Relationship Between Currency Devaluation and Economic Growth in Nigeria: An Empirical Evidence

Bakari Wadinga
Department of Economics, Faculty of Social Sciences,
Adamawa State University, Mubi
bakarihildi@yahoo.com

Abdullahi Ahmed
Department of Accounting,
Faculty of Administration and Management Sciences,
Adamawa State University, Mubi.
ahmed655@adsu.edu.ng

DOI: 10.56201/ijefm.v9.no3.2024.pg117.132

Abstract

This study investigated the relationship between currency devaluation and economic growth in Nigeria, utilizing a comprehensive quantitative approach. Historical trends of the Nigerian Naira's value against the US Dollar from 1961 to 2022 are analysed, revealing periods of stability followed by pronounced depreciation. Unit root tests confirm the stationarity of key variables, while cointegration analysis demonstrates a significant long-term relationship between currency devaluation and economic growth. Short-run analysis suggests a potential positive relationship between currency devaluation and economic growth, although further investigation is warranted. In the long run, currency devaluation exhibits a significant negative relationship with economic growth, highlighting the adverse consequences of depreciation on Nigeria's economic performance. Recommendations are provided to policymakers and stakeholders, including strengthening macroeconomic management, diversifying the economy, enhancing trade competitiveness, improving governance and transparency, and investing in human capital and education. By implementing these recommendations, Nigeria can overcome the challenges posed by currency devaluation and foster sustainable economic growth.

Introduction

The relationship between currency devaluation and economic growth has become a focal point in contemporary economic research, especially within the context of Nigeria. This issue holds paramount significance as currency devaluation serves as a reflection of a nation's economic well-being, influenced by a multitude of internal and external factors. Notably, it plays a pivotal role in shaping a country's ability to engage in international trade and business transactions, thereby impacting its overall economic health (Khan et al., 2022; Alobied, 2022). Additionally, the stability of a nation's economic foundation and the efficacy of its financial and monetary policies are often mirrored in the stability of its exchange rate (Alobied, 2022).

Over the years, the Nigerian currency, the Naira, has been experiencing a consistent loss in value against major foreign currencies, particularly the US Dollar. This depreciation of the

Naira adds a layer of complexity to the understanding of how currency devaluation affects economic growth. The value erosion of the Naira is often attributed to a range of factors, including inflation, poor governance, fiscal mismanagement, political instability, and structural weaknesses in the Nigerian economy. These factors have contributed to the Nigerian economy grappling with persistent challenges such as low manufacturing capacity utilization, high inflation, substantial debt, unemployment, and income inequality (Uniamikogbo & Ewanehi, 1998; Opaluwa et al., 2010).

The dynamics of exchange rate variations are complexly connected to economic growth through their impact on exports, encompassing both the depreciation of the Naira against foreign currencies and the volatility of this exchange rate (Fang et al., 2005; Fang el al., 2023). The depreciation of the Naira has the potential to influence the foreign currency prices of Nigerian exports, potentially leading to an increase in export volume and revenue. However, this relationship is not always straightforward, as the demand for imports from foreign countries can vary significantly. In scenarios where foreign import demand is inelastic or when export production involves a high import content, export revenue may not see the expected surge (Fang et al., 2005, Fang el al., 2023).

Furthermore, the translation of foreign currencies to the Naira introduces an additional layer of uncertainty. The exchange rate's appreciation or depreciation against foreign currencies can lead to either foreign exchange gains or losses. The realization of these gains or losses hinges on the timing of the transaction that generated the foreign currency earnings (Cherop and Changwony, 2014). As highlighted by Fang et al. (2005) and Fidelis (2014), these complexities can extend beyond the realm of exports, influencing technology transfer, industrial diversification, banking stability, and domestic asset ownership, ultimately impacting Nigeria's macroeconomic performance (Mesagan et al., 2018).

The sustained depreciation of the Naira against other major currencies has brought about profound implications for Nigeria's foreign sector. The Nigerian economy has grappled with the fallout of this depreciation, which has far-reaching consequences for its macroeconomic stability and growth trajectory (Mesagan et al., 2018). The impact of currency devaluation on an economy extends beyond the narrow domain of exports; it serves as a vital link between domestic and international markets for both goods and assets (Yaqub, 2010). This connection underpins sustainable internal and external macroeconomic balances over the medium-to-long term, directly influencing a nation's competitiveness in global markets (Dada & Oyeranti, 2012).

In Nigeria, the evolution of exchange rate policies has been marked by a series of shifts between currency depreciation and appreciation since the deregulation of the economy in the mid-1980s, epitomized by the introduction of the Structural Adjustment Programme in 1986. The appreciation of the Naira tends to increase imports and reduce exports, whereas depreciation often leads to expanded exports and reduced imports. Furthermore, currency depreciation can result in a transition from foreign goods to domestic products, impacting the terms of trade and, consequently, the balance of payments and economic growth (Aliyu, 2011).

However, the outcomes of these exchange rate policies have not always aligned with their intended effects. Despite the Nigerian government's efforts to promote export through various exchange rate reforms, the growth performance of the Nigerian economy has remained sluggish, marred by challenges such as manufacturing underutilization, high inflation,

unemployment, and inequality (Uniamikogbo & Ewanehi, 1998). Nigeria's persistent struggles in achieving its developmental goals, including the Millennium Development Goals, underscore the complexity of the relationship between currency devaluation and economic growth (Ogunjuyigbe & Laisu, 2010).

