IMPACT OF NAIRA REDESIGN ON ECONOMIC GROWTH OF NIGERIA

Omoniyi Rasaq ADEYEMI & Khadijah Misturah NURUDEEN

Department of Economics, Al-Hikmah University, Ilorin.
Email: saq4244@gmail.com & khadijahnurudeen216@gmail.com

Abstract

This study examined the impact of the Naira redesign on economic growth in Nigeria. Using annual time series data from 1986 – 2024 and employing the Autoregressive Distributed Lag (ARDL) model, the study explored the impact of real gross domestic product (LRGDP), Naira redesign (NRD), exchange rate (LEXR), interest rate (INT), and inflation rate (INF). The ARDL Bounds Test provided no evidence of a long-run relationship among the variables, indicating that the Naira redesign policy does not significantly influence Nigeria's economic growth in the long term. The short-run ARDL model revealed that the Naira redesign had no statistically significant effect on RGDP. However, the exchange rate, particularly with a one-period lag, significantly influenced short-run economic growth, while interest rates and inflation showed no significant short-run effects. The model's diagnostic tests confirmed the absence of serial correlation and heteroskedasticity, supporting the reliability of the estimated results. The study also found that currency outside the banking system was achieved. Leading to the conclusion that the Naira redesign policy had no substantial short-run impact on economic growth in Nigeria. The study recommends that policymakers allow sufficient adjustment time for currency reforms and prioritise strategies that improve Nigeria's financial infrastructure and monetary transmission effectiveness.

Keywords: Cashless Policy, Currency Redesign Policy, Economic Growth, Naira Redesign Policy
Jel Codes: E40, E51, E52, E58, O55

1. Introduction

On January 1, 1973, the Nigerian Naira was introduced to mark a shift from the metric to the decimal system, which symbolised a break from British colonial influence (Fapohunda, 2020). Over the years, the Naira has undergone several redesigns, including in 1968, during the war, to prevent abuse and trafficking. Also, in 1973, Obafemi Awolowo, the then federal commissioner for finance, supervised the creation of an indigenous currency. By 1976, the Naira had denominations of ₦1, ₦5, and ₦10, while the ₦20 note was introduced in 1977 in memory of the then Head of State, late General Muritala Muhammed (Fapohunda, 2020). In 1991, the ₦50 note was introduced, followed by the ₦100 note in 1999, ₦200 in 2000, ₦500 in 2001, and ₦1,000 in 2005 (Fapohunda, 2020). In 2020, the CBN governor announced the redesign of ₦200, ₦500, and ₦1,000 notes to control money supply and combat illicit financial flows (Adeniran et al., 2023 & CBN, 2023). The redesign was to maintain monetary sovereignty and boost confidence in the national currency to prevent dollarisation and depreciation of the naira due to low demand (Fapohunda, 2020; CBN, 2023).

Whereas previous studies by Budina et al. (2007), Adefeso and Mobolaji (2010), Ogbole et al. (2011), Nworji et al. (2012) and Agu et al. (2015) focused on the link between fiscal, monetary, and trade policies on economic growth, this study aims to assess the impact of the Naira redesigning policy of the Federal Government on Nigeria's economic growth. Further, it was also discovered that existing literature on the subject topic was delinquent on the impact of currency restructuring, including redesigning and overhauling of Nigerian legal tender on economic growth. These deficiencies and others are further remedied in the foregoing paper.

Globally, governments' policies play a fundamental role in economic growth and physical development. These policies include fiscal, monetary and trade policy, which usually involves using government spending and taxation to manage the economy (Central Bank of Nigeria [CBN], 2017, 2023; Omotosho, 2023). These policies are also a useful tool for stimulating demand, supporting businesses and households, and shortening the span of economic recessions (Enyoghasim et al., 2022). Fiscal policy can control the production and consumption of goods and services by stabilising taxes and increasing expenditure. This approach boosts demand through tax cuts and increased transfer payments, enhancing household incomes and consumer spending (Onyekwelu et al., 2018). It can also influence aggregate output and employment by increasing infrastructure spending, helping to correct economic imbalances during recessions and depressions (CBN, 2017; Enyoghasim et al., 2022; CBN, 2023).

Monetary policy, managed by the Apex Bank, adjusts the money supply and interest rates to stimulate demand (Omotosho, 2023). It is crucial for achieving price stability and attracting investment, which is essential for long-term economic growth. During crises, it mitigates business cycle fluctuations by adjusting interest rates and money supply (CBN, 2017; Onyekwelu et al., 2018). Trade policy aims to improve trade relations and build safety nets against external shocks through stabilised exchange rates. It maintains macroeconomic stability by managing trade flows and reducing the impact of external shocks (CBN, 2017; Omotosho, 2023). Effective coordination between fiscal and monetary policy is essential for macroeconomic stabilisation in Nigeria, ensuring that policy measures are consistent and complementary (CBN, 2023; Omotosho, 2023).

