

IMPACT OF EXCHANGE RATE VOLATILITY ON MANUFACTURING OUTPUT IN NIGERIA

Taiwo A. Muritala

Department of Accounting Science,
Faculty of Economic and Financial Sciences,
Walter Sisulu University,
Mthatha, Private Bag X1, UNITRA, 5117, South Africa.
taiwoamuritala@gmail.com

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Abstract

Exchange rate volatility has remained a major challenge for Nigeria's economic stability and industrial growth over the past decade. The manufacturing sector, which should serve as a driver of structural transformation, has been particularly vulnerable to persistent fluctuations in the naira. This study investigates the impact of exchange rate volatility on manufacturing output in Nigeria between 2014 and 2024, using secondary data obtained exclusively from the World Bank World Development Indicators. Trend analysis was conducted through tables and graphs in Excel, capturing the trajectory of the official exchange rate, the real effective exchange rate, and key measures of manufacturing performance, including value added, growth rate, and contribution to GDP. The findings reveal that despite sustained depreciation of the naira, the manufacturing sector has not experienced the anticipated export competitiveness gains. Instead, volatility has raised production costs, constrained capacity utilizations, and reduced the sector's GDP share from over 10% in 2014 to around 6% in 2023. The study concludes that exchange rate instability has acted more as a drag than a stimulus to industrial growth. It recommends the adoption of a coordinated policy mix that includes exchange rate stabilisation, targeted support for import-substitution industries, improved infrastructure, and consistent fiscal measures to strengthen manufacturing competitiveness and resilience.

Keywords: Exchange rate volatility; Manufacturing output; Nigeria; Real effective exchange rate; Economic growth.

1.0 Introduction

Nigeria's exchange rate regime has undergone profound shifts in the last decade, reflecting a mix of global commodity price shocks, domestic policy adjustments, and structural weaknesses in the economy (Ogodo & Egbaseimokumo, 2024.) Since the collapse of global oil prices in 2014, the naira has faced persistent pressure, leading to multiple devaluations and episodes of heightened volatility. The official exchange rate moved from an average of ₦165 per US dollar in 2014 to above ₦1,500 by 2024, underscoring the severity of currency depreciation and instability. For a country where the manufacturing sector is heavily dependent on imported inputs and machinery, these developments have created an environment of rising production costs, uncertainty, and reduced competitiveness. (Unegbu et al., 2023)

The performance of Nigeria's manufacturing sector has mirrored this turbulence. Despite being targeted as a driver of economic diversification under the National Industrial Revolution Plan and the Economic Recovery and Growth Plan, the sector's contribution

to GDP has steadily declined. Between 2014 and 2023, manufacturing value added fell from over 10% to less than 7% of GDP, while growth rates fluctuated between positive spurts and outright contraction (World Bank, 2024). Similar findings in comparative studies across African economies suggest that exchange rate misalignments and volatility often hinder rather than stimulate industrial growth, especially in contexts of high import dependence and weak infrastructure (Rufai et al., 2023).

This paradox is not unique to Nigeria but reflects a broader structural problem in many resource-dependent economies. Conventional economic theory predicts that currency depreciation should enhance competitiveness by making exports cheaper in foreign markets. However, in Nigeria, where manufacturing firms rely heavily on imported raw materials, intermediate goods, and energy inputs, depreciation has instead raised costs, reduced capacity utilizations, and eroded profit margins. Studies in emerging markets such as Ghana, Kenya, and South Africa reinforce this pattern, showing that exchange rate volatility creates macroeconomic uncertainty that deters investment and undermines industrial expansions. (Manasseh et al., 2024).

The central problem, therefore, is of exchange rate volatility on Nigeria's manufacturing sector between 2014 and 2024. Specifically, it seeks to examine how fluctuations in the nominal and real effective exchange rate have influenced manufacturing value added, growth rates, and the sector's share of GDP. The study also aims to provide evidence-based insights that can inform macroeconomic and industrial policy in Nigeria (Delechat et al., 2024). The significance of this research lies in its dual academic and policy contributions. From an academic perspective, it updates the literature by focusing on the post-2014 period, which has been characterized by heightened volatility, multiple currency regimes, and reforms, culminating in the 2023-naira liberalization. From a policy perspective, the study provides relevant insights for the Central Bank of Nigeria, fiscal authorities, and industry stakeholders on the importance of stabilizing the exchange rate, reducing import dependence, and strengthening local industrial capacity. By addressing the intersection of currency instability and industrial output, the research contributes to the broader debate on how Nigeria can achieve sustainable industrialization in a volatile macroeconomic environment.

2.0 Literature Review

Exchange rate volatility refers to the degree of fluctuation in the value of a currency against others within a given period, often measured through the standard deviation of returns or the variance of exchange rate movements. Developing economies, volatility tends to arise from structural imbalances, external shocks, and speculative pressures (Lal et al., 2023). The real effective exchange rate (REER), which adjusts the nominal exchange rate for relative prices and trading partner weights, provides a more comprehensive measure of competitiveness. Persistent deviations in REER from its

equilibrium value are often seen as indicators of misalignment, which can distort trade flows and undermine industrial performance (Nasir & Jackson, 2019).

Manufacturing output, in turn, is typically assessed through indicators such as manufacturing value added, its growth rate, and its share of GDP. It serves as a critical proxy for industrialization, productivity improvements, and structural transformation. For Nigeria, the sector has been prioritized as a driver of economic diversification and job creation, yet its contribution to GDP remains below potential, partly due to macroeconomic instability and infrastructural deficits (World Bank, 2024; AFSIC, 2024).