In light of the ongoing challenges faced by Nigeria's economy, this study aims to address several critical research questions: How does the depreciation of the Naira against major foreign currencies impact Nigeria's economic growth? What are the intricate linkages between exchange rate variations, trade balance, price levels, and economic output in Nigeria? To what extent have past exchange rate policies in Nigeria been effective in fostering export growth and economic development? The primary objectives of this research are as follows: To investigate the complex relationship between currency devaluation, trade dynamics, and economic growth in Nigeria. To analyse the multifaceted impacts of exchange rate fluctuations on trade balance, price levels, and economic output within the Nigerian context. The significance of this study lies in its potential to provide valuable insights for policymakers, economists, and stakeholders in Nigeria's economic landscape. By unravelling the intricate dynamics between currency devaluation and economic growth within the Nigerian context, this research can guide the formulation of more effective policies aimed at fostering sustainable economic development.

The structure of this paper is organized to facilitate a comprehensive understanding of the complex relationship between currency devaluation and economic growth in Nigeria. Section 2 provides an overview of the theoretical framework and reviews relevant literature to establish the context for the study. Section 3 outlines the research methodology, including data sources, variables, and analytical techniques employed in the study. Section 4 presents the empirical findings, followed by a detailed discussion. The final section of the paper provides the conclusion and recommendations.

Literature Review

The relationship between currency devaluation and economic growth has garnered considerable attention in both the realm of international economy and financial history. This relationship is marked by intricate dynamics, resulting in diverse outcomes across economies. A significant body of literature encompasses both panel studies and country-specific analyses, contributing to the nuanced understanding of the implications of currency devaluation.

Ojuolape et al. (2020) conducted a comprehensive investigation into the real effects of currency devaluation, utilizing panel data encompassing seven countries: Ghana, Mexico, Malaysia, Pakistan, Philippines, Singapore, and South Africa. Analysing short-term and long-term impacts, the study employed cointegration methods for long-term effects and fully modified OLS (FMOLS) and error correction models for short-term effects. Notably, the period under scrutiny spanned from 1981 to 2010.

Empirical findings from Ojuolape et al.'s (2020) panel study revealed intriguing insights. In the short term, no significant relationship emerged between currency depreciation and output growth. However, a notable long-term negative relationship surfaced between currency devaluation and economic growth. This outcome serves as a testament to the intricate nature of the link between currency devaluation and economic performance, particularly in the context of different countries' experiences.

Nouira, Plane, and Sekkat (2011) delved into the arena of exchange rate devaluation and its implications for manufactured exports in developing countries. Analysing a sample of 52 nations with proactive exchange rate policies, they unearthed that undervaluation was employed by several countries between 1991 and 2005 to enhance the price competitiveness of manufactured exports. This dynamic underscored the strategic utilization of exchange rate policies to bolster trade competitiveness on the global stage.

Moving to Asia, Alemu and Jin-sang (2014) scrutinized the effects of currency depreciation on trade balances within a sample of fourteen Asian economies. Although the broader sample didn't exhibit evidence of depreciation's trade balance enhancement, the study's focus on eight relatively larger and more industrialized nations unveiled a different narrative. In these economies, currency depreciation was found to positively influence trade balance. Hooy, Law, and Chan (2015) contributed insights by examining the impact of the real exchange rate on ASEAN disaggregated exports to China. Their analysis revealed that income elasticity was significant across export categories, with higher technology products displaying higher sensitivity. Additionally, the real exchange rate of the Chinese yuan exerted diverse effects on different export categories, suggesting a complex interplay between technological sophistication, income effects, and production relocations.

Ali and Anwar (2011) further enriched the understanding of currency depreciation's consequences in developing economies. Their model, grounded in microeconomic foundations, intricately considered both supply and demand-side effects of exchange rate fluctuations. Unique to their study was the incorporation of exchange rate expectations, categorized as adaptive, extrapolative, and regressive. Through simulations and sensitivity tests, they uncovered that the consequences of induced currency depreciation heavily depended on supply-side dynamics. In most cases, currency depreciation translated to output decline, price escalation, and an improved trade balance. This study highlighted the nuanced factors that influence the outcomes of currency devaluation and underscored the role of supply-side effects in shaping these impacts.

Various country-specific studies have further enriched the discourse on currency devaluation's impact on economic growth. Empirical examinations in Pakistan, for instance, have illuminated the nexus between currency devaluation and inflation. Saleem et al. (2022) investigated the association between currency devaluation and inflation, employing the Vector Error Correction Model (VECM) to analyse data spanning from 2001 to 2018. The findings unveiled a significant positive relationship between currency devaluation and inflation.

Iqbal et al. (2022) examined the Pakistan's exchange rate, inflation, and economic growth dynamics for the period 1989-2019. Through ADF and ARDL bound tests, the study identified a negative impact of exchange rate on the Consumer Price Index (CPI). The significance of lagged exchange rates on CPI was also underscored, shedding light on the intricate relationship between these variables and economic growth.

