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Foreign Exchange Pressure and Foreign Exchange Intervention in Nigeria: A Review of Literature

Idoko Ahmed Itodo [a*], Hyacinth Ementa Ichoku [b] and Oluwatosin Olushola [b]

[a] Department of Research, Central Bank of Nigeria, Nigeria.
[b] Department of Economics, Veritas University, Abuja, Nigeria.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

This paper conducts a comprehensive examination of the concepts of foreign exchange pressure and foreign exchange intervention within the Nigerian foreign exchange market. It delves into the theoretical foundations and empirical evidence underpinning these crucial elements of economic policy in Nigeria. To begin, the paper elucidates the various factors driving foreign exchange pressure in the Nigerian context, encompassing trade imbalances, external shocks, and economic fluctuations, which exert significant pressure on the exchange rate and foreign exchange reserves, necessitating effective strategies for policymakers and market participants. Furthermore, the paper sheds light on the theoretical frameworks and models that form the basis of foreign exchange intervention, emphasizing the substantial impact of central bank and government interventions on maintaining foreign exchange market stability, averting abrupt currency devaluations, and upholding macroeconomic equilibrium. Additionally, the paper reviews empirical literature, offering valuable insights into the practical implications of foreign exchange pressure and intervention in Nigeria,

**Corresponding author: Email: idchessmaster@gmail.com;*

showcasing the Nigerian central bank's use of measures like capital controls, foreign exchange auctions, and exchange rate pegs. The effective management of foreign exchange pressure in Nigeria plays a pivotal role in ensuring economic stability, bolstering international trade, and fostering sustainable economic growth within the nation.

Keywords: Foreign exchange pressure; foreign exchange intervention; Nigerian foreing exchange market; exchange rate.

1. INTRODUCTION

The Central Bank of Nigeria (CBN) consistently intervenes in the foreign exchange market to maintain exchange rate stability, with the aim of safeguarding the global worth of their official currency. However, as the rising demand for foreign exchange, coupled with the decline in foreign capital inflows, constrains external reserve accretion, the resulting negative impact on Nigeria's external reserves, has further limited the Bank's firepower to sustain the intervention, leading to frequent depreciation of the local currency. The objective of the CBN interventions is to moderate the prevailing foreign exchange pressure, and consequently, reduce the almost uncontrollable depreciation in the Naira. However, available statistics have raised doubts about the effectiveness of the exercise, as the exchange rate has depreciated to a record high at both the I$E and the black-market segments. This prompts inquiries about the practical connection between the Central Bank of Nigeria's ongoing interventions in the foreign exchange market and how they influence the Naira's exchange rate.

Addressing this incongruity would significantly gain from research that can offer insights into the magnitude and orientation of foreign exchange pressure and its correlation with the management of the Nigerian foreign exchange market. In terms of foreign exchange intervention, there is a substantial number of extant literatures on the impact of foreign exchange interventions on advanced economies [1-3]. However, available studies regarding Nigeria are limited [4-9]. Consequently, there is need for more extensive body of research to provide a deeper understanding of how foreign exchange interventions affect the Nigerian exchange rate, enabling policymakers and economists to make informed decisions and implement effective strategies to manage the country's exchange rate stability and economic growth.

This paper provides a comprehensive exploration of the intricacies surrounding foreign exchange pressure and foreign exchange intervention within the specific context of the Nigerian foreign exchange market. It delves into these concepts by thoroughly examining both their theoretical underpinnings and empirical evidence. The study aims to elucidate the various factors and dynamics that contribute to foreign exchange pressure in Nigeria, such as trade imbalances, economic fluctuations, and external shocks, while also scrutinizing the strategies and tools used by the Nigerian central bank and government to intervene in the foreign exchange market. By bridging the gap between theory and real-world practices, this paper offers valuable insights into the challenges and opportunities associated with managing foreign exchange pressure in a developing economy like Nigeria, thereby contributing to a deeper understanding of the country's economic and monetary policies.

2. LITERATURE REVIEW

2.1 Conceptual Framework

2.1.1 Foreign exchange pressure

According to Weymark [10], foreign exchange pressure refers to the necessary exchange rate adjustment to alleviate surplus demand for a currency without direct foreign exchange market intervention. Additionally, as per Jayaraman and Choong [11], exchange market pressure quantifies the overall surplus demand for a currency in global markets, representing the exchange rate adjustment required to eliminate this surplus demand in the absence of foreign exchange market intervention, taking into account the expectations generated by the adopted exchange rate policy. It is a concept that deals more with countries that are majorly import dependent. Developing countries, Nigeria inclusive, depend on huge amount of import, and thus are faced with foreign exchange pressure [12]. As per Eichengreen et al. [13], foreign exchange pressure can be described as a calculated average, taking into account adjustments in currency exchange rates, interest rates, and foreign reserves. This concept

underscores the significance of liquidity in the interplay between domestic and foreign exchange markets. The degree of monetary market disparity, on the other hand, that calls for a resolution through acts involving foreign reserves or adjustments in exchange rates is what Ratnasari and Widodo [14] characterize as foreign exchange market pressure.

