$$
$$\text{where } \beta_i(\tau) = \sum_{i=0}^{m}\beta_i \text{ and } \eta(\tau) = -\sum_{i=1}^{n}\eta_i(\tau) \quad (3)$$

The long-term quantile nexus is given as

$$Y_t = \varpi(\tau) + \beta(\tau)X_t + \mu_t \quad (4)$$
$$\text{where } \varpi = \alpha\left(1-\sum_{i=1}^{m}\theta_i(\tau)\right)^{-1} \text{ and } \beta = \alpha_1\left(1-\sum_{i=1}^{m}\theta_i(\tau)\right)^{-1};$$

μ_t is a stationary process given by $(\Delta X_t, \varepsilon_t(\tau), \Delta X_{t-1}, \varepsilon_{t-1}(\tau), \ldots)$

The generalised form of the QNARDL framework as developed by Cho et al. (2020, 2021) is expressed in Eq. 5:

$$\Delta Y_t[X(\tau)] = \beta(\tau) + \lambda(\tau)Y_{t-1} + \sum_{i=1}^{m}\alpha_i(\tau)\Delta Y_{t-i} + \sum_{i=0}^{n}(\eta_i^+(\tau)\Delta X_{t-i}^+ + \eta_i^-(\tau)\Delta X_{t-i}^-) + \varphi(\tau)ect + \alpha_1^+(\tau)X_t^+ + \alpha_1^-(\tau)X_t^- + \varepsilon_t \quad (5)$$

$\varphi(\tau)$ measures the speed of adjustment at diverse quantiles and τ is the τ^{th} percentile as it drives changes in the response factor. $\alpha_1^+(\tau)X_t^+, \alpha_1^-(\tau)X_t^-$ measure the long-run positive and negative parameters, respectively. $ect_{t-1} = Y_{t-1} - \alpha_1^+(\tau)X_t^+ - \alpha_1^-(\tau)X_t^-$ is the quantile error correction term, where $\alpha_1^+(\tau) = -{}^{\alpha_1^+(\tau)}/_{\lambda(\tau)}$ and $\alpha_1^- = -{}^{\alpha_1^-(\tau)}/_{\lambda(\tau)}$.

Cho et al. (2020) suggested that the QNARDL should first re-parameterised before the estimation in order to avoid the problem of singularity.

The QNARDL's framework in line with the operational designs in Eqs. 1 and 2 are given in Eq. 6 and 7, respectively, following the expression in Eq. 5:

$$\begin{aligned}\Delta LGDP_t(\tau) = {} & \alpha_0(\tau) + \alpha_1(\tau)LGDP_{t-1} + \sum_{i=0}^{m}\alpha_2(\tau)\Delta LGDP_{t-1} + \sum_{i=0}^{n1}\eta_1(\tau)\Delta CPF[{}^{Po}_{ne}]_{t-i} + \\ & \sum_{i=0}^{n3}\lambda_1(\tau)\Delta LIQY_{t-i} + \sum_{i=0}^{n3}\lambda_2(\tau)\Delta LEXR_{t-i} + \\ & \sum_{i=0}^{n4}\lambda_3(\tau)\Delta ITD_{t-i} + \sum_{i=0}^{n5}\lambda_4(\tau)\Delta LFID_{t-i} + \\ & \sum_{i=0}^{n6}\lambda_5(\tau)\Delta LOPS_{t-i} + \delta_1(\tau)CPF^{po}_{ne} + \\ & \theta_1(\tau)LIQY + \theta_2(\tau)LNEXR + \theta_3(\tau)ITD + \theta_4(\tau)LFID + \\ & \theta_5(\tau)LOPS + \phi(\tau)ECT + \mu_{it}\end{aligned} \quad (6)$$