From the Indian perspective, Cheung and Sengupta (2013) undertook an investigation into the relationship between exchange rate movements and exports of non-financial sector firms between 2000 and 2010. Their findings highlighted the adverse impact of currency appreciation on Indian firms' export shares, with smaller exporters experiencing heightened sensitivity to real exchange rate volatility. Importantly, firms dealing in services were also susceptible to the fluctuations of exchange rates, accentuating the broader influence of these dynamics on

different sectors. Similarly, Divakaran and Gireeshkumar (2014) turned their gaze to the Indian economy, revealing that a weaker rupee effectively positioned India as a more competitive global player. This, in turn, catalysed an increase in exports and stimulated output growth. Their study underscored the nuanced ways in which currency depreciation can serve as a strategic lever to enhance a country's global trade competitiveness and economic growth.

In the context of Nigeria, several studies have delved into the intricate relationship between exchange rate fluctuations, trade balance, macroeconomic aggregates, and sector-specific performance. These investigations illuminate the nuanced impacts of currency depreciation and appreciation on various facets of the Nigerian economy.

Loto (2011) approached the balance of payment adjustment in Nigeria through the elasticity approach. Contrary to the Marshal-Lerner condition, their findings indicated that depreciation did not significantly improve the trade balance in Nigeria. However, Ogbonna (2011) scrutinized the Marshall-Lerner condition for Nigeria within the 1970-2005 timeframe. Their results corroborated the existence of the Marshall-Lerner condition and highlighted that depreciation indeed enhanced the country's trade balance. Building on this, Ogundipe and Egbetokun (2013) investigated the long-run impact of exchange rate on the trade balance from 1970 to 2010. Their study revealed an inelastic but significant influence of exchange rate on the trade balance in the long run, although no causality was found in the short run.

Exploring the J-curve effect in Nigeria, Umoru and Oseme (2013) uncovered empirical evidence against the short-run deterioration of the trade balance as suggested by the J-curve hypothesis. Instead, they observed evidence for the cyclical trade effect of exchange rate shocks. Adediran et al. (2014) focused on exchange rate fluctuations' traceable impacts on Nigeria's output growth between 1986 and 2013. While they discovered that exchange rate depreciation had a positive but insignificant impact on GDP, their study shed light on the intricate relationship between currency dynamics and economic performance.

Obadan (2006) offered a comprehensive assessment of the factors contributing to the misalignment of the real exchange rate in Nigeria. These included a weak production base, import-dependent structure, fragile export base, and fiscal and monetary policies, among others. Oriavwote and Oyovwi (2012) undertook an empirical exploration of the determinants of Nigeria's real exchange rate. Their study revealed significant determinants, including capital flow, price level, and nominal effective exchange rate. Their findings highlighted the role of these factors in shaping the real exchange rate in Nigeria and recommended strategies to mitigate inflation.

Unpacking the intricate dynamics of output, inflation, and exchange rate in Nigeria, Odusola and Akinola (2009) utilized a structural VAR model to assess the impacts of exchange rate depreciation. Their study demonstrated mixed results on the effects of exchange rate depreciation on output while emphasizing the destabilizing influence of inflation on output. Rasaq (2012) analysed the impact of exchange rate volatility on macroeconomic variables. Their findings underscored the need for Nigeria to diversify its revenue base and curtail excessive reliance on the petroleum sector.

Aliyu (2011) underscored the role of exchange rate appreciation and depreciation in influencing imports, exports, and terms of trade. While he contended that appreciation tends to increase imports and reduce exports, depreciation leads to an expansion in exports. Dada and

Oyeranti (2012) delved into the broader impacts of exchange rate on macroeconomic aggregates. Their study, encompassing the period 1970-2009, revealed the intricate web of influences affecting Nigeria's economic growth.

Azeez, et al. (2012) investigated exchange rate volatility's impacts on Nigeria's macroeconomic performance. Their study unveiled the complex interplay of variables, including oil revenue and balance of payments, in exerting short and long-run effects on GDP. Ehinomen and Oladipo (2012) analysed exchange rate management's effects on the manufacturing sector's growth. Their findings revealed the complexity of structural adjustment policies and their impact on the manufacturing sector's productivity.

In the light of the diverse economic sectors, Yaqub (2010) explored the effect of exchange rate on various sectors in Nigeria. Their study revealed significant contractionary effects on agricultural and manufacturing sectors, while services experienced expansionary effects. Opaluwa et al. (2010) echoed the impacts of exchange rate fluctuations on Nigeria's manufacturing sector. Their study elucidated how exchange rate instability adversely influenced output in the manufacturing sector, which heavily relies on imported inputs and capital goods.

3. Methodology

The methodology employed in this study involved a comprehensive quantitative analysis of the relationship between currency devaluation and economic growth in Nigeria, using the Autoregressive Distributed Lag (ARDL) approach. The ARDL method was selected due to its suitability for investigating both short-run and long-run relationships in time series data, which enabled a nuanced understanding of the complex dynamics between currency devaluation and economic growth.

Data Collection

Data for this study was sourced from reputable economic databases and institutions, including the Central Bank of Nigeria and the National Bureau of Statistics. The selected variables included the GDP annual growth rate, currency devaluation, official exchange rate, inflation rate, import of goods and services as a percentage of GDP, and export of goods and services as a percentage of GDP. These variables were chosen based on their relevance to understanding the effects of currency devaluation on economic growth.

