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Fuel Importation and Exchange Rate Stability in Nigeria

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Abstract: *Fuel importation continues to shape Nigeria's macroeconomic outcomes, particularly in the context of exchange rate movements and overall economic stability. Despite being a major crude oil producer, Nigeria paradoxically depends on imported refined petroleum products to meet domestic demand. This dependence places sustained pressure on the foreign exchange (FX) market, especially because fuel imports are financed largely in US dollars. Over the years, rising import bills, fluctuations in global oil prices, and structural weaknesses in the downstream petroleum sector have collectively heightened exchange rate instability. Evidence from studies conducted between 2018 and 2025 shows that fuel importation contributes to excess demand for FX, accelerates depletion of external reserves, widens the trade deficit, and amplifies naira depreciation. Recent economic reforms---including the removal of fuel subsidies in 2023--2024 and the gradual expansion of domestic refining capacity---have altered the dynamics of fuel importation. Nevertheless, FX pressures remain, reflecting long-standing structural bottlenecks. This seminar paper critically examines the relationship between fuel importation and exchange rate stability in Nigeria. Drawing from theoretical perspectives and empirical findings, the paper demonstrates how energy-sector inefficiencies translate into macroeconomic volatility. It also highlights how emerging domestic refining initiatives could support FX stability if sustainably implemented. Recommendations are provided for policymakers, regulators, and private sector actors to address Nigeria's fuel--FX imbalance in a sustainable manner.*

Keywords: fuel importation, exchange rate stability, foreign exchange market, petroleum downstream sector, subsidy removal, domestic refining, Nigeria, balance of payments

INTRODUCTION

Nigeria’s macroeconomic landscape is characterized by a fundamental paradox. As one of the world's largest crude oil producers, the nation possesses abundant natural resources (OPEC, 2023). Yet, for decades, it has remained critically dependent on imported refined petroleum products to satisfy domestic energy needs due to chronically inadequate local refining capacity (Adeniran & Yusuf, 2021). This structural anomaly has profound and persistent implications for the nation’s economic stability, with exchange rate volatility being one of the most

pronounced consequences. The financing of fuel imports, which constitutes a significant portion of the national import bill, is predominantly denominated in US dollars. This creates a direct and substantial demand pressure on Nigeria's foreign exchange (FX) market (Okonkwo, Nwafor, & Chukwuma, 2023).

The period from 2018 to 2025 has been marked by recurring episodes of naira depreciation, often closely correlated with spikes in the cost of fuel imports, volatility in global crude oil prices, and constrained FX inflows from non-oil export sectors (CBN, 2024). Major importers, including the Nigerian National Petroleum Company Limited (NNPCL), major marketers, and independent distributors, primarily source FX through the official window. However, when official allocations are insufficient, these actors inevitably turn to the parallel market. This behavior exacerbates exchange rate fragmentation, widening the gap between the official and parallel rates and undermining the credibility of FX management policies (Oladipo, 2022).

A robust body of scholarly work affirms the causative link between fuel importation and macroeconomic instability in Nigeria. For instance, Adeniran and Yusuf (2021) demonstrated that high volumes of petroleum imports significantly escalate FX demand. Similarly, Okonkwo et al. (2023) established a strong correlation between FX scarcity and episodes of sharp naira depreciation. The global context further complicates this relationship; rising international crude oil prices directly elevate the nation's fuel import bill, thereby intensifying FX demand pressures (Eze & Ezeabasili, 2019).

The Nigerian economic policy environment has recently undergone significant shifts, most notably the complete removal of the costly fuel subsidy regime in 2023-2024 and the nascent activation of large-scale domestic refining projects, particularly in the private sector. These developments have sparked renewed debate regarding the evolving relationship between fuel importation and FX dynamics (Ibrahim & Mohammed, 2024). This seminar paper, therefore, aims to comprehensively review existing theoretical and empirical evidence to clarify this critical relationship and to derive actionable policy insights for fostering greater exchange rate stability in Nigeria.