Developing economies like Nigeria face significant fiscal, monetary, and trade deficits. Public goods such as infrastructure and utility services depend on government spending, impacting macroeconomic stability and fiscal sustainability (Budina et al., 2007; CBN, 2023). Nigeria's policies are marked by financial mismanagement of oil revenue, threatening stability (Budina et al., 2007; Omotosho, 2023). Despite various trade policies aimed at enhancing economic growth, reliance on oil revenue and rising budget deficits hinder progress. Improved fiscal measures could boost growth and address ineffective policies (Budina et al., 2007; CBN, 2023). Trade policy can improve fiscal balances through increased tax revenue, directed towards productive sectors via infrastructure spending (Omotosho, 2023).

Studies by Budina et al. (2007), Adefeso and Mobolaji (2010), and Agu et al. (2015) suggest that regulated import levels can expand economic output, while others find that trade liberalisation negatively impacts productivity. Despite the relationships between fiscal policies, monetary policy, trade policy, and economic growth, some previous studies have shown mixed results. Also, increases in government spending and trade openness, and decreases in interest rates, have not necessarily translated into improved economic growth in Nigeria. Studies by Adefeso and Mobolaji (2010); Ogbole et al. (2011) and Nworji et al. (2012) have argued that monetary policy is vital for achieving price stability and attracting private and foreign investors, crucial for long-term economic progress. Also, effective fiscal operations were posited as essential for economic growth, as fiscal deficits can adversely affect growth rates. Also, classical theory posits that fiscal deficits have growth-retarding effects on economic performance (Aninwagu et al., 2024).

2. Literature Review

Conceptual Review

Naira Redesign

This is an economic policy or activity of a nation to either change or modify the existing currency in a country. This can be done for various reasons, like improving the security features of the currency, reducing the inflation rate in the country and also decreasing the supply of money in the country. It is a worldwide economic policy to improve economic performance and strengthen the value and validity of a nation’s currency. It also aimed at decreasing the level of hoarding of the curries as well as the level of corruption (Pillah, 2023). Adeyemo (2022) defines the naira redesign initiative as a strategic alteration of Nigeria's currency design aimed at enhancing its security features and curbing counterfeiting. This initiative is essential for stabilising the economy and restoring public confidence in the financial system. By refreshing the currency, the Central Bank seeks to address various economic challenges and improve the overall monetary environment.

Similarly, in the words of Ojo (2023), the naira redesign is a monetary policy action undertaken by the Central Bank of Nigeria that focuses on refreshing the currency notes to mitigate inflationary pressures. This policy is designed to improve the integrity of the currency in circulation, ensuring that it retains its value and effectiveness in facilitating economic transactions. Ibe (2023) describes the naira redesign policy as involving a comprehensive reform of the currency structure through the reintroduction of new currency notes equipped with advanced security elements. This initiative aims to combat economic malpractices, enhance financial stability, and promote a more efficient monetary environment that benefits all stakeholders.

Again, Eze (2023) articulates that redesigning the naira entails a thorough reform of the currency system, which is intended to streamline monetary transactions and reduce cash hoarding. This policy is also aimed at facilitating better economic management within the country, thereby contributing to overall economic growth and stability. Accordingly, Okafor (2023) is of the view that the naira redesign strategy is a pivotal economic policy aimed at revitalising the Nigerian currency. This initiative addresses issues related to inflation, enhances security against

counterfeiting, and bolsters the overall economic framework of the nation. The redesign is seen as a necessary measure for protecting the integrity of the currency.

Nwankwo (2023) also defined naira redesign as an economic manoeuvre that seeks to modernise the currency system by introducing new designs that not only reflect national pride but also deter corruption and promote financial transparency. This initiative is crucial for building trust in the monetary system and ensuring a robust economic environment. Also, Chukwu (2023) emphasises that the redesign of the naira represents a significant step in Nigeria's monetary policy. This initiative focuses on instilling confidence in the currency, curbing illicit financial flows, and ensuring a more resilient economic landscape. By addressing these issues, the naira redesign aims to enhance the overall economic stability of the country. Finally, Afolabi (2023) characterizes naira redesign as the modification of existing currency notes to incorporate more sophisticated security features. This policy is designed to improve the credibility of the currency and reduce the prevalence of cash-related crimes. By enhancing security, the naira redesign aims to foster a safer and more trustworthy monetary environment for all Nigerians.

In summary, the Naira redesign policy of the Central Bank of Nigeria (CBN) of 2022 is aimed at driving the objectives of the country’s ongoing migration from a cash-dominated economic environment to an electronic payments market, otherwise known as a cashless economy, with a view to enhancing the credibility of the currency while also capturing the cash outside the banking system.