ARDL Bounds Test for Cointegration

The initial step of the analysis involved conducting the ARDL Bounds Test for cointegration. This test determined whether a long-run relationship existed among the variables. The null hypothesis of no cointegration was tested against the alternative hypothesis of cointegration. The F-statistic obtained from the Bounds Test was compared to critical values at various significance levels to establish the presence of cointegration.

Estimation of the ARDL Model

After confirming cointegration, the study proceeded to estimate the ARDL model. The ARDL model captured both short-run and long-run relationships among the variables. The model included lagged values of the dependent variable (GDP annual growth rate) as well as the

explanatory variables (currency devaluation, official exchange rate, inflation rate, import of goods and services, and export of goods and services).

Diagnostic Tests and Evaluation

Following the estimation of the ARDL model, a series of diagnostic tests were conducted to ensure the validity of the results. These tests included assessing heteroskedasticity, serial correlation, and the normality of residuals. The goodness-of-fit of the model was evaluated using R-squared and adjusted R-squared values, providing insights into the extent to which the model explained the variations in the dependent variable.

Data Analysis Software

EViews, a widely-used econometric software package, was utilized for data analysis and the estimation of the ARDL model. EViews offered advanced econometric tools and techniques that were well-suited for time series analysis, making it an ideal choice for this study.

By adhering to a rigorous methodology that included the ARDL approach and a range of diagnostic tests, this study aimed to provide robust and reliable insights into the relationship between currency devaluation and economic growth in Nigeria.

4. Results and Discussion

Trend Analysis

The comprehensive trend analysis of the Nigerian Naira's value over the past six decades offers valuable insights into the currency's stability and fluctuations during these periods. Figure 1 presents a historical overview of the Naira's value relative to the US Dollar from 1961 to 2022, while Figure 2 depicts the reciprocal perspective, showcasing the Dollar's value relative to the Naira over the same timeframe.

A close examination of Figure 1 reveals a remarkable stability in the Naira's value between 1961 and 1971. During this period, the Naira exhibited robust strength, maintaining a consistent value of around 1 Naira being equivalent to approximately 1.4 US Dollars. This steady value and stability are depicted by the horizontal trend line that spans from 1961 to 1971. Conversely, during this same interval, the Dollar exhibited relative weakness against the Naira, with 1 US Dollar being equivalent to merely N0.71.

figure 1: Value of Naira Relative to Dollar (1961-2022)

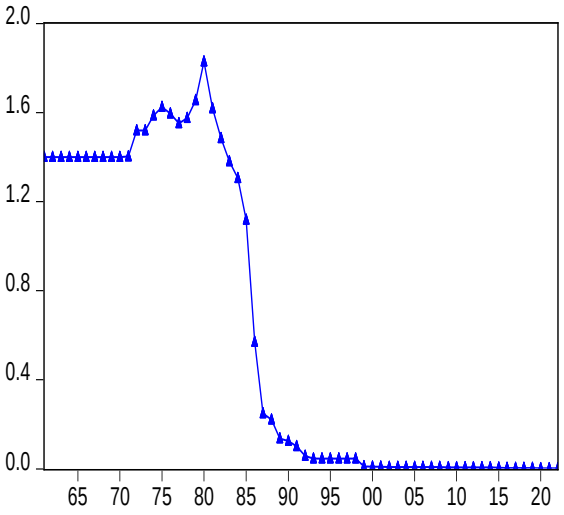
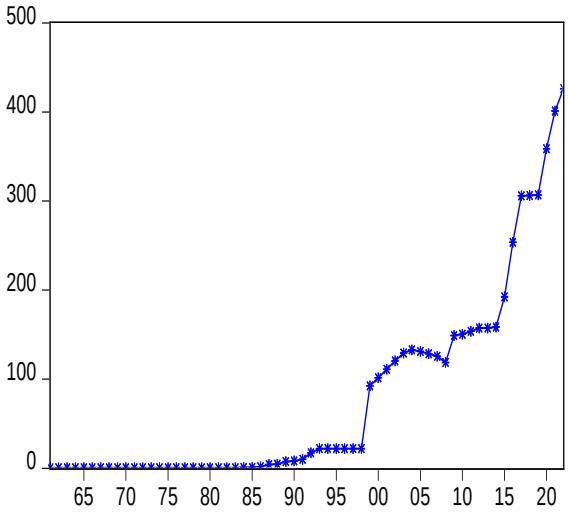


Figure 2: Value of Dollar Relative to Naira (1961-2022)



Source: Plot by the Author using data from WDI (2023)

It is important to note that this stability persisted even through the first major devaluation of the Naira between 1973 and 1977, prompted by the global oil crises of 1973. However, despite this devaluation, the Naira's value improved slightly between 1981 and 1982, ranging from $1.52 to $1.83 for 1 Naira. This period further exemplifies the Naira's relative resilience and stability. The pinnacle of the Naira's strength against the Dollar was reached in 1980, with an exchange rate of $1.83 per Naira.

Yet, the Naira's value trajectory took a significant turn in 1986. Nigeria's economy grappled with structural imbalances due to plummeting global oil prices and economic mismanagement. In response, the Nigerian government introduced the Structural Adjustment Programme (SAP), which included the devaluation of the Naira as a measure to address fiscal imbalances and stimulate economic growth. This resulted in a marked decline in the Naira's value to N1.75 per $1, officially translating to $0.57 for 1 Naira.