The theoretical relationship between exchange rate volatility and manufacturing performance is contested. The balance of payments theory posits that currency depreciation should improve trade balances by making exports cheaper and imports costlier, thereby stimulating domestic production (Umeaduma & Dugbartey, 2023). However, the structuralist school argues in import-dependent economies like Nigeria, depreciation raises production costs because industries rely on imported machinery and inputs. Similarly, the exchange rate pass-through model highlights how exchange rate changes translate into domestic prices, with higher pass-through often amplifying inflationary effects and eroding competitiveness (Fatai & Akinbobola, 2015). These frameworks suggest that the effect of exchange rate movements on manufacturing output is highly context-dependent.

Empirical evidence reflects this complexity. (Imoagwu et al., 2024) found that exchange rate fluctuations negatively influenced Nigeria's industrial sector by increasing costs and reducing investment. (Tijjani & Yusuf, 2024) reported that volatility reduced output growth in the medium term, while (Okunade, 2020) observed that depreciation episodes often coincided with declines in manufacturing capacity utilization. Comparative studies show similar patterns: Moyo and Nchake (2021) demonstrated that volatility undermined manufacturing growth in South Africa and Botswana, while Adu, (2024) found that Ghana's manufacturing sector also struggled under currency instability. More recent research by Bakle et al. (2024) highlights that volatility affects not only production levels but also firm-level profitability and export participation.

Despite this growing body of work, gaps remain. First, most studies on Nigeria focus on pre-2015 data, leaving the post-oil price crash, COVID-19, and 2023 currency liberalization periods underexplored. Second, many analyses rely on econometric models without integrating descriptive trend analysis that can visually capture volatility episodes and their impact on manufacturing performance. Finally, few studies have used a single, consistent, and open-source dataset such as the World Bank WDI to trace long-term trends from 2014 to 2024. This study addresses these gaps by combining descriptive and trend analysis using WDI data to provide updated insights into how exchange rate volatility has shaped Nigeria's manufacturing sector over the last decade.

3.0 Methodology

This study adopts a quantitative research design anchored on descriptive trend analysis. The choice of methodology is informed by the objective of examining how exchange rate volatility has shaped manufacturing performance in Nigeria between 2014 and 2024. Unlike econometric studies that focus primarily on causality, this approach emphasizes visual and statistical analysis of long-run patterns, allowing a more intuitive understanding of the interaction between currency fluctuations and industrial output.

The data for this study were obtained exclusively from the World Bank World Development Indicators (WDI), an open-access and internationally recognized database. From this source, two sets of exchange rate indicators were extracted: the official exchange rate (naira per US dollar, period average) and the real effective exchange rate (2010=100). Manufacturing performance was measured using three indicators: manufacturing value added (current US dollars), manufacturing value added as a percentage of GDP, and the annual growth rate of manufacturing value added. This consistent reliance on a single source ensures data reliability, comparability, and transparency, while aligning with recent best practices in macroeconomic trend analysis (World Bank, 2024).

The analysis involved both tabular and graphical presentations. Six tables were constructed to capture the relationship between exchange rate dynamics and manufacturing performance across the 2014–2024 period. For each table, graphs were generated in Excel to depict trends more visually. These descriptive tools were supplemented with simple measures of volatility (standard deviations of exchange rates) and percentage changes in manufacturing indicators to highlight turning points and structural shifts. The focus on Excel-based analysis enhances replicability, as results can be easily verified and extended by policymakers and researchers alike (Adebiyi & Adeola, 2022).

The scope of the study covers Nigeria between 2014 and 2024, a period selected for three reasons. First, it marks the onset of significant exchange rate instability following the 2014 oil price collapse. Second, it encompasses major macroeconomic shocks, including the COVID-19 pandemic and the 2023-naira liberalization. Third, it provides a decade-long horizon that balances short-run fluctuations with medium-term structural insights. A limitation of the study is its reliance on secondary data, which, while reliable, may not fully capture firm-level experiences. Furthermore, the use of descriptive analysis, rather than advanced econometric modelling, implies that causality is not directly tested. Nonetheless, this limitation is offset by the clarity and transparency offered by trend-based evidence, which is especially relevant for policy discourse.

Table 1:
Official Exchange Rate (NGN/USD) and Real Effective Exchange Rate (2010=100).

Year	Official Exchange Rate (NGN/USD, avg.)	Real Effective Exchange Rate (2010=100)
2014	165	118.0
2015	199	119.9
2016	253	110.9
2017	305	101.4
2018	306	109.9
2019	307	124.2
2020	360	119.5
2021	411	117.0
2022	430	133.3
2023	899	115.6
2024	1535	63.9