The Naira Redesign and Economic Growth in Nigeria

The impact of the Naira redesign on economic growth in Nigeria is complex and multifaceted. Introduced by the Central Bank of Nigeria (CBN) in late 2022, the redesign initiative aimed to enhance the integrity of the currency, combat counterfeiting, and promote a cashless economy. However, its impact on economic growth has manifested in both direct and indirect ways, leading to various outcomes that warrant careful examination. One of the most immediate effects of the Naira redesign was significant cash shortages, which disrupted everyday transactions and economic activities across the country. Many businesses, particularly Micro, Small, and Medium Enterprises (MSMEs), rely heavily on cash transactions. The sudden unavailability of cash created operational challenges, with numerous businesses reporting substantial revenue losses. For instance, Nigerian Breweries recorded its worst sales in fifteen years due to cash scarcity, highlighting the negative impact on GDP growth. This disruption hindered economic growth in the short term, as reduced consumer spending and decreased business activity negatively impacted the overall GDP.

Furthermore, the redesign coincided with broader economic challenges, including the removal of fuel subsidies and rising electricity tariffs. These changes contributed to inflation, which reached approximately 22% by early 2023. High inflation erodes purchasing power and can stifle economic growth by discouraging both investment and consumption. In this context, the relationship between the redesign and economic growth becomes evident: while the initiative aimed to stabilise the currency, the resulting inflation created an environment of uncertainty that undermined growth prospects. Another critical aspect of the Naira redesign is its goal of encouraging a shift towards a cashless economy through the adoption of digital payment systems, such as the eNaira (CBN, 2022). Although

the redesign intended to improve monetary policy effectiveness and reduce cash hoarding, the uptake of digital alternatives has been notably slow, with only about 0.5% of Nigerians using the eNaira as of late 2022. A successful transition to digital platforms could enhance economic growth by streamlining transactions, increasing efficiency, and improving tax collection. However, the current low adoption rates limit the realisation of these potential benefits.

Public trust and financial stability are also crucial factors in the relationship between the Naira redesign and economic growth. The redesign aimed to restore public confidence in the currency and the financial system, which is essential for fostering investment and savings. However, the initial cash scarcity and public scepticism towards digital currencies have undermined trust in the financial system. For economic growth to be sustained, it is imperative to address these trust issues and ensure that the population feels secure in utilising the financial infrastructure. Despite the immediate negative impacts, the Naira redesign holds long-term potential for economic growth. If implemented successfully, it could lead to a more efficient monetary system, reduced corruption, and enhanced fiscal discipline. Improved currency integrity can attract foreign investment, a critical component for economic expansion. However, achieving these outcomes requires a concerted effort from policymakers to enhance financial literacy, develop robust digital infrastructure, and effectively communicate the benefits of the redesign to the public.

On the theoretical front, institutional growth theory, developed by Douglas North (1990) and Daron Acemoglu (2005), emphasises the role of institutions, such as property rights and the rule of law, in promoting economic growth. This theory assumes that economic growth is driven by the presence of effective institutions, which provide a stable and secure environment for economic activity. Institutional growth theory highlights the importance of building strong institutions to achieve sustained economic growth. Ultimately, institutional growth theory underscores the interplay between economic performance and the institutional context, advocating for reforms that enhance institutional quality to achieve sustained growth. Hence, this paper leverages most on this theory, showcasing the power of strong institutions on a nation's economic growth, like the Central Bank of Nigeria.

On the empirical view**,** Muhammad and Abdulmajeed (2022) examine the effects of monetary policy and the redesign of the Naira on the Nigerian economy. The secondary data used was taken from World Bank publications published between 1970 and 2021. The study demonstrates unequivocally that monetary policy, when properly applied by the federal government via the Central Bank of Nigeria, has a positive impact on the Nigerian economy.

Iwedi and Wachuku (2023) theoretically examine the effect of Naira redesign on economic growth in Nigeria. The study's objectives of reducing cash hoardings, mitigating currency counterfeiting and money supply were adequately achieved. Cordelia (2023) also investigated the effects of the Naira redesign policy on selected MDAs in Ebonyi state with a conclusion that the policy reduced the financial welfare of the workers, resulting from high costs of consumables, among others.

Folorunsho and Adebayo (2023) examined the impact of the cashless policy and Naira redesigning policy on economic development in Nigeria, and concluded, using a survey research design, that the policy was a lofty idea but poorly implemented, resulting in cash shortages and business disruptions.

Ephraim et al. (2023) applied both quantitative and qualitative methods on both primary and secondary data to analyse the effectiveness of the Nigerian digital currency, the eNaira and the currency redesign policy. They opined that to enhance the policy objectives; the security of the currency needs to be boosted.