The foreign exchange market experiences upward pressure when there is a stronger demand for foreign currency than there is supply of it. This is demonstrated by the increasing desire for foreign currency relative to the domestic currency [15]. Exchange market pressure indicates the proclivity of a native currency to appreciate or depreciate in value, as well as the stability of the local money market. The country's currency is oversupplied in the foreign exchange market, according to Jager and Klaassen [16], and if the monetary authorities do nothing to protect it, this could lead to a decline in the value of the local currency. In accordance with Gilal et al. [17], exchange market pressure arises when there is a pronounced demand for the domestic currency in the foreign exchange market. The excess demand for the home currency in the foreign exchange market is directly related to the home currency's strengthening against other currencies. Additionally, when the demand for foreign currency decreases, the value of the domestic currency declines relative to other currencies. As exchange rate policies shape expectations, exchange market pressure leads to an oversupply of demand for a currency in foreign exchange markets, requiring an adjustment in the exchange rate to eliminate this surplus demand, in the absence of monetary or foreign exchange market intervention.

2.1.2 Foreign exchange intervention

Exchange intervention, also known as foreign exchange market intervention, is the practice of the central bank or monetary authority selling or buying foreign currency to stabilize and lessen volatility in the foreign exchange market. This strategy is employed to maintain sufficient exchange rate stability, which, in turn, supports the government's macroeconomic goals and stimulates economic activity within the country. When the foreign exchange value appreciates, the central bank intervenes by increasing the currency supply through currency sales to the market [15]. Consequently, the currency's value decreases. Likewise, in the event that the value of the currency declines, the central bank steps in and buys foreign exchange from the market. This action eliminates any surplus of foreign exchange in the market, leading to price adjustments to the desired level.

2.2 Theoretical Review

The first theory of exchange rate determination is often attributed to the Scottish economist David Hume, who proposed the "price-specie flow mechanism" in the 18th century. According to Hume's theory, if a country experiences an increase in its money supply, prices will rise, making its goods more expensive relative to other countries. As a result, exports will fall while imports will rise, resulting in an outflow of specie (gold or silver) as the country's currency is swapped for foreign money. This outflow of specie will eventually cause a contraction in the money supply and a decrease in prices, restoring the balance of trade and the exchange rate to their previous levels. Conversely, a decrease in a country's money supply will lead to lower prices, increased exports, decreased imports, and an inflow of specie, which will eventually increase the money supply and restore the balance of trade and exchange rate. Hume's theory laid the foundation for subsequent theories of exchange rate determination.

The IS-LM-BP model, popularly referred to as the Mundell-Fleming model, offers an economic framework for analyzing the interplay between exchange rates, interest rates, and a nation's income in a free market setting. Independently developed by Robert Mundell and Marcus Fleming [18,19], this model plays a pivotal role in the field of international macroeconomics. Within the Mundell-Fleming model, exchange rate movements in an open economy are primarily shaped by the interplay of fiscal policy, monetary policy, and external influences. The model focuses on the short run and assumes that prices are sticky, meaning that changes in the money supply do not immediately affect the price level. In the long run, prices are expected to adjust, which can impact exchange rate dynamics differently. The Mundell-Fleming model provides insights into how various economic policies and external factors influence exchange rates in the short run, it has its limitations, as discussed in the previous response, and should be used in conjunction with other models and empirical data for a more comprehensive analysis. Despite its shortcomings, the Mundell-Fleming model provides a useful framework for understanding

the dynamics of short-term exchange rates in an open economy. Economic concept developments and tweaks to key axiomatic underpinnings can aid in improving the theory's application to real-world analysis. This theory serves as the theoretical foundation for the investigation.

2.3 Empirical Literature

Numerous studies have found that foreign exchange accumulation has an effect on macroeconomic factors. This section presents findings of selected studies on the subject, focusing on inflation, exchange rate, trade, and GDP. Using the Special Drawing Rights (SDR) as a natural experiment, Chitu [20], the outcome of the study shows that positive SDR shock (large SDR allocation) is inflationary – increases inflation by about half a percentage point. In Nepal, Kaphle [21] applies the vector error correction model (VECM) and discovers that foreign exchange contributes to economic growth, but with a lag. Matsumoto (2022) His results show that by lowering the real currency rate, reserve buildup attracts foreign direct investment (FDI) inflows, which contributes to GDP.