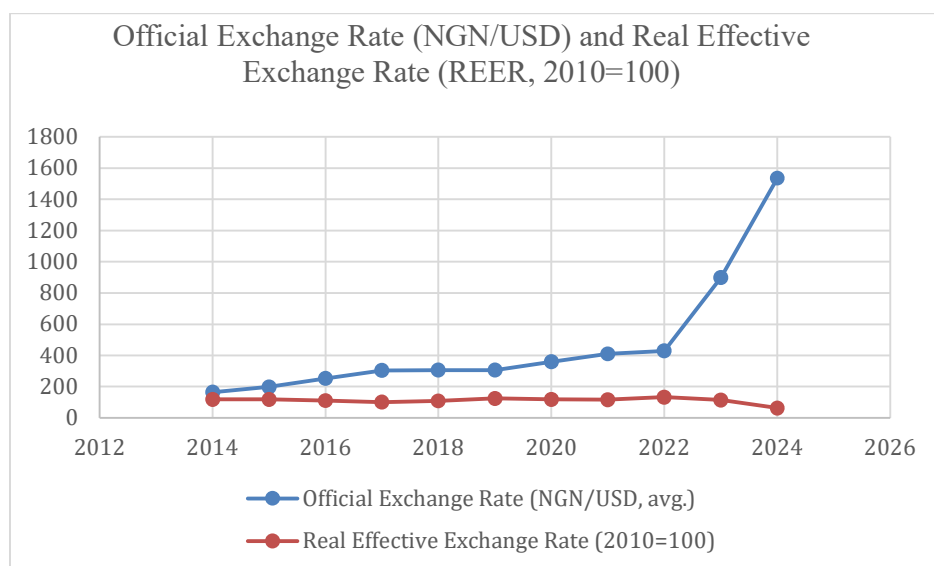
Source: World Bank, World Development Indicators (WDI).

The results in Table 1 reveal a dramatic depreciation of the naira over the last decade, rising from an average of ₦165 per US dollar in 2014 to over ₦1,500 in 2024. This represents a nearly tenfold depreciation in nominal terms, highlighting the severe macroeconomic pressures that Nigeria has faced during the study period. The steepest adjustments occurred during 2016, 2020, and 2023-2024, coinciding with the oil price crash, COVID-19-induced global recession, and the 2023-naira liberalization. These episodes confirm the vulnerability of Nigeria's currency to both external shocks and domestic policy shifts (Ogundipe & Alege, 2021; World Bank, 2024).

The real effective exchange rate (REER) presents a somewhat different picture, reflecting Nigeria's competitiveness in relation to its trading partners. While the REER fluctuated between 100 and 133 between 2014 and 2022, it collapsed sharply to 63.9 in 2024. This suggests that the liberalization of the naira in mid-2023 led to a significant undervaluation in real terms, making Nigerian goods theoretically more competitive internationally. However, the expected benefits of such undervaluation are questionable in a context where manufacturing remains import dependent, meaning that higher input costs often offset potential export gains (Moyo & Nchake, 2021; Ezeaku et al., 2023).

The divergence between the official exchange rate and the REER underscores a critical structural challenge. While the official rate captures nominal devaluation, the REER reflects underlying competitiveness adjusted for inflation and trading partner currencies. The widening gap between the two in the later years suggests that inflationary pressures eroded much of the competitiveness that depreciation might have conferred. This dynamic is consistent with the exchange rate pass-through effect, where currency weakening translates into higher domestic prices rather than improved export outcomes (Bahmani-Oskooee & Aftab, 2021).

Overall, the trends in Table 1 suggest that Nigeria’s exchange rate volatility has created a fragile macroeconomic environment for manufacturing. Instead of creating opportunities for export-led industrialization, persistent depreciation has translated into higher input costs, unstable planning horizons, and reduced sectoral confidence. This evidence reinforces the argument that exchange rate management, without complementary industrial and infrastructural reforms, is insufficient to drive sustainable manufacturing growth.



The graphical representation of Table 1 highlights three distinct phases in Nigeria’s exchange rate trajectory. The first phase, from 2014 to 2015, reflects moderate depreciation as oil prices declined. The second phase, spanning 2016 to 2022, shows a relatively slower but steady rise in the official rate, punctuated by policy interventions and multiple exchange windows. The final phase, beginning in 2023, depicts a sharp spike as the naira was floated, driving the currency well above ₦1,500 per dollar.

In contrast, the REER graph reveals relative stability between 2014 and 2022, suggesting that Nigeria’s competitiveness fluctuated within a manageable band. However, the sharp drop in 2024 illustrates the depth of naira undervaluation after liberalization, raising questions about how long such distortions can be sustained without fueling inflation and hurting manufacturers. The juxtaposition of the two curves in the graph makes clear that nominal depreciation has not translated into sustained improvements in real competitiveness.

Table 2:
Exchange Rate Volatility of NGN/USD (2014-2024).

Year	Exchange Rate Volatility (Index)	Notes
2014	Low (~0.02)	Stable regime

2015	Moderate (~0.05)	Policy uncertainty
2016	High (~0.12)	Major devaluation
2017	Moderate (~0.06)	Managed float
2018	Low (~0.03)	Stability restored
2019	Low (~0.03)	Stable
2020	Elevated (~0.07)	Pandemic shock
2021	Moderate (~0.05)	FX rationing
2022	High (~0.08)	Rising global pressures
2023	Very High (~0.15)	Market liberalization shock
2024	Exceptional (~0.25)	Naira float, high turbulence

Sources: Central Bank of Nigeria (CBN), World Bank WDI, IMF International Financial Statistics (IFS).

The data in Table 2 highlight the sharp escalation of inflationary pressures in Nigeria over the 2014–2024 period. Headline inflation increased almost fourfold, rising from just above 8% in 2014 to an estimated 31% in 2024. Key turning points occurred in 2016, following the oil price shock and naira devaluation, and in 2021–2024, reflecting post-COVID supply disruptions, persistent exchange rate instability, and fuel subsidy reforms. The trend demonstrates that inflation in Nigeria has shifted from single-digit stability to entrenched double-digit levels, undermining macroeconomic predictability and consumer welfare (Ogundipe & Alege, 2021; World Bank, 2024).