3. Methodology

Model Specification

The formulated model in this research work employed the application of the multiple regression analysis, which will be used to estimate the model to be specified for constructing the economic model, which was cited from the work of Muhammad and Abdulmajeed (2022). The economic variables affecting economic growth are shown below:

$$RGDP\ f(NRD, INT, INF) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$
$$RGDP = \beta 0 + \beta 1NRD + \beta 2INT + \beta 3INF \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$
$$RGDP = \beta 0 + \beta 1NRD + \beta 2INT + \beta 3INF + \varphi \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)$$

Where:
RGDP = Real Gross Domestic Product
NRD = Naira Redesign Policy
INT = Interest Rate
INF = Inflation
B0 = the intercept or constant term
B1-4 = the coefficient estimate of the independent variables
φ = Error term that takes care of the unaccounted factors

Measurement Variables

	Variables	Description	Unit of Measurement	A Priori Expectation
1	RGDP	Real Gross Domestic Product is the total value of goods and services produced within a country's borders, adjusted for inflation, to reflect the actual change in output	Billion	
2	INT	Interest Rate is equal to Inflation Expectation +Real Interest Rate +Risk premium, influencing borrowing and lending cost	Percentage%	High interest rate can reduce borrowing, decrease savings and discourage investment, leading to a decrease in RGDP
3	INF	Inflation Rate is equal to (CPI change)/(Previous CPI), measuring the percentage change in prices of goods and services over time, reflecting	Percentage%	High inflation can reduce purchasing power, decrease savings, and discourage

		the economy's inflation level		investment, leading to a decrease in RGDP
4	NRD	The Naira Redesign policy is introduced by the Central Bank of Nigeria, and the same would be measured by the extent to which it accomplishes its objectives	Effects on Economic Growth	Naira redesign policy is expected to increase confidence in the economy by decreasing cash outside the banking system, reducing counterfeiting, thereby leading to an increase in RGDP

Source: Authors' computation, 2025

Estimation Techniques

The estimation of the impact of the Naira redesign policy on economic growth in Nigeria was carried out using the Ordinary Least Squares (OLS) regression technique. The OLS method was used to estimate the coefficients of the explanatory variables, which include inflation rate, interest rate, and exchange rate, sourced from the CBN, NBS, Ministry of Finance and the World Bank. The Augmented Dickey-Fuller (ADF) test was used to test for stationarity of the variables, while the Johansen cointegration test was used to test for long-run relationships among the variables. Because of high power distortion in ADF, Philip Perron (pp) tests are employed to ensure robustness.

$$\Delta RGDPt = \beta 11 + \beta 12t + \beta 13\,\delta 1RGDPt-1 + \sum \beta 14\Delta RGDPt-1 + \mu 1t \ldots\ldots\ldots\ldots (1)$$

$$\Delta NRPt = \beta 21 + \beta 22t + \beta 23\,\delta 2NRDt-1 + \sum \beta 24\Delta NRDt-1 + \mu 2t \ldots\ldots\ldots\ldots\ldots (2)$$

$$\Delta INTt = \beta 31 + \beta 32t + \beta 32\,\delta 3INTt-1 + \sum \beta 34\Delta INTRt-1 + \mu 3t \ldots\ldots\ldots\ldots\ldots\ldots (3)$$

$$\Delta INFt = \beta 41 + \beta 42t + \beta 43\,\delta 4INFt-1 + \sum \beta 4\Delta INFt-1 + \mu 4t \ldots\ldots\ldots\ldots\ldots\ldots (4)$$

The long-run and short-run relationship between the dependent and independent variables in Nigeria between 1986 and 2024 is estimated using the bounds testing or Autoregressive Distributed Lag (ARDL) cointegration procedure as developed by Pesaran et al. (2001). Following Pesaran et al. (2001) and adopting the bounds test procedure by modelling the long-run equation (equation 3) as a general vector autoregressive (VAR) model, the following model is obtained;

$$\Delta RGDPt = \beta 0 + \beta 1RGDPt-1 + \beta 2NRDt-1 + \beta 3INTt-1 + \beta 4INFt-1 + \beta 5EXRt-1 + \sum p\varphi 1\Delta RGDPt-1 + \sum p\varphi 2\Delta NRDt-1 + \sum p\varphi 3\Delta INTt-1 + \sum p\varphi 4\Delta INFt-1 + \mu t \ldots\ldots\ldots\ldots\ldots\ldots (5)$$

Where βi and φ are the long-run and short-run multipliers, respectively, β_0 is the drift, p is the optimal lag length, and μ_t is the white noise error term. The calculated F-statistic from equation (6) is compared with the critical value tabulated by Pesaran et al. (2001).

Long-run Autoregressive Distributed Lag (ARDL) Model

Once cointegration is established, the long-run ARDL model can therefore be estimated as:

$$RGDPt = \beta 0 + \sum pi = 0\, \beta 1 RGDPt - 1 + \sum q1i = 0\, \beta 2 NRDt - 1 + \sum q2i = 0\, \beta 3 INTt - 1 + \sum q3i = 0\, \beta 4 INFt - 1 + \sum q4i + \mu t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (6)$$

The order of lag, i.e. ARDL (q1, q2, q3, q4, q5) will be selected based on Akaike Information Criterion (AIC). All variables are as previously defined.