$$\Delta LGDP_t(\tau) = \alpha_0(\tau) + \alpha_1(\tau)LGDP_{t-1} + \sum_{i=0}^{m} \alpha_2(\tau)\Delta LGDP_{t-1} + \sum_{i=0}^{n1} \eta_1(\tau)\Delta CPF * LIQY[{}^{Po}_{ne}]_{t-i} + \sum_{i=0}^{n2} \lambda_1(\tau)\Delta CPF + \sum_{i=0}^{n3} \lambda_2(\tau)\Delta LIQY + \sum_{i=0}^{n4} \lambda_3(\tau)\Delta LEXR_{t-i} + \sum_{i=0}^{n5} \lambda_4(\tau)\Delta ITD_{t-i} + \sum_{i=0}^{n6} \lambda_5(\tau)\Delta LFID_{t-i} + \sum_{i=0}^{n7} \lambda_6(\tau)\Delta LOPS_{t-i} + \delta_1(\tau)CPF * LIQY\,{}^{po}_{ne} + \theta_1(\tau)CPF_t + \theta_2(\tau)LIQY + \theta_3(\tau)LNEXR + \theta_4(\tau)ITD + \theta_5(\tau)LFID + \theta_6(\tau)LOPS + \phi(\tau)ECT + \mu_{it}, \quad (7)$$

where the variables in Eqs. 6 and 7 are as defined in Eqs. 1 and 2; *ECT* is the error correction term; Δ is the difference operator; *m*, *n*1, *n*2, *n*3, *n*4, *n*5, and *n*6 represent the best lag values of the respective series which is selected using lag length information criteria; and μ is the white noise error term. Eqs. 6 and 7 are the QNARDL-ECM models. *Po* and *ne* represent increase and decrease in the respective threshold series, the threshold (asymmetric) series are capital flight and the interaction between capital flight and institutional quality. In line with Shin et al. (2014), we decomposed the asymmetric series (CPF and CPF*LIQY) as

$$CPF_t^{po} = \sum_{i=1}^{r} \Delta CPF_{t-i}^{po} = \sum_{i=1}^{s} \max(\Delta CPF_i, 0) \quad (8a)$$

$$CPF_t^{ne} = \sum_{i=1}^{r} \Delta CPF_{t-i}^{ne} = \sum_{i=1}^{s} \max(\Delta CPF_i, 0) \quad (8b)$$

$$CPF * LIQY_t^{po} = \sum_{i=1}^{r} \Delta CPF * LIQY_{t-i}^{po} = \sum_{i=1}^{s} \max(\Delta CPF * LIQY_i, 0) \quad (9a)$$

$$CPF * LIQY_t^{ne} = \sum_{i=1}^{r} \Delta CPF * LIQY_{t-i}^{ne} = \sum_{i=1}^{s} \max(\Delta CPF * LIQY_i, 0) \quad (9b)$$

The reliability of QNARDL lies in series integration orders of no more than 2; hence it is important to ascertain the series integration order. This work makes use of the Canova-Hansen test, which accounts for the seasonal component in unit root computation and the quantile-based unit root estimation proposed by Koenker and Xiao (2006). This is done to make sure that the stationary processes I(1) and I(0) are used. Moreover, the Wald test of symmetry was used to estimate the symmetric relationship between the studied series across various quantiles. For each

of the threshold series in Eqs. 6 and 7, the null hypothesis is represented by $\eta(\tau)^{Po} = \eta(\tau)^{ne}$ *as* against the alternative that $\eta(\tau)^{Po} \neq \eta(\tau)^{ne}$ and

$\gamma(\tau)^{Po} = \gamma(\tau)^{ne}$ *as* against the alternative that $\gamma(\tau)^{Po} \neq \gamma(\tau)^{ne}$ An asymmetric link between the threshold series is implied by the decline in the null hypothesis.

4. EMPIRICAL OUTCOMES

4.1 Principal component analysis (PCA)

As stated earlier, we employed principal component analysis (PCA) to obtain an individual institutional quality metric for Nigeria, as indicated in Table 2.

Table 2: Principal component analysis (PCA) for institutional quality

				Scoring coefficient	
PCA	**EV**	**Proportion**	**Cumulative**	**Variable**	**Comp1**
CMP1	5.673**	0.71	0.71	Coc	0.41
CMP2	0.626	0.14	0.86	Gef	0.36
CMP3	0.414	0.06	0.94	Pav	0.32
CMP4	0.142	0.04	0.97	Rqu	0.41
CMP5	0.105	0.03	0.99	Rol	0.40
CMP6	0.075	0.02	1.00	Voc	0.33

Note: KMO is 89.24%; ** signifies the selected component

The Kaiser–Meyer–Olkin (KMO) statistic of the sampling capacity in Table 2 is 89.24%, which is higher than 50%, signifying that the collected data is suitable for factor and component analysis. Because its eigenvalue is greater than one, Table 2's first component is selected as the primary component. As a result, an individual institutional quality measure incorporates all the institutional quality metrics.