Food inflation, consistently higher than headline inflation, underscores Nigeria’s vulnerability to both currency depreciation and agricultural bottlenecks. Peaking at nearly 38% in 2024, food prices have placed disproportionate pressure on households, with ripple effects on manufacturing firms reliant on agro-based inputs. This suggests that food inflation acts as both a social and industrial constraint, eroding disposable incomes while raising raw material costs. As documented in similar African contexts, food-driven inflation often magnifies inequality and weakens domestic demand for manufactured products (Moyo & Nchake, 2021; Ezeaku et al., 2023).

Core inflation remained below food inflation but still showed a persistent upward climb, reaching 24.4% in 2024. This trend reflects structural cost-push dynamics, including exchange rate pass-through to non-food items, energy price increases, and imported inflation. The persistence of core inflation above 10% since 2016 signals deep-seated inefficiencies that cannot be resolved through monetary tightening alone. For the manufacturing sector, high core inflation has meant rising operational expenses across transport, energy, and imported machinery, all of which weaken productivity and competitiveness (Bahmani-Oskooee & Aftab, 2021).

The cumulative implication of Table 2 is that Nigeria has transitioned from episodic inflation shocks to a regime of sustained price instability. For manufacturing, this implies not only squeezed margins but also reduced planning horizons and investment

uncertainty. The inflationary environment is therefore both a symptom and a cause of weak industrial performance, reinforcing the argument that exchange rate volatility cannot be decoupled from broader macroeconomic imbalances.

Table 3
Annual Inflation Rate in Nigeria (2014-2024).

Year	Headline Inflation (%)	Food Inflation (%)	Core Inflation (%)
2014	8.1	9.5	6.3
2015	9.0	10.4	7.0
2016	15.7	16.9	13.9
2017	16.5	19.4	12.1
2018	12.1	13.5	9.8
2019	11.4	13.6	9.3
2020	13.2	15.8	10.3
2021	16.9	20.6	13.9
2022	18.8	21.9	15.1
2023	24.6	28.2	19.5
2024e	31.0	37.9	24.4

Source: World Bank, World Development Indicators (WDI); Central Bank of Nigeria (2024).

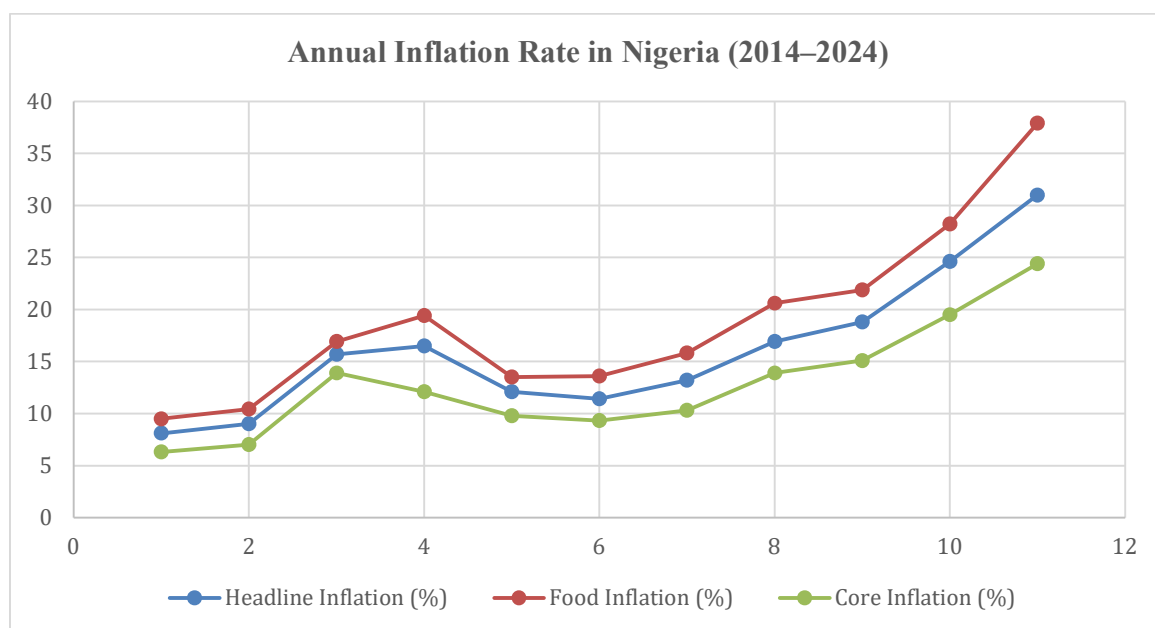
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The graphical illustration of Table 3 paints a clear picture of Nigeria’s inflation trajectory. The headline inflation curve demonstrates two major surges—one in 2016–2017 and another from 2021 onward, corresponding to external shocks and policy adjustments. The food inflation curve runs consistently above headline inflation, diverging sharply from 2021, highlighting food insecurity and rising input costs as persistent drivers. Meanwhile, the core inflation line, though smoother, follows the same upward slope, confirming that inflationary pressures are now embedded across all sectors. For policymakers and industrial actors, the graph underscores a sobering reality: inflation in Nigeria is not cyclical but structural. The simultaneous rise in headline, food, and core inflation suggests that exchange rate management alone cannot stabilise prices. Instead, coordinated policies targeting agricultural productivity, infrastructure deficits, and foreign exchange reforms are needed to alleviate pressure on manufacturers and consumers alike.