Short-run ARDL model or Error Correction Model (ECM)

The ARDL bound procedure further requires obtaining the short-run dynamic parameters by estimating an error correction model associated with the long-run estimates. Therefore, transforming equation 7 above will yield the introduction of the first difference (Δ) and lag of the error term by one period to measure the rate of adjustment in the equilibrium of the model. The lag of the error term by one period is the error correction mechanism (ECM) that measures the rate of adjustment of the variables from the long run to the short run (David et al., 2016). This is specified as follows;

$$\Delta RGDPt = \beta 0 + \sum pi = 1\, \varphi 1 \Delta RGDPt - 1 + \sum pi = 2\, \varphi 2 \Delta NRDt - 1 + \sum pi = 3\, \varphi 3 \Delta INTt - 1 + \sum pi = 4\, \varphi 4 \Delta INFt - 1 + \sum pi + \delta 7 ECMt - 1 + \mu t \ldots\ldots\ldots\ldots\ldots (8)$$

Equation 8 represents the ARDL model, where Φ is the short-run dynamic coefficient of the model, and δ indicates the speed of the adjustment which restores equilibrium in the dynamic model.

Diagnostic Test

Gujarati (2004) argues that diagnostic tests should be performed so that the model finally chosen is good in the sense that the estimated models have the right signs and are statistically significant based on "*T"* and "*F"* statistics. In this regard, the study will employ the Histogram and Normality tests, the serial correlation LM test, and the Heteroskedasticity test as diagnostic tests. One underlying assumption of the OLS technique is that the successive values of the random variable are temporarily independent, i.e. no autocorrelation. The Durbin-Watson (DW) technique will be employed in order to ascertain whether this assumption is satisfied or otherwise.

4. Data Analysis and Presentation

Descriptive Statistics

Table 4.1: Descriptive Statistics

	LRGDP	NRD	INT	INF
Mean	10.51134	0.076923	18.34338	19.33308
Median	10.53143	0.000000	17.79500	12.22000
Maximum	11.35446	1.000000	31.65000	72.84000
Minimum	9.631547	0.000000	9.959167	5.380000
Std. Dev.	0.587417	0.269953	4.507184	17.34128
Skewness	-0.009703	3.175426	0.662560	1.664202
Kurtosis	1.430644	11.08333	3.787279	4.627415
Jarque-Bera	4.002790	171.7196	3.860592	22.30596
Probability	0.135147	0.000000	0.145105	0.000014
Sum	409.9423	3.000000	715.3919	753.9900
Sum Sq. Dev.	13.11225	2.769231	771.9588	11427.35
Observations	39	39	39	39

Source: Authors' computation, 2025

Table 4.1 presents the descriptive statistics of the variables used to analyse the impact of the Naira redesign on economic growth in Nigeria. The key variables include Real Gross Domestic Product (LRGDP), Naira Redesign (NRD), Interest Rate (INT), and Inflation Rate (INF), based on 39 observations. The Jarque-Bera probability of 0.1351 confirms that LRGDP is normally distributed at a 5% significance level. The Naira redesign (NRD) is represented as a dummy variable. The Jarque-Bera test with a probability of 0.0000 indicates that NRD is not normally distributed, which is typical for dummy variables. The average interest rate is 18.34%, with values ranging from 9.96% to 31.65%. The standard deviation of 4.51 indicates moderate variability in interest rates over time. The skewness of 0.66 implies a slight tendency toward higher interest rates, and the kurtosis of 3.79 suggests the presence of occasional fluctuations above the normal level. The Jarque-Bera test result ($p = 0.1451$) indicates that interest rates are approximately normally distributed. This is significant because fluctuating interest rates can directly impact borrowing, investment, and ultimately economic growth, especially during monetary policy interventions like the Naira redesign. The inflation rate shows a high mean of 19.33% with significant variability (standard deviation of 17.34), ranging from 5.38% to 72.84%. This widespread indicates periods of considerable inflationary pressure in the Nigerian economy.

Correlation Matrix

A correlation matrix is used to show the nature and the degree of correlation between the dependent and independent variables, and also within the independent variables in the model.

Table 4.2: Correlation Matrix

	LRGDP	NRD	INT	INF
ΔGDP	1			
NRD	0.365779	1		
INT	-0.37352	-0.14552	1	
INF	-0.38589	0.001691	0.43574	1

Source: Authors' computation, 2025

Table 4.2 presents the correlation coefficients among the key variables: Real Gross Domestic Product (ΔGDP), Naira Redesign (NRD), Interest Rate (INT) and Inflation Rate (INF). Correlation values range from -1 to +1, while positive values indicate a direct relationship and negative values signify an inverse relationship between variables. The correlation between ΔGDP and NRD is 0.366, suggesting a moderate positive relationship. The correlation between ΔGDP and interest rate (INT) is -0.374, which shows a moderate negative relationship. Similarly, the correlation between ΔGDP and inflation (INF) is -0.386, indicating a moderate inverse relationship.