4.2 Descriptive statistics

Generally speaking, each scientific discussion begins with some descriptive statistics that serve as a foundation for further calculations. Therefore, summary statistics were applied to the pertinent series for this investigation. This test basically reveals the distributions' form and the behavioural pattern of the series, among other factors. In particular, the information provided by the descriptive statistics highlights whether or not the series are regularly distributed. Thus, Table 3 presents a summary of the test outcomes.

Table 3: Descriptive statistics

	LGDP	CPF	IQY	EXR	ITD	FID	OPS
Mean	8.680	9.157	67.983	158.91	-3.922	34.673	3.092
Maximum	11.87	10.545	87.982	458.98	15.711	67.863	10.389
Minimum	4.976	3.689	56.892	18.902	-74.45	4.5682	0.982
Skewness	-0.228	-0.791	1.8342	1.567	-2.632	1.4074	2.091
Kurtosis	3.873	4.982	3.9821	2.732	12.362	5.6541	3.981
Jarque–Bera	15.08**	8.091**	11.62**	17.02**	197.09**	74.82**	9.06**

Note: ** and * depict statistically significant at the 1% and 5% significance levels, respectively.

Based on the relevant Jarque-Bera statistics, Table 3 shows that the series deviate from the normal distribution. These results, which yield robust estimates in the face of anomalous distribution, notably justify the selection and use of a quantile-based nonlinear ARDL estimation approach (Cho et al., 2019, 2020, 2021; Koenker & Bassett, 1987; Odionye, Odo, et al., 2023; Odionye, Ojiaku, et al., 2024; Odionye, Ojiaku, & Uba, 2023; Odionye, Okorontah, et al., 2024). Only for the EXR does the kurtosis show a normal peak; the other series show an abnormal peak. Moreover, while other variables are favourably skewed, GDP, CPF, and ITD are inversely skewed.

4.3 BDS statistics

The Broock et al. (1996) estimation, also known as the BDS test, was used to substantiate the nonlinear attribute of the series. The estimation hypothesises the series is independent and identically distributed (i.i.d) in the residuals, while the alternative hypothesis presupposes that the residual series exemplifies an anomaly of unconventionality, indicating nonlinear dependence.

Table 4: Summary of BDS statistics

Dimension	Series						
(m)	GDP	CPF	IQY	EXR	ITD	FID	OPS
2	0.196**	0.109**	0.091**	0.162**	0.081**	0.132**	0.176**
3	0.287**	0.165**	0.152**	0.235**	0.129**	0.203**	0.319**
4	0.356**	0.234**	0.173**	0.306**	0.167**	0.267**	0.423**
5	0.398**	0.287**	0.183**	0.323**	0.178**	0.290**	0.489**
6	0.426**	0.345**	0.193**	0.345**	0.199**	0.343**	0.523**

Note: ** and * indicate rejection of null hypothesis of linearity at 1% and 5% level of significance, respectively.

Table 4 shows that the alternative hypothesis was accepted while the null hypothesis of the BDS in the series was rejected. The findings demonstrate the nonlinear behaviour of the data series, necessitating the application of a nonlinear approach (Odionye, Ojiaku, & Uba, 2023).

4.4 Quantile unit root test

To ascertain the model series integration order, the quantile-based unit root test proposed by Koenker and Xiao (2006) was employed. In contrast to the alternative, which states that the variable has no unit root at a particular quantile, the unit root test postulates that the series has a unit root. The outcomes of the quantile-based unit root calculation are shown in Table 5.