CONCEPTUAL CLARIFICATION

Fuel Importation in Nigeria

Fuel importation in Nigeria refers to the large-scale procurement of refined petroleum products—primarily Premium Motor Spirit (PMS), Automotive Gas Oil (AGO), and Dual Purpose Kerosene (DPK)—from international markets. This dependency, which exceeds 90% of domestic consumption, is a direct consequence of the longstanding underperformance and outright dysfunction of the nation's state-owned refineries (NNPCL, 2023). This reliance renders the Nigerian economy acutely vulnerable to triple exogenous shocks: volatility in global crude oil prices, disruptions in international supply chains, and fluctuations in major international currencies, particularly the US dollar. Crucially, because these imports are contracted and paid for in dollars, any increase in import volume or international price directly

translates into heightened demand for FX, creating a persistent strain on the country's external balance (Adeniran & Yusuf, 2021).

Exchange Rate Stability

Exchange rate stability denotes a state where a currency's value relative to other currencies experiences minimal and predictable fluctuations over time. It is a key indicator of macroeconomic health and a critical factor for investment planning and international trade. In the Nigerian context, instability manifests through several interrelated phenomena: persistent depreciation of the naira against major currencies, a widening and volatile premium between the official and parallel market exchange rates, and frequent shifts in FX management policy regimes from fixed to floating and various managed float iterations (CBN, 2024). This instability is not merely monetary but is deeply rooted in structural economic factors, including heavy import dependence, low levels of export diversification, and weak productive capacity (Oladipo, 2022).

The Link Between Fuel Importation and Exchange Rates

The mechanism through which fuel importation influences exchange rate stability is multi-channeled and reinforcing:

1. **Intense FX Demand:** Fuel importers constitute one of the largest bloc of FX buyers in the market. Their consistent need to procure dollars to settle import bills creates a structural excess demand for FX, which places downward pressure on the naira's value (Okonkwo et al., 2023).
2. **Depletion of External Reserves:** High fuel import bills directly drain Nigeria's external reserves, as dollars are sold to importers at the official window. A declining reserve base limits the Central Bank of Nigeria's (CBN) capacity to intervene effectively in the FX market to defend the naira's value during periods of speculative attack or heightened demand (Oladipo, 2022).
3. **Widened Trade Deficits:** Petroleum product imports represent a massive debit on the current account. Without commensurate growth in non-oil exports, this contributes to large and persistent trade deficits, which weaken the external value of the naira according to balance of payments theory.
4. **Inflationary Pressure:** Exchange rate depreciation increases the naira cost of imported fuel (the "landing cost"). This cost-push inflation is then transmitted throughout the economy, raising the general price level and potentially triggering a wage-price spiral that can further undermine currency stability (Eze & Ezeabasili, 2019).
5. **Subsidy-Induced Distortions:** Prior to its removal, the fuel subsidy regime required the government to allocate scarce FX at a subsidized rate to fuel importers. This practice not only created a fiscal burden but also introduced significant distortions in the FX market, crowding out other users and fostering rent-seeking activities (Olawale & Olaniyi, 2020).

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THEORETICAL REVIEW

Several established economic theories provide a framework for understanding the nexus between fuel importation and exchange rate instability in Nigeria.

Balance of Payments (BOP) Theory

The BOP theory posits that a country experiencing a persistent current account deficit will face downward pressure on its currency. The deficit indicates that the demand for foreign currency (to pay for imports and other outflows) exceeds the supply (from exports and other inflows). Nigeria's decades-long dependence on fuel imports is a primary driver of its chronic current account deficits, perfectly aligning with this theoretical expectation. The need to finance these imports creates a constant outflow of foreign exchange, contributing to naira depreciation (Adeniran & Yusuf, 2021).

Purchasing Power Parity (PPP)

The PPP theory, in its absolute and relative forms, suggests that exchange rates will adjust over time to equalize the purchasing power of different currencies. In Nigeria's case, rising costs of fuel imports contribute to higher domestic price levels (inflation). According to PPP, this domestic inflation, if higher than that of trading partners, should lead to a depreciation of the naira to restore parity. Thus, the fuel import-driven inflationary pressure acts as a transmission channel for exchange rate adjustment (Eze & Ezeabasili, 2019).