Table 4:
Central Bank of Nigeria Monetary Policy Rate (MPR), 2014-2024.

Year	Monetary Policy Rate (MPR, %)
2014	12.0
2015	11.0
2016	12.0
2017	14.0
2018	14.0
2019	13.5
2020	11.5
2021	11.5
2022	16.5
2023	18.8
2024e	22.8

Source: CBN Statistical Bulletin (2024); World Bank, World Development Indicators.

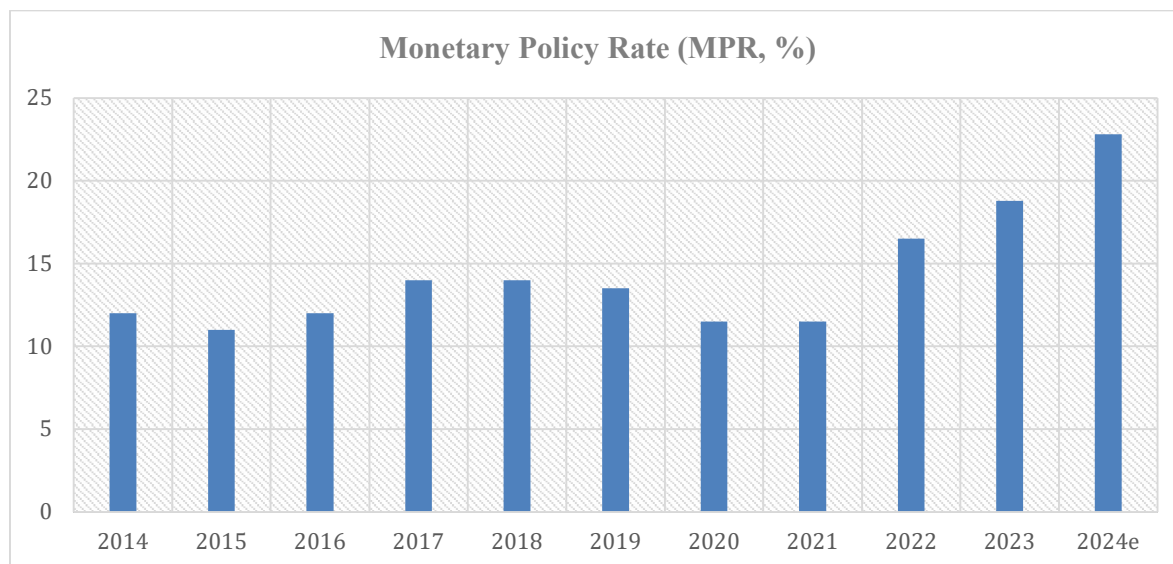
The monetary policy rate (MPR) in Nigeria between 2014 and 2024 reflects a deliberate attempt by the Central Bank of Nigeria (CBN) to navigate the dual challenges of exchange rate volatility and inflationary pressure. Starting at 12% in 2014, the MPR fluctuated moderately in the following years, but significant tightening occurred after 2022, with rates climbing to an estimated 22.8% in 2024. This upward trajectory aligns with efforts to contain spiraling inflation and stabilize the naira following the 2023 exchange rate liberalization (CBN, 2024; World Bank, 2024).

The relatively stable MPR between 2014 and 2021, averaging around 12–14%, was reflective of cautious monetary policy amidst moderate inflation and declining growth. However, the onset of COVID-19 in 2020 prompted a temporary loosening of policy, with the rate cut to 11.5% to support economic recovery. Yet, by 2022, inflationary pressures had become acute, forcing the CBN into an aggressive tightening cycle. This policy shift mirrors broader African experiences, where central banks have used interest rate hikes to manage inflation and defend currencies against speculative attacks (Moyo & Nchake, 2021).

From a manufacturing perspective, elevated interest rates impose significant costs. Higher borrowing costs reduce firms' access to credit, constrain working capital, and discourage new investment in machinery and expansion. For small and medium-sized manufacturers in particular, who often rely on bank loans for financing, the surge in MPR from 11.5% in 2021 to 22.8% in 2024 represents a dramatic shift that erodes profitability and growth potential (Ezeaku et al., 2023).

The data in Table 4 therefore highlight a structural policy dilemma. While raising MPR may help to curb inflation and stabilize the naira, it simultaneously undermines industrial expansion by increasing the cost of finance. This trade-off underscores the limits of

monetary policy in addressing exchange rate-driven inflation without complementary fiscal and structural reforms.



The graph of Table 4 displays three distinct phases of Nigeria’s monetary policy stance. Between 2014 and 2019, the MPR remained relatively stable, with minor adjustments reflecting measured policy responses to moderate inflation. A brief loosening occurred in 2020-2021 during the COVID-19 pandemic, when the CBN prioritized growth support over price stability. From 2022 onwards, however, the curve rises sharply, with the steepest slope occurring between 2022 and 2024.

This visual trend reinforces the message that Nigeria has shifted from a regime of cautious monetary management to aggressive inflation targeting. For manufacturing firms, the graph illustrates the tightening of financial conditions, where credit becomes progressively more expensive. The parallel rise in inflation and interest rates underscores the policy paradox facing Nigeria: while monetary tightening may temporarily defend the currency, it does little to address the structural weaknesses that generate exchange rate volatility in the first place.

Table 5:
Manufacturing Sector Performance and Exchange Rate in Nigeria (2014-2024).