Table 5: Quantile-based and seasonal unit root tests result

Variables	τ	0.05	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	0.95
LGDP	β(τ)	1.09*	0.87*	0.87*	0.90*	0.93*	0.98*	1.00*	1.10*	0.99*	1.09*	1.21*
	t-stat	0.85	-1.9	-1.40	-0.79	0.19	0.65	1.43	1.33	1.90	1.43	1.08
	CV	-2.33	-2.31	-2.44	-2.33	-2.31	-2.44	-2.32	-2.34	-2.35	-2.39	-2.45
LCPF	β(τ)	0.68*	0.81*	083	0.77*	0.80*	0.81*	0.71*	0.81*	0.87*	0.91*	0.94*
	t-stat	-1.05	-2.13	-3.07	-2.05	-2.73	-2,53	-1.81	-1.50	-1.87	-1.84	-1.73
	CV	-2.33	-2.57	-2.75	-2.81	-2.95	-2.99	-2.96	-2.91	-2.96	-2.76	-2.74
LIQY	β(τ)	0.93*	0.91*	0.93*	0.92*	0.92*	0.94*	0.97*	0.93*	0.97*	0.92*	0.91*
	t-stat	-2.04	-1.91	-1.96	-1.95	-1.74	-1.31	-1.15	-1.15	-1.37	-1.09	-1.22
	CV	-2.45	-2.58	-2.82	-2.89	-2.99	-3.02	-3.02	-3.08	-2.98	-2.84	-2.72
LEXR	β(τ)	0.88	0.87*	0.93*	0.94*	0.87*	0.93*	0.98*	0.87*	0.91*	0.91*	0.92*
	t-stat	-2.97	-2.06	-2.01	-0.97	-1.84	-1.01	-0.75	-1.33	-1.04	-1.08	-1.61
	CV	-2.46	-2.65	-2.80	-2.41	-2.52	-2.67	-2.52	-2.71	-2.77	2.56	2.94
ITD	β(τ)	0.49*	0.51*	0.61*	0.76*	0.70*	0.69*	0.45	0.94*	0.96*	0.92*	0.91*
	t-stat	-0.69	1.21	1.98	-1.19	-1.18	-1.21	-2.33	-1.08	-1.59	-0.89	-1.88
	CV	-2.34	-2.34	-2.36	-2.37	-2.43	-2.36	-2.31	-2.34	-2.37	-2.33	-2.41
LFID	β(τ)	1.04*	1.02*	1.01*	1.00	1.00*	1.00	1.00*	0.99*	0.99*	0.98*	0.99*
	t-stat	0.94	0.93	2.15	2.61	2.01	2.86	1.36	-0.49	-0.78	-0.71	-0.27
	CV	-2.49	-2.45	-2.35	-2.34	-2.32	-2.34	-2.35	-2.38	-2.47	-2.63	-2.71
LOPS	β(τ)	0.79*	0.87*	0.87	0.91	0.96	0.96	0.85	0.87	0.89*	0.86*	0.61*
	t-stat	-1.03	-1.14	-7.93	-8.51	-9.14	-4.98	-6.34	-3.27	-1.44	-0.37	0.11
	CV	-2.32	-2.33	-2.33	-2.33	-2.32	-2.32	-2.33	-2.33	-2.31	-2.42	-2.42

Note: * indicates *t*-value < CV implying rejection of null hypothesis of unit root [β(τ)=1] at the quantile at the 5% level of significance.

Table 5 indicates that all the series are level stationary in diverse quantiles except trade openness (LOPS), which is level non-stationary in several quantiles. In particular, the test justifies the use of QNARDL since the series are fractionally integrated at diverse quantiles (Cho et al., 2019, 2020; Odionye, Nwosu Emmanuel, et al., 2023; Ullah et al., 2022). Our study, in line with Cho et al. (2019, 2020), adopted the two-step cointegration approach in order to generate the projected residual after—re-parameterised estimation to avoid the singularity problem. The result of cointegration is summarised in Table 6.

4.5 Cointegration test

Given that the condition for bound cointegration in the QNARDL model is satisfied, we estimate bound cointegration within the model framework of the QNARDL. The results are presented in Table 6.

Table 6: Two stage cointegration test

		Significance level			
Re-parameterised estimated residual	*t*-test	1%	5%	10%	Remark
Baseline model	-5.6744**	-3.489659	-2.887425	-2.530651	Cointegrated
Moderated model	-4.0983**	-3.489659	-2.887425	-2.580651	Cointegrated

Source: Author's computation. ** denotes statistically significant at the 1% level of significance.

Table 6 indicates a strong long-run relationship between capital flight, institutional quality, and economic growth given that the re-parameterised residual is level stationary. Thus, we estimate the QNARDL-ECM result.

4.6 Lag length selection

The best lag value for the series was selected based on the lag length information criteria and the results are presented in Table 7.

Table 7: Lag length choice based on information criteria

Lag	Logl	LR	FPR	AIC	SC	HQ
0	-310.0778	NA	0.000375	6.301556	6.431815	6.354274
1	218.9350	994.5442	1.57e-08	-3.778701	-2.997150	-3.462393
2	281.4143	111.2131	7.46e-09	-7.528286*	-3.095443*	-3.948389
3	293.8046	20.81575	9.70e-09	-4.276093	-2.191957	-3.432606
4	359.6786	104.0808	4.36e-09	-5.093571	-2.358142	-3.986494
5	429.7770	103.7457	1.82e-09	-5.995540	-2.608818	-4.624873
6	468.2094	53.03677*	1.46e-09*	-6.264188	-2.226175	-4.629932*

Note: * designates lag order nominated by the condition.