Demand-Supply Theory of Exchange Rate

This fundamental microeconomic theory applied to the FX market states that the price of a currency (the exchange rate) is determined by its demand and supply. Fuel importation represents a massive, inelastic demand for US dollars. When this demand consistently outstrips the supply of dollars from oil exports, diaspora remittances, and other non-oil inflows, the price of the dollar in naira terms (the exchange rate) must rise. This is a direct explanation for the depreciation pressure linked to fuel imports (Okonkwo et al., 2023).

Structuralist Theory

Structuralist economists argue that long-term exchange rate instability in developing countries is not merely a monetary phenomenon but stems from deep-seated structural rigidities and productive constraints. Nigeria's predicament exemplifies this view. The structural weakness—specifically, the lack of functional domestic refining capacity—creates an unavoidable and structural demand for FX to import a essential commodity. Until this productive capacity is built, the economy remains structurally predisposed to FX pressure and exchange rate volatility, regardless of short-term monetary policy adjustments (Oladipo, 2022).

Empirical Review

Empirical research conducted between 2018 and 2025 provides robust evidence corroborating the adverse impact of fuel importation on Nigeria's exchange rate stability. Adeniran and Yusuf (2021), in their study "Fuel importation and exchange rate dynamics in Nigeria," employed time-series analysis to conclude that fuel import volumes are a statistically significant contributor to exchange rate instability, operating primarily through the channel of increased FX demand. Their findings underscored the structural nature of the problem. Olawale and Olaniyi (2020) focused on the pre-subsidy removal era. Their research, "Fuel subsidy and macroeconomic stability in Nigeria," reported that the subsidy regime created severe market distortions. By guaranteeing FX at preferential rates to a select group of importers, the policy amplified macroeconomic imbalances and exacerbated exchange rate instability by misallocating scarce foreign currency.

Eze and Ezeabasili (2019) established a direct microeconomic link in "Exchange rate volatility and petrol landing cost in Nigeria." They demonstrated that FX scarcity and naira depreciation have a immediate and measurable effect by increasing the naira landing cost of imported petrol, thereby validating the cost-push inflation channel. Oladipo (2022), in "Import dependence and exchange rate instability in Nigeria," provided empirical evidence showing that high fuel import volumes have a deleterious effect on external reserves. The study concluded that the consequent depletion of reserves significantly limits the CBN's ability to engage in effective exchange rate defense, leaving the naira more vulnerable to market forces.

Okonkwo, Nwafor, and Chukwuma (2023) offered a macroeconomic assessment in "Petroleum import burden and naira depreciation." Their analysis identified a strong and positive correlation between the nation's petroleum import bill and episodes of naira depreciation, further cementing the direct relationship between the two variables. Looking towards potential solutions, Ibrahim and Mohammed (2024) explored the post-subsidy landscape in "Deregulation, domestic refining, and exchange rate stability in Nigeria." Their findings suggest that the twin policies of market deregulation (subsidy removal) and the expansion of domestic refining capacity have the potential to enhance exchange rate stability by reducing FX demand and improving the supply side of the market.

Finally, Adenuga, Bello, and Yakubu (2025) provided a forward-looking projection in "Domestic refining and macroeconomic stability in Nigeria." They modeled the potential impact of large-scale domestic refining and projected that full operationalization could save the country billions of dollars in FX annually, thereby substantially relieving pressure on the naira and bolstering external reserves.

The collective weight of this empirical evidence consistently confirms that fuel importation exerts significant downward pressure on the stability of the Nigerian naira.

Literature Gaps

Despite the richness of existing research on Nigeria's energy sector and its macroeconomic linkages, several critical gaps remain, particularly in light of recent policy shifts:

1. **Post-Subsidy Removal Dynamics:** The complete removal of the fuel subsidy in 2023-2024 represents a structural break. There is a scarcity of comprehensive empirical studies that assess the full effects of this policy change on FX demand patterns, exchange rate pass-through to inflation, and overall market stability in the medium to long term.
2. **Role of Emerging Private Refineries:** The coming on stream of large-scale private refineries, such as the Dangote Refinery, introduces a new variable. Few empirical studies have yet to incorporate and model the specific impact of these private domestic refineries on FX demand, import substitution, and exchange rate dynamics.
3. **Micro-Level Impact on Industry Actors:** While macroeconomic effects are well-documented, research rarely delves into the operational-level impacts. There is a gap in understanding how chronic FX instability affects the day-to-day operations, procurement strategies, and financial health of fuel marketing companies and other downstream sector players.
4. **FX Policy Reform Modeling:** Recent efforts towards FX market unification and liberalization represent significant policy reforms. There is a need for more studies that employ robust econometric models to simulate and project the long-term effects of these reforms on the relationship between fuel imports and exchange rate stability.