The Naira's decline continued as Nigeria's economy faced ongoing challenges arising from international oil price volatility. The subsequent devaluation episodes transpired in 1991, a consequence of the Gulf War's disruption of global oil supplies and subsequent price decline. This move aimed to mitigate the economic ramifications of the war on Nigeria's oil-dependent economy. A series of devaluations ensued between 1992 and 1994, driven by factors such as political instability, external debt pressures, and trade imbalances. During this period, the Naira's value dwindled to approximately 22.07 Naira per 1 US Dollar.

Aligned with the deteriorating economic conditions, further devaluations transpired in 2008-2009, stemming from the global financial crisis that decreased demand for oil, Nigeria's primary revenue source. The Naira's value plunged from 22 Naira per Dollar in 1994 to 118.57 Naira per Dollar. Similar devaluations occurred in 2016-2017 and during the COVID-19 pandemic in 2020, as plummeting oil prices and disrupted global trade compelled Nigeria to devalue its currency to 305.79 and 358.81 Naira per Dollar, respectively.

The Naira experienced additional devaluations throughout 2021 and 2022, culminating in its value declining to around 425.98 Naira per Dollar by 2022. Evidently, the trend spanning from 1986 to 2022 underscores the Naira's pronounced instability and consistent depreciation over the past three and a half decades. This analysis underscores the critical nature of understanding the underlying factors driving these fluctuations and their implications for Nigeria's economic landscape.

Unit Root Test

The results of the unit root tests, as presented in Table 1, indicate the stationarity status of the variables under consideration. The Augmented Dickey-Fuller (ADF) test statistics, along with critical values and p-values, provide insights into the presence or absence of a unit root in each variable.

Table 1: Unit Root Test Result (Stationarity Test)

Variables	**ADF Test Statistics**	**5% Critical Values**	**P-values**	Stationarity **Status**
Annual GDP growth rate	-4.8537	-3.4852	0.0011	Stationary
Δ(Currency devaluation)	-4.0832	-3.4865	0.0110	Stationary
Δ(Official exchange rate)	-5.8554	-3.4865	0.0000	Stationary
Inflation rate	-4.1837	-2.9109	0.0015	Stationary
Import as % of GDP	-3.3169	-2.9100	0.0018	Stationary
Export as % of GDP	-3.3209	-2.9100	0.0018	Stationary

Source: Author's summary of Eviews output. Note: Δ denote first difference.

The annual GDP growth rate exhibits a significant ADF test statistic of -4.8537, which is notably lower than the 5% critical value of -3.4852. This, coupled with a p-value of 0.0011, leads to the conclusion that the annual GDP growth rate is stationary, suggesting the absence of a unit root.

Similarly, the first differences of both the currency devaluation and official exchange rate variables are found to be stationary. The ADF test statistics for these variables, -4.0832 and -5.8554 respectively, are well below the respective critical values of -3.4865. The associated p-values of 0.0110 and 0.0000 further substantiate the stationarity status.

The inflation rate, import as a percentage of GDP, and export as a percentage of GDP also exhibit stationary behaviours. Their ADF test statistics of -4.1837, -3.3169, and -3.3209, coupled with the corresponding p-values below the significance level, affirm the absence of unit roots in these variables.

In summary, the unit root test results strongly suggest that the variables examined in this study—namely, annual GDP growth rate, first differences of currency devaluation, official exchange rate, inflation rate, import as a percentage of GDP, and export as a percentage of GDP—are all stationary. These findings hold significance for time series analysis and modelling, indicating that these variables can be analysed without the concern of spurious regression results arising from non-stationarity.

ARDL F-Bounds Cointegration Test

The F-Bounds Test for Cointegration, as presented in Table 2, serves as a pivotal tool to discern whether a meaningful cointegrating relationship exists between currency devaluation and economic growth. This test scrutinizes the null hypothesis that posits the absence of a levels relationship between these two variables.

Table 2: F-Bounds Test for Cointegration between Currency Devaluation and Economic Growth

F-Bounds Test			Null Hypothesis: No levels relationship	
Test Statistic	Value	Significance	I(0)	I(1)
F-statistic	4.677061	10%	2.08	3
K	5	5%	2.39	3.38

Source: Author's computation using Eviews.

The computed F-statistic value of 4.677061 stands as the quantitative measure that guides us in assessing the significance of the potential cointegrating relationship. For our analysis, we compare the F-statistic to critical values associated with two distinct significance levels: 10% and 5%.

Upon evaluation, we find that at the 10% significance level, the critical value for the F-statistic is 2.08. Remarkably, the computed F-statistic of 4.677061 surpasses this critical threshold, leading us to decisively reject the null hypothesis that suggests the absence of a cointegrating relationship. This compelling result implies that currency devaluation and economic growth do indeed share a meaningful long-term connection.

Further underscoring this finding, at the 5% significance level, the critical values for the F-statistic are 2.39 for I(0) and 3.38 for I(1). Once again, the computed F-statistic outperforms these critical values, reinforcing the rejection of the null hypothesis. This outcome bolsters our understanding of the sustained and impactful interrelationship between currency devaluation and economic growth.