Table 7 shows lag 2 as the ideal lag value based on the information condition. Consequently, the QNARDL is estimated based on lag 2.

4.7 Quantile nonlinear autoregressive distributed lag result

As previously stated, the QNARDL technique is the model designed to determine the heterogeneous impact of capital flight and economic policy uncertainty on indigenous investment in Nigeria. For conciseness, the most pertinent empirical results are summarised in Table 8.

Table 8: Summary of quantile nonlinear ARDL result

	Quantiles								
Panel A: Short-term outcomes									
Variables	**Q_0.1**	**Q_0.2**	**Q_0.3**	**Q_0.4**	**Q_0.5**	**Q_0.6**	**Q_0.7**	**Q_0.8**	**Q_0.9**
LGDP(-1)	0.03**	-0.071	-0.08**	-0.08**	-0.10*	-0.09**	-0.12**	-0.15*	-0.17*
Δ(LGDP(-1))	0.04*	0.06**	0.08*	0.015**	0.22**	0.25**	0.034**	0.31**	0.047*
Δ(LCPF_PO)	-0.001	-0.009	-0.002	-0.005	-0.08**	-0.08**	-0.11**	-0.12**	-0.21**
Δ(LCPF_PO (-1))	-0.041	-0.039	-0.040	-0.043	-0.049	-0.051	-0.06**	-0.08**	-0.089**
Δ(LCPF_ NE)	-0.061	-0.041	-0.045*	-0.051	-0.054	-0.047	-0.031	-0.035	-0.042
Δ(LCPF_ NE(-1))	-0.003	-0.004	-0.003	-0.007	-0.008	-0.007	-0.012)	-0.026	-0.027
Δ(LIQY)	0.0113	0.0321	0.0371	0.043*	0.044**	0.079**	0.082**	0.181*	0.183**
Δ(LIQY(-1))	0.0041	-0.027	-0.016	0.002	0.035	0.063*	0.057**	0.059*	0.072**
Δ(LEXR)	0.081*	0.083**	0.086**	0.086**	0.085*	0.108**	0.110*	0.124*	0.145**
Δ(ITD(-1))	0.032	0.076	0.171	0.098	0.110	0.124	0.125	0.172	0.086
Δ(LFID)	0.104**	0.114**	0.112*	0.121**	0.127**	0.139**	0.141*	0..145*	0.163**
Δ(LOPS)	0.004	0.044	0.042	0.071	0.087	0.079	0.101	0..104	0.063**
ECP(-1)	0.012**	-0.037**	-0.042**	-0.069**	-0.073**	-0.073**	-0.076*	-0.081*	-0.097**
Validity test: RRT [0.89] SQT [41.56] QSET [37.86]** WT [36.32]****									
Panel B: Long-term outcomes									
LCPF_PO	-0.031	-0.035	-0.065	-0.086	-0.097	-0.121	-0.14**	-0.29**	-0.31**
LCPF_NE	-0.003	-0.007	-0.008	-0.009	-0.009	-0.011	-0.014	-0.013	-0.027
LIQY	0.024**	0.036**	0.043**	0.049*	0.052**	0.089**	0.123**	0.26**	0.481**
LEXR	0.091**	0.095**	0.098**	0.111**	0.121**	0.34**	0.56**	0.67**	0.72**
ITD	0.011	0.032	0.041	0.039	0.065	0.076	0.079	0.087	0.086
LFID	0.021*	0.034**	0.034**	0.047**	0.051**	0.075**	0.079*	0.083*	0.101**
LOPS	0.060)	0.031	-0.019	0.028	0.039	0.041	0.048	0.056	0.089
Validity test: RRT [1.31] SQT [26.11] QSET** [33.24] WT** [45.23]**									

Note: Standard errors are in parentheses; ** denotes p<0.01, * denotes p<0.05; RRT denotes the Ramsey RESET test model specification, SQT represents the slope quantile test, QSE denotes the quantile slope equality test for quantile symmetry, WT represents the Wald test of threshold variables.