METHODOLOGY

This seminar paper is primarily based on an extensive and critical qualitative review of existing literature. The methodology involves a systematic synthesis of peer-reviewed journal articles, policy documents from institutions like the Central Bank of Nigeria (CBN) and the Nigerian National Petroleum Company Limited (NNPCL), theoretical economic frameworks, and credible reports from international organizations such as the Organization of the Petroleum Exporting Countries (OPEC). The analysis involved identifying key themes, theoretical perspectives, and empirical findings related to fuel importation and exchange rate stability in Nigeria. The literature was evaluated for consistency, methodological rigor, and relevance to the Nigerian context, particularly for the period 2018-2025.

For the purpose of guiding future empirical inquiry, a potential research design is proposed: An explanatory/descriptive design combining time-series and potentially panel data analysis. Data sources are Central Bank of Nigeria (CBN) statistical bulletins, National Bureau of Statistics (NBS) reports, NNPCL operational reports, OPEC annual statistical bulletins, and World Bank development indicators. Data Analysis Techniques are Correlation analysis, Ordinary Least Squares (OLS) regression, and more dynamic models such as Auto-Regressive Distributed Lag (ARDL) or Vector Auto-Regression (VAR) to account for lagged effects and interdependencies among variables.

RESULTS AND DISCUSSIONS

A synthesis and critical discussion of the reviewed literature reveal several consistent and significant patterns:

Fuel Importation as a Primary FX Demand Driver: The evidence is conclusive that fuel importation is a principal source of excess demand in Nigeria's FX market. This structural demand contributes directly and significantly to persistent naira depreciation, as the need for dollars to pay for imports consistently pressures the currency's value (Adeniran & Yusuf, 2021; Okonkwo et al., 2023).

The External Reserve Drain: High and volatile fuel import bills act as a major drain on Nigeria's external reserves. This depletion has a dual negative effect: it reduces the country's buffer against external shocks and, more critically, it limits the firepower available to the monetary authority (CBN) to intervene in the FX market to smooth out volatility and defend the naira (Oladipo, 2022).

Distortions from the Subsidy Regime: The literature confirms that the pre-2023 fuel subsidy regime, while aimed at social protection, created severe economic distortions. By mandating the allocation of scarce FX at below-market rates to fuel importers, the policy exacerbated FX scarcity for other productive sectors, fostered corruption and rent-seeking, and ultimately amplified macroeconomic and exchange rate instability (Olawale & Olaniyi, 2020).

The Depreciation-Inflation Nexus: A well-established finding is that exchange rate depreciation has a direct and immediate impact on the domestic economy by increasing the naira landing cost of imported fuel. This cost-push effect feeds into transportation and production costs, thereby promoting general inflation and leading to higher domestic pump prices, creating a vicious cycle of currency weakness and rising prices (Eze & Ezeabasili, 2019).

The Potential of Domestic Refining: A forward-looking consensus in the literature points to domestic refining capacity as a critical solution. Studies project that if domestic refineries become fully operational and efficient, they could dramatically reduce the volume of imported refined products. This import substitution would directly reduce FX demand, conserve external reserves, strengthen the current account, and thereby support a more stable and stronger naira in the medium to long term (Ibrahim & Mohammed, 2024; Adenuga et al., 2025).

DISCUSSION OF FINDINGS

The synthesized findings robustly indicate that Nigeria's chronic exchange rate instability is not a random monetary event but is intricately tied to the structural flaws within its energy sector. The heavy, inelastic dependence on imported petroleum products means that Nigeria's FX market is perpetually under siege from a massive and non-discretionary demand for dollars. This creates a fundamental imbalance that short-term monetary policies can manage but not resolve. Reforms such as the politically courageous removal of fuel subsidies and moves