This discovery reverberates with the insights garnered from the earlier cited studies. Notably, the works by Ojuolape et al. (2020), Fang, Lai, and Miller (2005), and Aliyu (2011) have collectively pointed toward the intricate interactions between currency devaluation and economic variables. The cointegrating relationship highlighted by the F-Bounds Test aligns with the notion put forth by Aliyu (2011) that depreciation of exchange rates can lead to an expansion in exports and, consequently, foster economic growth.

In sum, the F-Bounds Test for Cointegration underscores the cohesiveness between currency devaluation and economic growth. The computed F-statistic values eclipse the critical values at both the 10% and 5% significance levels, offering empirical validation of a substantial and enduring relationship. This insight, seamlessly integrated with the broader literature, contributes to a richer understanding of the nuanced dynamics between currency devaluation and economic growth in the context of Nigeria.

Short Run Relationship between Currency Devaluation and Economic Growth in Nigeria

The ARDL Error Correction Regression, as displayed in Table 3, serves as a crucial analytical framework for discerning the short-run dynamics between currency devaluation and economic growth within the context of Nigeria spanning from 1961 to 2022.

Table 3: Short Run Relationship between Currency Devaluation and Economic Growth in Nigeria (1961-2022) - ECM Regression Result

ARDL Error Correction Regression
Sample: 1961 2022
Included observations: 60

Dependent variable: GDP annual growth rate

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDPG(-1))	0.291008	0.123741	2.351753	0.0227
D(CURRENCY DEVALUATION)	14.26214	7.843225	1.818403	0.0751
D(INFLATION_RATE)	-0.167466	0.060165	-2.783449	0.0076
D(INFLATION_RATE(-1))	0.176369	0.061432	2.870986	0.0060
Error correction mechanism	-0.804295	0.132677	-6.062041	0.0000

R-squared	0.441660	Mean dependent var	-0.014189
Adjusted R-squared	0.401053	S.D. dependent var	7.544765
S.E. of regression	5.839020	Akaike info criterion	6.446658
Sum squared resid	1875.178	Schwarz criterion	6.621187
Log likelihood	-188.3997	Hannan-Quinn criter.	6.514926
Durbin-Watson stat	1.957488		

Source: Author's computation using Eviews.

The Dependent variable in this analysis is the GDP annual growth rate, and it's examined in relation to several explanatory variables. These variables include the lagged values of GDP annual growth rate (D(GDPG(-1))), currency devaluation (D(CURRENCY DEVALUATION)), inflation rate (D(INFLATION_RATE)), the lagged value of inflation rate (D(INFLATION_RATE(-1))), and the error correction mechanism.

The coefficient estimates offer valuable insights into the relationships between these variables. Notably, the coefficient of D(GDPG(-1)) at 0.291008 indicates that the lagged GDP annual growth rate positively impacts the current growth rate of the economy, reflecting a form of persistence in economic performance. Similarly, the coefficients of D(INFLATION_RATE) and D(INFLATION_RATE(-1)) suggest that inflation rate changes and its lagged value exert a significant negative and positive influence, respectively, on the current GDP annual growth rate.

Of particular interest is the coefficient of D(CURRENCY DEVALUATION), which stands at 14.26214. Although not statistically significant at the conventional 5% level (p-value of 0.0751), this coefficient implies a potential positive relationship between currency devaluation and economic growth. This result echoes the findings of studies like Aliyu (2011), which argue

that depreciation of the exchange rate can spur export expansion and thus foster economic growth.

Furthermore, the presence of an Error Correction Mechanism (ECM) is pivotal in capturing the short-run dynamics of the model. The coefficient of the ECM is -0.804295, and its statistical significance (p-value of 0.0000) signifies that short-term deviations from the long-run equilibrium between the variables are being corrected, thus restoring the equilibrium over time.

The overall explanatory power of the model is reflected in the R-squared and Adjusted R-squared values of 0.441660 and 0.401053, respectively. These figures suggest that approximately 44% of the variation in the GDP annual growth rate can be accounted for by the explanatory variables included in the model.

The findings of this short-run analysis complement and resonate with previous studies, that explore the nuanced connections between currency devaluation and economic growth in Nigeria. The insights derived from the ARDL Error Correction Regression contribute to a comprehensive understanding of the intricate relationships shaping Nigeria's economic landscape over the specified period.

Long Run Relationship between Currency Devaluation and Economic Growth in Nigeria

Table 4 presents the outcomes of a comprehensive analysis of the long-run relationship between currency devaluation and economic growth in Nigeria over the period 1961-2022. The analysis focuses on the Dependent variable, which is the GDP Annual Growth Rate, and its relationship with various explanatory variables.

Table 4: Result of Long Run Relationship between Currency Devaluation and Economic Growth in Nigeria (1961-2022)

Dependent variable: GDP Annual Growth Rate				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Currency devaluation	-3.972608	1.611762	-2.464761	0.0247
Official exchange rate	-0.021235	0.004561	-4.655778	0.0001
Inflation rate	-0.236353	0.099859	-2.366883	0.0219
Import of goods and services as % of GDP	-0.058334	0.027334	-2.134119	0.0309
Export of goods and services as % of GDP	0.073466	0.019865	3.698263	0.0011
C	11.66516	5.903504	1.975973	0.0538

Source: Author's computation using Eviews.