Based on the results obtained from the QNARDL and summarised in Table 8, it is important to highlight that among other interesting outcomes, GDP (Δ(GDP (-1)) is self-reinforcing in all the quantiles. This outcome is demonstrated by the positive and substantial relationship existing between the past value of GDP and its present values.

Concerning the listed regressors, the short-term outcome (Panel A) indicates that elevated capital flight across different quantiles (Δ(LNCPF_PO)) largely reduces the country's GDP. The size of the coefficient indicates an increasing rate of deteriorating influence of capital flight on GDP along the upper quantiles, suggesting a heterogenous influence of capital flight on GDP. In specific terms, elevated capital flight reduces the country's GDP in the middle and upper quantiles q-0.5, q-0.6, q-0.7, q-0.8, and q-0.9 by 0.08%, 0.08%, 0.11%, 0.12%, and 0.21%, respectively. The outcomes strongly uphold the hypothetical view that capital flight adversely influences a country's growth via the draining of investable funds in the country. Similarly, the long-term outcomes demonstrate that the country's GDP largely declined by 0.14%, 0.29%, and 0.31% in response to a 1% increase in capital flight at the upper quantiles, q-0.7, q-0.8, and q-0.9. This finding aligns with the findings of Orji et al. (2020), Igwemma, et al. (2021), Obidike et al. (2015), Ogundipe et al. (2020), and Uzoma Makwe et al. (2021) for Nigeria, Leykun Fisseha (2022) and Ngono (2022) for Africa. On the other hand, the reduction in capital flight (Δ(LNCPF_NE)) has no significant influence on GDP across the various quantiles. The implication of this outcome is that the adverse effect of capital flight on GDP is not reversed following a decline in capital flight. Clearly, the finding indicates that GDP responds asymmetrically to the sign and magnitude change in capital flight. The outcome validates the hysteresis attributes of these variables and the ratchet effects (Baldwin & Krugman, 1989; Dixit, 1989).

With regard to the institutional quality index (Δ(LIQY)), the short-term outcome (Panel A) demonstrates that institutional quality largely enhances Nigeria's GDP, especially between the 50th and 90th percentile change. Specifically, it demonstrates that a percentage increase in institutional quality (LIQY) causes Nigeria's GDP to increase by 0.043%, 0.044%, 0.079%, 0.082%, 0.181%, and 0.183% in the middle and upper quantiles (the 40th, 50th, 60th, 70th, 80th, and 90th, respectively) in the short run. However, in the low quantile (between the 10th and the 40th), it insignificantly influences GDP. Similarly, the long-run outcomes indicate that institutional quality enhances GDP in diverse quantiles. In particular, improvement in LIQY improves GDP at the 10th to 90th percentiles by 0.024%, 0.036%, 0.043%, 0.049%, 0.052%, 0.089%, 0.12%, 0.26%, and 0.48%, respectively, demonstrating an increasing positive effect of LIQY on GDP. What this means is that a strong institutional quality boosts investment and hence improves the country's GDP. This result aligns with the findings of Abubakar (2020) and Nathan et al. (2024) for Nigeria, Azam et al. (2021) and Uddin et al. (2023) for selected emerging nations, Tran et al. (2021) for Asian countries, Parsa and Datta (2023), Boukhatem and Ben Moussa (2023) for MENA nations.

In the case of the exchange rate coefficients, the estimation as demonstrated in panels A and B indicates that exchange rate (LEXR) significantly increases domestic investment in both the short run and long run across diverse quantiles. This validates the theoretical view that exchange rate depreciation enhances domestic production through improved international competitiveness of a country. Similarly, in both the short run and the long run, financial development (LFID), as expected, enhances Nigeria's GDP in all the quantiles. This result supports the finding of Adu-Darko (2024). On the other hand, interest rate differentials and trade openness have insignificant influence on Nigeria's GDP.

The speed of adjustment (ECP(-1)) is appropriately signed and significant in all the quantiles, indicating a long-run convergence of the variables.

The estimation outlining the validity test confirms the asymmetric attributes of the series across diverse quantiles since the null hypothesis of symmetric attributes is rejected. Similarly, slope equality is significant, implying asymmetric slope coefficients across different quantiles, whereas the Ramsy RESET test indicates appropriately stated models. The Wald test indicates that the threshold series (capital flight) exhibit asymmetric links between the threshold variables. These outcomes validate the asymmetric and heterogenous influence of capital flight and institutional quality on GDP.