Results of Variance Inflation Factor

Table 4.3 shows the variance inflation factor for the variables under study. The VIF is used to test for the presence or absence of multicollinearity.

Table 4.3: Variance Inflation Factor

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
NRD	0.046918	1.374428	1.268703
INT	0.000168	2.82212	1.267950
INF	202513E-05	2.869796	1.261106
C	0.053941	20.54203	NA

Source: Authors' computation, 2025

Table 4.3 presents the Variance Inflation Factor (VIF) results, which assess the presence of multicollinearity among the explanatory variables in the regression model. A commonly accepted rule of thumb is that a centred VIF value above 10 indicates problematic multicollinearity. Using the centred VIF is shows that there is an absence of multicollinearity. This is because all the values are less than the threshold of 10.

Test for Stationarity

The Augmented Dickey-Fuller test was adopted in this study to test for the null hypothesis of a unit root, tested against the alternative of no unit root at a 5% level of significance. If the null hypothesis is rejected, it can be concluded that the variables are stationary at levels. The results of the unit root test are presented in Table 4.4.

Table 4.4: Unit Root Test (ADF) Result

Variable	Level	Prob	Critical	First Diff	Prob	Critical	Remarks
LRGDP	-0.950234	0.7605	-2.943427	-3.525146	0.0127	-2.943427	I(1)
NRD	0.879309	0.9938	-2.963972	-6.761091	0.0000	-2.963972	I(1)
INT	-2.498121	0.1241	-2.943427	-5.561530	0.0000	-2.943427	I(1)
INF	-3.444677	0.0155	-2.943427				I(0)

Source: Authors' computation, 2025

Table 4.4 presents the Augmented Dickey-Fuller (ADF) unit root test results, which are used to determine the stationarity of the time series variables in the model. Stationarity is essential in time series analysis to ensure the reliability and validity of regression results, as non-stationary data can produce spurious relationships. It shows that there is a mixture of I(1) and I(0) variables, which suggests further analysis using models such as ARDL (Autoregressive Distributed Lag) would be appropriate since ARDL can accommodate variables with different levels of integration (I(0) and I(1)). The results also confirm that the time series properties of the variables are suitable for co-integration testing to establish long-run relationships among the variables, which is essential in understanding the impact of Naira redesign on Nigeria's economic growth.

Bound test for cointegration

The results of the bound testing approach for the long-run cointegrating relationship among the variables in the model are presented in Table 4.6.

Table 4.6: ARDL Bounds Test

Null Hypothesis: No long-run relationship exists

Test Statistic	Value	K
F-statistic	1.630677	4
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: Authors' computation, 2025

Table 4.6 presents the results of the Autoregressive Distributed Lag (ARDL) Bounds Test, which is used to determine whether a long-run relationship exists among the variables in the model. The calculated F-statistic is 1.6307. This value is compared against the critical value bounds provided for different levels of significance. Since the F-statistic falls below the lower critical value bounds at all conventional significance levels (10%, 5%, and 1%), we fail to reject the null hypothesis. This means that the ARDL Bounds Test does not find evidence of a long-run equilibrium relationship between the Naira redesign, interest rate, inflation, exchange rate, and economic growth (LRGDP) in Nigeria during the study period.

Presentation of Short-run ARDL Model Results

The result of the estimated short-run dynamics between the dependent and independent variables is presented in Table 4.7 below;

Table 4.7: Short-run ARDL model Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
ΔGDP (-1)	0.933635	0.032502	28.72573	0.0000
NRD	0.013222	0.021386	0.618278	0.5411
INT	0.002506	0.001785	1.404102	0.1706
INT(-1)	-0.003014	0.001900	-1.586563	0.1231
INF	-0.000602	0.000355	-1.696698	0.1001
CointEq(-1)	-0.066365	0.032502	-2.041892	0.0400
R-squared	0.987620	Mean dependent var		10.53449
Adjusted R-squared	0.979065	S.D. dependent var		0.576988
S.E. of regression	0.031257	Akaike info criterion		-3.908467
Sum squared resid	0.029310	Schwarz criterion		-3.563712
Log likelihood	82.26088	Hannan-Quinn criter.		-3.785806
F-statistic	1796.804	Durbin-Watson stat		2.144197
Prob(F-statistic)	0.000000			
*Note: p-values and any subsequent tests do not account for the model selection.				

Source: Authors' computation, 2025

The lagged value of ΔGDP (ΔGDP (-1)) has a positive and highly significant coefficient of 0.9336 with a t-statistic of 28.73 (p = 0.0000). This suggests that the past value of economic growth strongly influences current economic growth. The coefficient indicates that about 93% of the previous period's growth is carried over into the current period, which reflects a high level of persistence in Nigeria's economic performance over time. The coefficient of the Naira redesign (NRD) variable is 0.0132, but is statistically insignificant (p = 0.5411). This implies that the Naira redesign has no significant short-run impact on economic growth during the study period. This result aligns with the earlier findings from the ARDL Bounds Test, which suggested that the redesign policy's effects may not be impactful either in the short or long run.