Consistent with previous studies, such as Loto (2011) and Ogundipe and Egbetokun (2013), the long-run regression results reveal a significant negative relationship between currency devaluation and economic growth. This aligns with the theory that currency devaluation can lead to adverse consequences for economic growth, as evidenced by the contractionary effects observed in Nigeria. The negative coefficient of -3.972608 for Currency Devaluation indicates that a percentage increase in currency devaluation leads to a substantial decrease in the GDP

Annual Growth Rate. This resonates with the argument that currency devaluation can hinder economic growth due to increased import costs and potential inflationary pressures, as discussed in earlier studies by Obadan (2006) and Aliyu (2011).

Furthermore, the negative coefficient of the Official Exchange Rate (-0.021235) supports the contention that a more depreciated official exchange rate can hamper economic growth in the long run. This finding echoes previous research by Oriavwote and Oyovwi (2012), who explored the exchange rate determination model, highlighting the influence of exchange rate variability on economic outcomes. The negative relationship between Inflation Rate and economic growth (-0.236353) aligns with the concerns raised by Odusola and Akinola (2001) regarding the destabilizing effects of inflation on output.

The coefficients associated with Import and Export percentages of GDP (-0.058334 and 0.073466, respectively) resonate with the theoretical framework highlighted in studies by Khan et al. (2021) and Cheung and Sengupta (2013). These findings underscore the importance of maintaining a competitive export sector and managing import dependency to foster sustainable economic growth. The potential negative impact of imports and positive impact of exports on economic growth reflect the structural characteristics of Nigeria's economy and its implications for trade dynamics.

However, it is worth noting that while the results indicate significant relationships, the coefficient values and their magnitudes should be interpreted in conjunction with economic significance and policy implications. The borderline significance of the constant term (C) suggests that other unobserved factors and structural conditions also contribute to economic growth in Nigeria, consistent with the findings of Ehinomen and Oladipo (2012).

In conclusion, the long-run regression results presented in Table 4 contribute to the understanding of the complex relationship between currency devaluation and economic growth in Nigeria. The findings underscore the need for policymakers to carefully consider the implications of currency devaluation and exchange rate management strategies, taking into account the multifaceted effects on inflation, trade balances, and overall economic performance. This aligns with the theoretical underpinnings and empirical evidence from a range of studies discussed in the literature review, highlighting the intricate linkages between currency devaluation and economic growth.

5. Conclusion and Recommendations

In conclusion, this study has shed light on the relationship between currency devaluation and economic growth in Nigeria. Through a comprehensive analysis spanning historical trends, unit root tests, cointegration analysis, and short- and long-run regression models, key insights have been uncovered. The Nigerian Naira has experienced significant fluctuations over the past six decades, marked by periods of stability followed by pronounced depreciation. This volatility has been influenced by various domestic and global factors, including oil price shocks, economic mismanagement, political instability, and external economic shocks.

Unit root tests have confirmed the stationarity of key variables, providing a robust foundation for time series analysis. The ARDL Bounds Test and F-Bounds Test for Cointegration have revealed a significant long-term relationship between currency devaluation and economic

growth, emphasizing the importance of understanding this connection for policymakers and stakeholders. Short-run analysis suggests a potential positive relationship between currency devaluation and economic growth, although further investigation is warranted. In the long-run, currency devaluation exhibits a significant negative relationship with economic growth, highlighting the adverse consequences of depreciation on Nigeria's economic performance.

Based on the findings of this study, several recommendations can be made to policymakers and stakeholders in Nigeria:

Efforts should be made to enhance macroeconomic stability through sound fiscal and monetary policies. This includes prudent management of public finances, effective exchange rate policies, and measures to mitigate external shocks.

Nigeria should reduce its reliance on oil exports by diversifying the economy and promoting non-oil sectors such as agriculture, manufacturing, and services. This will reduce vulnerability to fluctuations in global oil prices and enhance resilience to external shocks.

Policies should be implemented to improve Nigeria's trade competitiveness, including reducing trade barriers, investing in infrastructure, and enhancing the business environment. This will help boost exports and reduce import dependency, supporting economic growth.

Addressing governance issues and improving transparency in economic management are crucial for building investor confidence and attracting foreign investment. This includes tackling corruption, strengthening institutions, and promoting accountability in public administration.

Investing in human capital and education is essential for driving sustainable economic growth and reducing poverty. Nigeria should prioritize investments in education, healthcare, and skills development to empower its workforce and enhance productivity.

REFERENCES

Adediran, O. S., George, E. O., & Alege, P. O. (2017). Assessing the influence of monetary policy tools on external credit-economic growth nexus in Nigeria. In *Paper presented at the 3rd international conference on advances in education and social science (Indexed in web of science conference proceedings citation index)* (pp. 1118-1127).

Alemu, A. M., & Jin-sang, L. (2014). Examining the Effects of Currency Depreciation on Trade Balance in Selected Asian Economies. *International Journal of Global Business*, *7*(1).

Aliyu, S.R.U. (2011) “Impact of Oil Price Shock and Exchange Rate Volatility on Economic Growth in Nigeria: An Empirical Investigation” *Research Journal of International Studies*, 11, 103 – 120.