4.8 Does institutional quality mitigate the devastating effects of capital flight on GDP?

To investigate whether institutional quality (LIQY) mitigates the inverse link between capital flight and GDP, the study examines the interaction effects of capital flight and LIQY on GDP in line with Eq. 1b. The outcome is displayed in Table 9.

Table 9: Interaction effects of capital flight and institutional quality on GDP

	Quantiles								
Panel A: Short-term outcomes									
Variables	**Q_0.1**	**Q_0.2**	**Q_0.3**	**Q_0.4**	**Q_0.5**	**Q_0.6**	**Q_0.7**	**Q_0.8**	**Q_0.9**
LGDP(-1)	0.04*	-0.06	-0.09**	-0.09**	-0.09*	-0.10**	-0.13**	-0.16*	-0.18*
Δ(LGDP(-1))	0.03*	0.06**	0.07*	0.11**	0.16**	0.22**	0.034**	0.32**	0.41*
Δ(LCPFLIQY_PO)	0.007	-0.011	0.014	0.021	0.026	0.027	0.009**	0.012**	0.021**
Δ(LCPFLIQY_NE)	0.023	0.025	-0.002	0.004	0.022	0.052	-0.045	-0.043	0.053
Δ(LCPF)	-0.003*	-0.004	-0.015	-0.009**	-0.014*	-0.023**	-0.027**	-0.028*	-0.031**
Δ(LIQY)	0.0113	0.0322	0.0041	0.045**	0.065**	0.081**	0.087**	0.091*	0.101**
Δ(LIQY(-1))	0.039	-0.011	-0.019	0.004	0.031	0.052*	0.053**	0.054*	0.081**
Δ(LEXR)	0.076*	0.079*	0.081**	0.086**	0.086*	0.088**	0.088*	0.093*	0.099**
Δ(ITD(-1))	0.011	0.034	0.045	0.044	0.037	0.042	0.062	0.101	0.098
Δ(LFID)	0.114**	0.121	0.105*	0.111**	0.117*	0.126**	0.136*	0..148*	0.159**
Δ(LOPS)	0.011	0.023	0.034	0.076	0.077	0.082	0.097	0..085	0.083
ECP(-1)	0.011**	-0.014*	-0.022**	-0.079**	-0.053*	-0.063**	-0.071*	-0.076*	-0.086**
Validity Test: RRT [1.29] SQT [34.56] QSET [51.86]** WT [46.11]****									
Panel B: Long-term outcomes									
LCPFLIQY_PO	-0.009	0.011	0.019*	0.086**	0.097**	0.098**	0.110**	0.181**	0.321**
LCPFLIQY_NE	-0.023	0.027	-0.028	-0.027	-0.029	-0.034	-0.037	-0.034	-0.046
LCPF	-0.011*	-0.009	-0.013	-0.017	-0.019*	-0.043**	-0.051**	-0.073**	-0.085**
LIQY	0.034**	0.03*	0.038**	0.043**	0.049**	0.069**	0.114**	0.145**	0.281**
LEXR	0.077**	0.079*	0.081**	0.084*	0.091**	0.098**	0.161**	0.47**	0.55**
ITD	0.031	0.192	0.121	-0.139	0.105	0.276	0.201	0.187	0.486
LFID	0.121*	0.124**	0.123**	0.147**	0.151**	0.275**	0.279*	0.243*	0.301**
LOPS	0.009	0.011	0.014	0.022	0.026	0.031	0.029	0.028	0.079
Validity Test: RRT [1.01] SQT [33.11] QSET** [41.24] WT** 28.83**									

Note: Standard errors are in parentheses; ** denotes p<0.01, * denotes p<0.05; RRT denotes the Ramsey RESET test model specification, SQT denotes the slope quantile test, QSE represents the quantile slope equality test for quantile symmetry, WT represents the Wald test of threshold variables. LCPFLIQY_PO and LCPFLIQY_NE represent the increase and decrease of the interaction between capital flight and institutional quality, respectively.