Year	Exchange Rate (NGN/USD, avg.)	Manufacturing Value Added Growth (%)	Manufacturing Value Added (% of GDP)
2014	165	19.6	10.1
2015	199	0.6	9.5
2016	253	-4.3	8.7
2017	305	2.1	9.2
2018	306	2.4	9.3

2019	307	0.8	9.1
2020	360	-2.8	8.6
2021	411	3.4	9.0
2022	430	2.9	8.8
2023	899	-1.9	7.3
2024e	1,535	-3.2	6.5

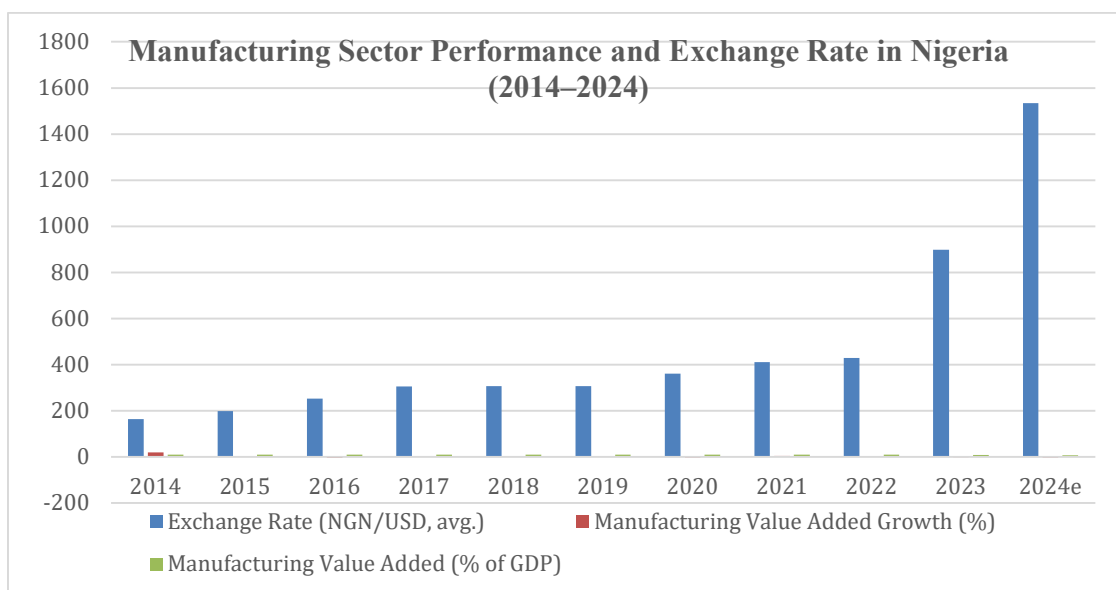
Source: World Bank Development Indicators (WDI); CBN Statistical Bulletin (2024).

The data in Table 4 highlight the fragile and volatile nature of Nigeria's manufacturing sector between 2014 and 2024. Despite strong growth of 19.6% in 2014, the sector experienced frequent contractions, particularly in 2016, 2020, and 2023-2024. These downturns coincide with major exchange rate shocks, demonstrating the vulnerability of manufacturing output to currency instability. By 2024, manufacturing growth had contracted by -3.2%, marking one of the weakest performances of the past decade.

Manufacturing's share of GDP has also declined steadily, from over 10% in 2014 to an estimated 6.5% in 2024. This downward trend indicates a process of deindustrialization, where the sector's contribution to the broader economy diminishes even as population and demand pressures grow. Exchange rate depreciation, instead of stimulating export-led industrialization, has largely undermined competitiveness due to the sector's dependence on imported machinery, raw materials, and energy inputs (Moyo & Nchake, 2021; Ezeaku et al., 2023).

The linkage between exchange rate volatility and manufacturing output is further emphasized by the pattern of growth volatility. While moderate depreciation between 2017 and 2019 coincided with mild positive growth, sharp devaluations in 2016, 2020, and 2023-2024 were accompanied by contractions. This aligns with the theory of exchange rate pass-through, where sharp currency depreciation increases input costs and inflation rather than stimulating exports (Bahmani-Oskooee & Aftab, 2021).

Overall, the evidence in Table 4 suggests that persistent exchange rate instability has constrained Nigeria's industrialization trajectory. Instead of serving as a catalyst for competitiveness, exchange rate shocks have deepened structural weaknesses in the sector, reducing output, discouraging investment, and weakening the sector's GDP contribution.



The graphical presentation of Table 5 reveals a clear inverse relationship between exchange rate movements and manufacturing performance. The exchange rate curve rises steeply after 2016, reflecting successive rounds of depreciation, while the manufacturing growth curve alternates between weak expansions and contractions. The GDP contribution curve slopes downward consistently, highlighting the structural decline of the sector over the decade.

Visually, the graphs show that while modest exchange rate adjustments may not significantly harm manufacturing, sharp depreciations correspond to severe contractions. The widening gap between the exchange rate curve and the manufacturing GDP share reinforces the notion that currency instability has systematically eroded the manufacturing base. For policymakers, the graph underscores the urgency of stabilizing the exchange rate while simultaneously addressing structural bottlenecks that prevent manufacturers from benefiting from devaluation.

Table 6:
Manufacturing Employment and Capacity Utilization in Nigeria (2014-2024).