The current interest rate (INT) has a small positive coefficient (0.0025) but is statistically insignificant (p = 0.1706). The lagged interest rate (INT (-1)) shows a negative relationship (-0.0030), but it is also insignificant (p = 0.1231). This suggests that interest rate movements, whether immediate or delayed, do not have a statistically significant short-run effect on economic growth within the period studied. This may imply that the Nigerian economy is relatively less sensitive to interest rate adjustments in the short term, possibly due to structural financial market inefficiencies or limited credit penetration.

The coefficient of inflation (INF) is -0.0006 and is statistically insignificant (p = 0.1001). This shows that inflation has a weak and negative short-run effect on ΔGDP, but the impact is not strong enough to draw firm conclusions. This may indicate that while inflation theoretically erodes purchasing power and can hinder growth, its immediate effects may not be highly pronounced in this model.

The error correction term (CointEq(-1)) has a coefficient of -0.0664 and is statistically significant (p = 0.0500). The negative sign confirms that any short-run disequilibrium is gradually corrected over time. However, the adjustment speed is relatively slow, with only about 6.6% of deviations from equilibrium corrected per period. This slow speed of adjustment further supports the view that the Nigerian economy's short-run responses to shocks like the Naira redesign and monetary fluctuations are sluggish.

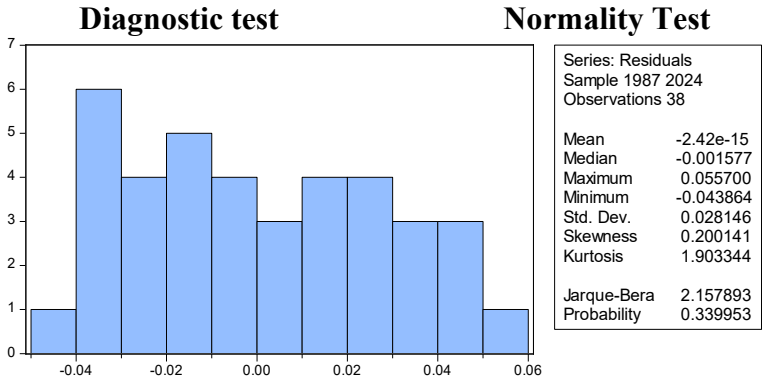
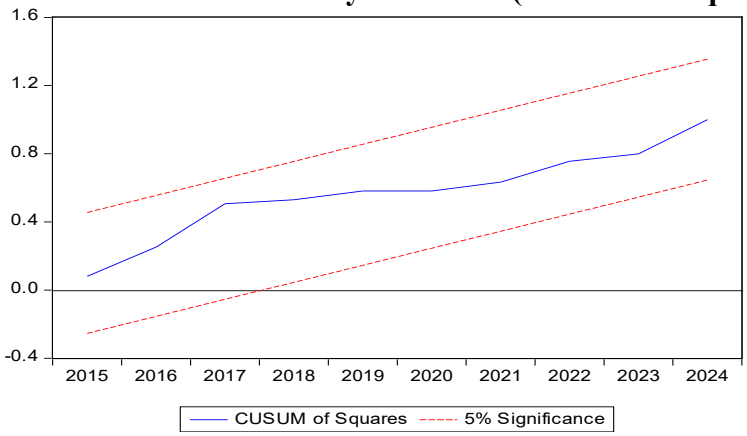


Figure 2: The normality test is shown below

Source: Authors' computation, 2025

The result of the normality test is shown in Figure 1. The result shows that the residual is not normally distributed with a probability value exceeding 0.05(five per cent), which marks the acceptance of the null hypothesis.

Stability test: Presentation of stability test result (CUSUM of Squares)



Source: Authors' computation, 2025

The stability test results are depicted in the figure provided above. According to the guideline, if the blue line lies within the two red lines (above and below), it indicates that the residual is stable. Based on this analysis, we can infer from the CUSUM Test that the residual is indeed stable, as the blue line falls between the two red lines (above and below). Ideally, the plotted points should exhibit random fluctuations around zero. If, however, an upward or downward trend emerges, it suggests a shift in the process mean, possibly due to special causes affecting the process. Points that fall beyond the control limits indicate that the process is out of control.

Serial Correlation LM Test

Table 4.9 Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	4.073140	Prob. F (2,28)	0.2280
Obs*R-squared	8.564053	Prob. Chi-Square (2)	0.3138

Source: Authors' computation, 2025

Table 4.9 presents the results of the Breusch-Godfrey Serial Correlation LM Test, which is used to check whether the residuals from the estimated regression model are serially correlated. Serial correlation, or autocorrelation, refers to a situation where the error terms in one period are correlated with the error terms in another period. This indicates that there is no significant evidence of serial correlation in the model's residuals. The absence of serial correlation means that the residuals from the regression are independently distributed over time.