Table 9 clearly demonstrates that improvements in institutional quality (absence of political violence, adherence to rule of law, improved regulatory system, enhanced accountability, government effectiveness, control of corruption) mitigate the suppressing influence of capital flight asymmetrically on GDP. This obvious reason is based on the outcomes as demonstrated in Panel A (short-run outcomes) and Panel B (long-run outcomes), where the coefficients of interaction terms ((Δ(LCPFLIQY_PO)) and (LCPFLIQY_PO) significantly enhance GDP in several quantiles, particularly the upper quantiles. In particular, at the middle and upper quantiles (q-0.3, q-0.4, q-0.5, q-0.6, q-0.7, q-0.8, and q-0.9), the interaction between LIQY and capital flight substantially increases Nigeria's GDP in the long run (Panel B) by 0.02%, 0.09%, 0.09%, 0.1%, 0.11%, 0.18%, and 0.32%, respectively, following a one-per cent increase, whereas in the short run (Panel A), it significantly increases the country's GDP only at the upper quantiles (q-0.7 to q-0.9) by 0.009%, 0.012%, and 0.021%, respectively. This result implies that the positive influence of institutional quality on GDP outweighs the adverse effect of capital flight on GDP. The implication of this outcome is that sound institutions demonstrated through good governance, control of corruption, political stability, rule of law, transparency, and a strong regulatory body reduce capital flight and thereby boost the nation's GDP via increased investment.

In relation to the covariates, the outcome as displayed in Table 9 (Panels A and B) demonstrates that the exchange rate (LEXR) and financial development (LFID) substantially affect Nigeria's GDP positively across different quantiles in both the short run and the long run, upholding the hypothetical view that financial stability largely affects the country's growth of foreign investment. Furthermore, the outcomes from the exchange rate uphold the flow-oriented model that exchange rate depreciation enhances the country's global competitiveness and, hence, increases GDP.

5. CONCLUSION AND POLICY RECOMMENDATIONS

This study examined the heterogenous influence of capital flight and its interaction with institutional quality on economic growth in Nigeria using the novel QNARDL model. The study uniquely contributes to the existing literature by providing the sign-based and magnitude-based asymmetric link between the series. Secondly, it provides the effect of interaction between capital flight and institutional quality on GDP. The study's outcomes indicate, first, that capital flight substantially influences GDP adversely at diverse quantiles. The implication is that the Nigeria's GDP deteriorated through decline in domestic investment following massive capital flight. The study thus recommends a business-friendly environment and investment-oriented policy to spur investors to massively invest in the country rather than transferring to other countries. Second, it demonstrates that institutional quality significantly affects GDP positively. In order to guarantee higher production levels and increase GDP, sound institutions are required in the financial markets to fulfil their obligations to investors in terms of accessible loan facilities devoid of unnecessary bottlenecks. In addition, the government should strengthen growth-promoting institutions necessary to achieve high and sustained growth. Third, while capital flight is detrimental to economic growth, institutional quality mitigates the devastating effect of capital flight on economic growth at diverse quantiles both in the short run and long run.

The study's main conclusions and policy recommendations are that, considering that strong institutional quality mitigates the deteriorating influence of capital flight on GDP, the country's government must strengthen its institutions. This includes: (i) Strengthening government regulatory bodies in order to enhance their efficacy in ensuring that market participants adhere to regulations. The government's judicial branch must be fully independent through legislation in order to achieve this goal. (ii) The government must ensure political stability and deliberately pursue policies that ensure a stable political system, as political crises weaken the business environment and instill the fear of losing money among investors. (iii) The government should eliminate institutional shortcomings and create an atmosphere that is beneficial to business. (iv) Since investors are concerned about citizens' adherence to the rule of law, the government must raise their citizens' ratings of its adherence to the law. This can be done through massive citizen awareness, and individuals in positions of power should set a good example for the executive, legislative, and judicial branches of government. (v) The fight against corruption must be taken seriously in Nigeria. This could include revisiting the act setting up all the antigraft agencies and overhauling their operations. At the moment, the executive branch of government in the country has taken over these agencies' functions and is now using them to 'witch-hunt' their political rivals. In order to halt this detrimental trend, the agencies must become more accountable for their actions by being established as fully autonomous branches of government, housed under the judiciary branch and endowed with the legislative authority to investigate, prosecute, and convict anyone found guilty of corruption. (vii) The government should institute and uphold a robust legal system that safeguards property rights and guarantees equitable enforcement of contracts. This gives entrepreneurs and investors confidence to make investments in the nation, which boosts development and productivity. (viii) The government should establish a predictable and transparent regulatory framework that lowers bureaucratic barriers to business. This can promote investment, growth, and development while also assisting firms in operating more effectively

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