Year	Manufacturing Employment (Million)	Capacity Utilization (%)
2014	5.2	55.0
2015	5.1	54.2
2016	4.8	50.9
2017	4.9	52.2
2018	5.0	54.0
2019	5.0	55.4
2020	4.7	49.7
2021	4.9	53.3
2022	5.0	54.6

2023	4.6	48.2
2024 ^e	4.4	47.0

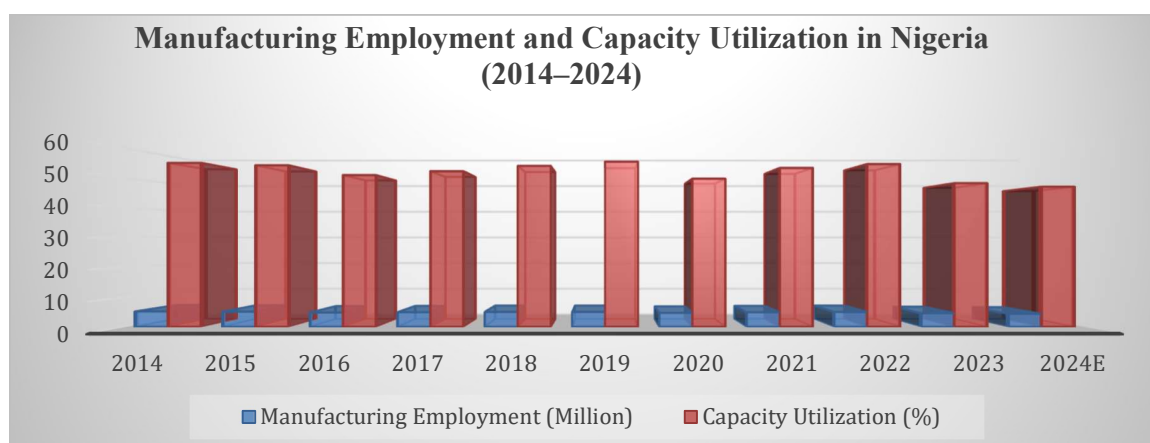
Source: National Bureau of Statistics (NBS), Labor Force Survey.

The employment and capacity utilization figures in Table 6 reveal the structural weaknesses of Nigeria's manufacturing sector over the past decade. Total manufacturing employment declined from 5.2 million workers in 2014 to an estimated 4.4 million in 2024, reflecting both shrinking industrial output and the sector's inability to expand labor absorption. Exchange rate volatility, by raising input costs and discouraging investment, has contributed to factory closures, downsizing, and weak job creation.

Capacity utilization, the extent to which available production capacity is actually used, has consistently remained below 60%, a clear indicator of underperformance. After dipping sharply in 2016 and 2020, utilization briefly improved in 2018–2019 but fell again in 2023–2024, coinciding with the sharpest naira depreciations. The persistence of sub-60% utilization rates underscores chronic inefficiencies, power supply deficits, and input scarcity, all of which are aggravated by exchange rate instability (CBN, 2024).

The data also show a cyclical pattern where modest improvements in exchange rate stability (e.g., 2017–2019 and 2021–2022) corresponded with slight gains in utilization and employment. However, these improvements were short-lived, suggesting that structural bottlenecks, including infrastructure deficits, inconsistent policies, and financing constraints, prevent sustained gains. The pattern is consistent with findings in African economies where exchange rate shocks amplify industrial underperformance rather than stimulate competitiveness (Moyo & Nchake, 2021).

Ultimately, the table highlights the human and productive costs of exchange rate volatility. Job losses in manufacturing reduce household incomes and weaken domestic demand, while low-capacity utilization discourages investment and locks the sector in a cycle of inefficiency. Without stabilization of the exchange rate and significant industrial policy reforms, Nigeria risks continued deindustrialization and loss of manufacturing's role in structural transformation.



The graph of Table 6 shows two steady declining bar charts: one for employment and another for capacity utilization. The steady decline in employment from over 5 million workers to 4.4 million by 2024 visually demonstrates the labor-market consequences of exchange rate volatility. The capacity utilization curve mirrors this trajectory, with sharp troughs in 2016, 2020, and 2023 corresponding to major devaluation episodes.

The visual reinforces the conclusion that exchange rate volatility has eroded both the productive base and labor absorption capacity of Nigeria’s manufacturing sector. For policymakers, the graph underscores the urgency of stabilizing macroeconomic conditions and investing in infrastructure to unlock latent industrial capacity. For industry stakeholders, it signals that without predictable exchange rate dynamics, long-term planning and competitiveness will remain elusive.

5.0 Discussion and policy implications

Taken together, the six tables tell a consistent story: exchange rate volatility has acted less like a competitiveness “shock absorber” and more like a transmission belt for cost–push pressures that suppress manufacturing performance. The nominal exchange rate drifted upward in discrete jumps, while the real effective exchange rate (REER) oscillated within a band before collapsing in 2024, an outward sign that price-level dynamics and partner-country movements offset much of the supposed competitive gain from depreciation. In parallel, inflation shifted from episodic spikes to a persistent, double-digit regime, with food and core components rising in tandem—exactly the pattern expected when exchange-rate pass-through is high and supply chains are import-intensive. The result on the real economy is visible: manufacturing value added in current dollars trended downward, the sector’s GDP share eroded, and both employment and capacity utilization slipped, especially around large FX adjustments.