Ali, S. Z., and S. Anwar. (2010). ‘Exogenous Shocks and Exchange Rate Management in Developing Countries: A Theoretical Analysis.’ *International Journal of Business and Globalisation* 4 (4): 338–58.

Alobied, A. A. (2022). Currency Devaluation Policy And Its Sharī 'Ah Rulings. *Journal of Sharia & Islamic Studies*, *37*(128).

Cherop, C. K., and J. R. Changwony. (2014). 'A Survey of Exchange Rate Fluctuation on Tea Export Earnings among Smallholder Tea Factories in Kenya.' *Research Journal of Finance and Accounting* 5 (8): 1–22.

Cheung, Y., and R. Sengupta. (2013). 'The Impact of Exchange Rate Movements on Exports: An Analysis of Indian Non-Financial Sector Firms.' *Journal of International Money and Finance* 39:231–45.

Dada, E. A., & Oyeranti, O. A. (2012). Exchange rate and macroeconomic aggregates in Nigeria. *Journal of Economics and Sustainable Development*, *3*(2), 93-101.

Divakaran, D. N., & Gireeshkumar, S. (2014). Currency Depreciation: causes and its impact on Indian Economy. *International Journal of Commerce, Business and Management*, *3*(1), 2319-28.

Ehinomen, C., & Oladipo, T. I. (2012). Exchange rate management and the manufacturing sector performance in the Nigerian economy. *IOSR Journal of Humanities and Social Science*, *5*(5), 1-12.

Fang, S., Wei, Y., & Wang, S. (2023). 30 years of exchange rate analysis and forecasting: A bibliometric review. *Journal of Economic Surveys*.

Fidelis, A. (2014). 'People's Perception of the Impact of Currency Devaluation on the Performance of Poverty Alleviation Programmes in Nigeria.' *Developing Countries Study* 4 (10): 7–16.

Hooy, C. W., Siong-Hook, L., & Tze-Haw, C. (2015). The impact of the Renminbi real exchange rate on ASEAN disaggregated exports to China. *Economic Modelling*, *47*, 253-259.

Ismaila, M. (2016). Exchange rate depreciation and Nigeria economic performance after Structural Adjustment Programmes (SAPs). *NG-Journal of Social Development*, *5*(2), 122-132.

Iqbal, M. A., Nadim, N., & Akbar, Z. (2022). Determinants of recent inflation in Pakistan and its relation with economic growth: An econometric analysis. *Pakistan Journal of Humanities and Social Sciences*, *10*(1), 345-353.

Khan, T., Khan, A., Wei, L., Ayub, S., Wang, J., & Zia, J. A. (2022). Impact of currency devaluation on economic growth: Evidence from Pakistan. *Journal of Marketing Strategies*, *4*(2), 327-352.

Loto, M. A. (2011). Does devaluation improve the trade balance of Nigeria?(A test of the Marshall-Lerner condition). *Journal of Economics and International Finance*, *3*(11), 624.

Mesagan, E. P., Alimi, O. Y., & Yusuf, I. A. (2018). Macroeconomic Implications of Exchange Rate Depreciation: The Nigerian Experience. *Managing Global Transitions: International Research Journal*, *16*(3).

Nouira, R., Plane, P., & Sekkat, K. (2011). Exchange rate undervaluation and manufactured exports: A deliberate strategy?. *Journal of Comparative Economics*, *39*(4), 584-601.

Ogbonna, B. C. (2011). 'The Impact of Exchange Rate Variations on Trade Balance: Evidence fromNigeria.' *Journal of Research in National Development* 9 (2): 393–403.

Ogundipe, A. A., and S. Egbetokun. 2013. 'Exchange Rate Pass-through to Consumer Prices in Nigeria.' *European Scientific Journal* 9 (25): 110–123.

Obadan, M. I., (2006). Overview of exchange rate management in Nigeria from 1986 to date, in the dynamics of exchange rate in Nigeria. CBN Bullion, 30, (3): 1-15

Odusola, A. (2009).Economics of exchange rate management, in the dynamics of exchange rate in Nigeria. CBN Bullion, 30, (3): 38-43.

Ojuolape, A., H Agboola, Y., K Moshood, A., & O Abdullah, O. (2020). *The effects of currency devaluation on output growth in developing economies with currency crises* (No. 7). Department of Economics, University of Ilorin.

Opaluwa, D; Umeh, C and Ameh, A. (2010) "The Effect of Exchange Rate Fluctuations on the Nigerian Manufacturing Sector" *African Journal of Business Management*. 4(14): 2994-2998.

Saleem, R., Saleem, R., & Awan, A. G. (2022). A nexus between devaluation and inflation in Pakistan. *Pakistan Business Review*, *23*(4), 417-434.

Umoru, D., & Oseme, A. S. (2013). Trade flows and exchange rate shocks in Nigeria: An empirical result. *Asian Economic and Financial Review*, *3*(7), 948-977.

Uniamikogbo, S. O., & Ewanehi, S. (1998). Agricultural Sector's Performance in a deregulated Economy: The case of Nigeria. *The Nigerian Journal of Economic and Management Studies*, *3*(1-2), 6.

Yaqub, J.O. (2010) "Exchange Rate Changes and Output Performance in Nigeria: A sectorial Analysis" *Pakistian Journal of Social Sciences.* 7(5): 12-19.