towards market deregulation have addressed some of the most glaring price and allocation distortions. The subsidy removal, in particular, has eliminated a major fiscal drain and a source of FX market distortion. However, these reforms alone are insufficient. The core structural constraint—the lack of adequate domestic refining capacity—remains largely unaddressed in its operational reality. The promise held by fully operational domestic refineries, both public and private, is significant. They represent the most direct path to structurally reducing FX outflows linked to the downstream sector. The potential FX savings run into billions of dollars annually, which could be redirected to support other critical imports or bolster reserves (Adenuga et al., 2025). Nevertheless, realizing this potential is fraught with challenges. These include ensuring a stable and cost-competitive supply of crude oil feedstock to local refineries, establishing transparent and market-responsive fuel pricing mechanisms post-subsidy, and revamping the national distribution network for refined products to ensure efficiency and prevent new bottlenecks. Without addressing these ancillary issues, the benefits of domestic refining may not be fully realized.

CONCLUSION AND RECOMMENDATIONS

The evidence examined in this paper leads to a clear conclusion: between 2018 and 2025, fuel importation has been a significant and sustained source of pressure on Nigeria's exchange rate stability. The inelastic demand for foreign exchange created by the necessity to import refined petroleum products has been a key driver of naira depreciation, external reserves depletion, trade deficit expansion, and broader macroeconomic instability. While Nigeria's status as a crude oil exporter provides FX inflows, these are often offset and overwhelmed by the massive outflows required for fuel imports, creating a paradoxical "resource curse" within the energy sector itself. The recent policy reforms of subsidy removal and the nascent growth in domestic refining capacity offer a pathway out of this dilemma. They represent a shift from distortionary price controls and import dependency towards a potentially more efficient and self-sufficient market structure. However, the persistence of FX pressures indicates that long-standing structural bottlenecks remain deeply entrenched. Achieving lasting exchange rate stability, therefore, requires moving beyond crisis management to implement a coherent, long-term strategy focused on fixing the structural foundations of the energy sector and the broader economy.

Based on the findings of this review, the following multi-pronged recommendations are proposed for policymakers, regulators, and private sector stakeholders:

1. **Accelerate Domestic Refining Capacity:** The government must prioritize and facilitate the full commissioning, optimization, and expansion of domestic refineries. This includes providing an enabling environment for private refineries like Dangote to operate at full capacity and pursuing a pragmatic strategy for the rehabilitation of state-owned refineries through performance-based partnerships.
2. **Ensure Stable and Competitive Crude Supply:** Policy must be enacted to guarantee that domestic refineries have reliable access to crude oil feedstock at internationally competitive prices. This may require revisiting the crude oil swap arrangements and ensuring transparent and equitable allocation mechanisms.

3. **Strengthen FX Management Frameworks:** The CBN should continue to refine its FX management policies to promote transparency, reduce arbitrage opportunities between multiple windows, and build market confidence. A clear and credible commitment to a market-reflective exchange rate is essential.
4. **Enhance Fuel Pricing Transparency:** Following subsidy removal, a transparent and formula-based pricing mechanism for petroleum products should be institutionalized. This will help manage expectations, reduce speculative hoarding, and ensure that market signals are accurately reflected.
5. **Diversify the Economic and Export Base:** To reduce overwhelming reliance on oil-linked FX inflows, aggressive policies to promote non-oil exports (agriculture, manufacturing, services) and attract foreign direct investment into productive sectors must be implemented. A more diversified economy is more resilient to external shocks.
6. **Foster Downstream Sector Collaboration:** The government should actively collaborate with domestic refineries and major marketers to optimize and improve the national product distribution network, addressing logistical inefficiencies that could undermine the benefits of local production.
7. **Adopt Risk Management Tools:** The CBN and major FX users (including NNPCL) should develop and promote the use of financial hedging instruments (forwards, futures, options) to allow businesses to manage their FX exposure and mitigate the impact of short-term volatility.
8. **Invest in Data and Modeling:** Relevant agencies should develop real-time monitoring and sophisticated econometric models to track the dynamic interactions between fuel import volumes, global oil prices, FX market indicators, and exchange rate volatility for better forecasting and policy simulation.
9. **Support Further Research:** Academic and policy research institutions should be encouraged and funded to conduct in-depth studies focusing on the identified gaps, particularly the post-subsidy removal dynamics and the microeconomic impact of FX instability on the downstream sector.

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