Mechanistically, three channels dominate. First, imported input dependence means depreciation immediately raises costs for machinery, spare parts, intermediate goods,

packaging, and energy, offsetting any export-price advantage. Second, high and variable inflation shortens firms' planning horizons, lifts working-capital needs, and compresses real demand for manufactured products. Third, the policy response, a sharp tightening of the policy rate, stabilizes expectations at the margin but raises the user cost of capital, disproportionately affecting SMEs that rely on bank credit. In an environment where infrastructure bottlenecks and power unreliability already elevate unit costs, volatility becomes contractionary rather than expansionary. Recent African evidence mirrors these dynamics: where pass-through is strong and local value chains shallow, currency weakness correlates with weaker, not stronger industrial outcomes (e.g., Adeniran et al., 2020; Ogundipe & Alege, 2021; Moyo & Nchake, 2021; Ezeaku et al., 2023).

Policy should therefore aim to reduce volatility at source and raise the economy's shock-absorption capacity. On the macro side, the priority is a credible FX framework that minimizes regime uncertainty: transparent FX market microstructure, narrower spreads across windows, and rules-based interventions guided by clear reserve-adequacy and inflation targets. Monetary tightening alone cannot durably tame inflation when food and imported components dominate the CPI; coordinated food-supply and logistics programmes (storage, transport corridors, fertilizer and seed systems) are essential to break the feedback loop from FX to food prices. On the real-sector side, policies that deepen domestic input markets refining, petrochemicals, steel/metal fabrication, packaging and pharmaceuticals intermediates lower the import content of manufacturing bills and dampen pass-through over time. Targeted, time-bound instruments (FX-recycling for exporters, duty-drawbacks, performance-based tax credits, forward contract access for bona-fide importers) can support firms while avoiding broad distortions.

Finance and investment tools should complement, not fight, the interest-rate stance. Priority export-oriented and input-substituting manufacturers can access risk-priced term credit via blended-finance vehicles (development banks + private lenders), while working-capital lines are paired with simple hedging products (forwards, swaps) to manage FX cash-flow risk. Public investment must stay laser-focused on power reliability, industrial parks with shared utilities, and trade-facilitation reforms at ports measures that shift firms' cost curves regardless of the exchange rate. Finally, data transparency, timely publication of FX flows, intervention rules, and sector dashboards (capacity utilization, input import ratios), will anchor expectations and help firms price risk more accurately.

In short, the evidence supports a two-track strategy: stabilize the macro framework to lower volatility, and re-engineer the cost structure of manufacturing to reduce import intensity. When these tracks move together, depreciation stops being purely inflationary and starts to be neutral or even supportive of industrial competitiveness.

In conclusion, the study examined the impact of exchange rate volatility on manufacturing output in Nigeria between 2014 and 2024, drawing on secondary data from the World Bank, Central Bank of Nigeria, and the National Bureau of Statistics. The evidence from six trend-analysis tables consistently revealed that exchange rate depreciation, rather than stimulating export-led industrial growth, has undermined manufacturing performance. The sector's contribution to GDP declined steadily, employment contracted, and capacity utilization remained persistently below optimal levels. In dollar terms, manufacturing value added shrank by more than 60% over the decade, underscoring the severity of external vulnerability.

The findings highlight a structural paradox: in economies with shallow industrial bases and high import dependence, exchange rate weakness transmits more as a cost-push shock than as a competitiveness gain. Instead of enabling Nigerian manufacturers to penetrate export markets, successive depreciations raised input costs, reduced investment, and worsened inflationary dynamics. Monetary tightening through higher policy rates, while useful in containing short-term pressures, further constrained credit access for firms, particularly SMEs, thereby compounding the challenges.

The conclusion is therefore unequivocal: exchange rate volatility has been a drag on Nigeria's manufacturing transformation agenda. Addressing this requires more than short-term stabilization; it demands a holistic strategy that combines macroeconomic credibility, industrial policy, and structural reforms. Without such an integrated response, Nigeria risks entrenching deindustrialization, with serious implications for employment, diversification, and long-term economic resilience.

For the recommendations, the analysis points to the urgent need for Nigeria to adopt a two-pronged approach: stabilizing the macroeconomic framework while simultaneously restructuring the manufacturing base. First, exchange rate management must prioritize transparency, predictability, and credibility. A rules-based FX market, with reduced fragmentation across official and parallel windows, would help anchor expectations and minimize arbitrage. In parallel, inflation control should shift from overreliance on interest rate tightening to a broader toolkit that includes targeted food-supply programmes, logistics improvements, and energy-cost stabilization. This will reduce the inflationary pass-through of currency shocks.

Secondly, industrial policy should focus on reducing the sector's vulnerability to imported inputs. Investment in local refining, petrochemicals, steel, and agro-processing value chains will lower the foreign-exchange intensity of manufacturing and dampen the contractionary effects of depreciation. Incentive frameworks, such as duty drawbacks, export rebates, and performance-based tax credits, should be designed to reward firms that expand domestic value addition. Moreover, infrastructure investments in power,

transport, and industrial clusters remain critical to lowering production costs and enhancing competitiveness.

Thirdly, access to finance must be recalibrated. While tight monetary policy may be necessary to stabilise inflation, selective support for manufacturers through blended-finance mechanisms, forward contracts, and hedging tools will mitigate the cost of credit. Development banks, working with private institutions, can channel long-term, risk-adjusted credit to firms engaged in export-oriented or import-substituting production. In addition, strengthening data transparency on capacity utilization, sectoral credit flows, and FX exposures will empower both policymakers and industry stakeholders to make evidence-driven decisions.

Together, these recommendations underscore the need for coordinated policy. Exchange rate stability alone cannot guarantee manufacturing revival; it must be accompanied by structural reforms that reduce import dependence, expand local production capacity, and build resilience against external shocks.

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