Heteroskedasticity Test

Table 4.10: Heteroskedasticity Test Breusch-Pagan-Godfrey

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	1.490344	Prob. F (7,30)	0.2085
Obs*R-squared	9.804795	Prob. Chi-Square (7)	0.1999
Scaled explained SS	2.760178	Prob. Chi-Square (7)	0.9063

Source: Authors' computation, 2025

Table 4.10 presents the results of the Breusch-Pagan-Godfrey heteroskedasticity test, which is used to determine whether the variance of the residuals (errors) in the regression model is constant over time. The test results indicate that there is no evidence of heteroskedasticity in the model's residuals. This means that the variance of the error terms is constant over time, satisfying one of the key assumptions of the classical linear regression model. The absence of heteroskedasticity suggests that the estimated coefficients are efficient and the standard errors are reliable.

Discussion of Findings

The ARDL results show that GDP growth is highly persistent, with the previous period's growth explaining nearly 93% of current GDP variations. This aligns with the findings of Nnamdi et al. (2023), who argue that structural inertia in Nigeria's economy causes growth shocks like currency redesigns to dissipate slowly over time. Similarly, Ogbonna and Adebayo (2024) stress that economic policy effects tend to transmit gradually due to market rigidities and institutional lags. Although the correlation matrix suggested a moderate positive association between the naira redesign and GDP, the ARDL model reveals no statistically significant short-term effect. This indicates that the currency redesign did not have a measurable economic effect in the months immediately following implementation. This finding is consistent with Ezeaku et al. (2022), who demonstrate that currency redesign drives transactional disruptions and panic hoarding, but these effects are typically short-lived and dampened by stabilising policy measures. The results show that the lagged exchange rate positively influences GDP, while current depreciation tends to suppress growth. This resonates with Adeniyi and Oladipo's (2021) findings that exchange rate depreciation initially disrupts trade and inflates costs, but over time enhances export competitiveness and incentivises import substitution. The data confirms

that depreciation's positive effect is realised with a lag, supporting the premise of delayed economic adjustment. Current and lagged interest rates, as well as inflation, are statistically insignificant in the short-run model. This suggests that monetary instruments alone do not exert strong immediate effects on economic growth. Omoniyi and Usman (2023) also note that Nigeria's high-interest rate environment and inflation instability often fail to transmit effectively to the real economy, due to limited financial inclusion and high non-performing loan ratios. With an error-correction coefficient of –0.066, the model shows a long and gradual return to equilibrium, with only 6.6% adjustment per period. This slow adjustment echoes Olufemi (2023), who finds that economic recovery from policy-induced shocks in Nigeria takes several quarters or even years. It shows that the benefits of stabilising policies like redesigns are typically realised only in the medium to long term.

5. Conclusion and Recommendations

Based on the empirical analysis, this study concludes that the Naira redesign policy did not have a significant short-run impact on Nigeria's economic growth. Although the policy aimed to enhance currency security and improve monetary control, its direct influence on growth dynamics was statistically negligible in the short run. The exchange rate, particularly with a lag, was the most significant variable influencing economic growth, underscoring the critical role of foreign exchange management in Nigeria's economy. Interest rates and inflation, which are conventional monetary policy tools, showed minimal immediate impact on growth, suggesting that the Nigerian economy's response to monetary policy adjustments is relatively weak in the short run, possibly due to structural inefficiencies and limited financial penetration. The findings align with recent studies by Adeniyi and Oladipo (2021), Ezeaku et al. (2022), and Omoniyi and Usman (2023), who collectively noted that while currency and monetary policies can influence economic outcomes, their effects are often delayed and dependent on broader structural reforms and policy stability.

Recommendations

In light of the findings, the following recommendations are proposed:

(i) Policymakers should focus on implementing strategies that stabilise the exchange rate, as it has been identified as a key short-run driver of economic growth. Ensuring a predictable and transparent foreign exchange market can boost investor confidence and trade competitiveness.

(ii) The Central Bank of Nigeria (CBN) should adopt policies that would improve the effectiveness of interest rate and inflation targeting. This can be achieved by expanding financial inclusion, reducing the dominance of the informal sector, and enhancing credit accessibility.

(iii) The Naira redesigning policy should be complemented by broader structural reforms in the financial system, payment infrastructure, and supply chain management to maximize its potential benefits. Currency reforms alone are insufficient to stimulate growth without addressing underlying inefficiencies.

(iv) Given the slow error correction speed identified in the model, it is recommended that the government and policymakers allow sufficient time for the economy to adjust to the impacts of currency redesigning policy and related policies before making further adjustments.

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