Using ARDL technique, Adekunle [22] finds that a positive long run relationship exists between external reserves and economic growth in Nigeria. It is confirmed by the causality results that this relationship is bidirectional. Nwafor [23], in contrast, contends that foreign reserves have no appreciable beneficial effect on Nigeria's economic growth. Onwuka and Onwuka and Igweze [24] findings support the presence of a direct correlation between the USD/Naira exchange rate and foreign reserves, with an increasing foreign reserve depreciating the value of the Naira internationally. According to the research of Chowdhury et al. [25], the demand for foreign currency reserves is determined linearly by the broad money supply, exchange rate, remittances, per capita GDP, unit price index of trade, and home interest rate.

Aizenman and Binci [26], find that differences in EMPs (Exchange Market Pressure) faced among nations during the financial crisis can be fairly attributed to the differences in per capita income, inflation, and trade balance before it. Klutse, et al. [27] adopt Dynamic Ordinary Least Squares, District threshold and ridge regression and the study found that the variables representing the maximum threshold were significantly divergent; thus, affirming the difference between both indexes. Similarly, it was revealed that South Africa had 31 and 27 crises episodes when the first and second lags of EMP were used as dependent variables, with the greatest responses occurring in 2008, the latter period of 2011 to the first quarter of 2012, 2013 and 2015.

Gevorkyan and Khemraj [28] used multiple estimation techniques including pooled Panel VAR as well as Seemingly Unrelated Regression (SUR) and Generalized Least Squares (GLS) and result revealed that positive shocks in the form of an appreciation of the US dollar or the euro elicited significant foreign exchange pressure. This reaction of the EMP to shocks in the dominant international currency shock indicated the challenge of foreign exchange constraint prevalent in emerging economies. Findings also showed evidence of a pass-through from non-linear exchange rate to price levels in the domestic market; with the dollar exerting the greater effect between the dominant international currencies on macroeconomic parameters in the countries. Arian and Arabi [29] employed threshold regression, the study revealed several periods of incline and decline at different periods. It was discovered that the monetary authority's short- and long-term operations in the foreign currency market through its monetary policy tool were highly dependent on the foreign reserves. In the long run, political unpredictability had a substantial impact on the pressure on the foreign exchange market.

Kayode et al. [5] have determined that foreign exchange interventions in Nigeria successfully stabilized the Naira across the whole period investigated, both in the short and long run, in accordance with the autoregressive distributed lag (ARDL) model. The results obtained by Kayode et al. [5] are consistent with earlier studies carried out by Dayyabu et al. [4]. Dayyabu et al. [4] used the vector error correction model (VECM) to determine a stable correlation between the Nigerian Naira exchange rate and the Central Bank of Nigeria's (CBN) intervention actions. They came to the conclusion that there is a negative correlation between the CBN's involvement in the foreign exchange market and the appreciation of the Naira in Nigeria.

Siklar and Akca [30] adopted a VAR methodology and the output of the Granger causality test revealed that a unidirectional causal relationship existed between expansion in domestic credit to EMP, while there existed a

bidirectional causal dynamic between EMP and interest rate differential in the model estimated. This EMP pattern signifies a devaluation of the Turkish Lira. Gusmanita et al. [31] utilized panel data analysis and found that credit within the domestic economy had a notably adverse influence on the EMP, indicating how the expansion of domestic credit affects the increase in net capital flows. Keefe & Shadmani [32] used dynamic threshold panel methodology and Generalized Method of Moments (GMM) and findings revealed that the non-linear aversion towards appreciation holds only in scenarios below-threshold volatility. The outcome revealed that volatilities in the exchange rate influenced the degree of response from policymakers to exchange rate dynamics.

Olanipekun et al. [33], using panel data analysis, discovered a persistent connection between EMP and the degree of uncertainty in economic policy. Further findings indicated that in the long-run, financial openness heightened the impact of EMP. Boer, et al. [34] adopt Peak over Threshold (POT) ARMA/ARCH/GARCH result revealed that the positive nature of the parameters was a confirmation to the generalized extreme value distributions. Abtahi and Bioki [35] adopted the Threshold Vector Autoregressive (TVAR) and the Markov-Switching Vector Autoregressive (MS-VAR) models as its method of estimation and findings revealed that the lag of the parameters exerted no significant effects on EMP under a low inflation regime, with a significant impact resulting under a high inflation regime. The MS-VAR model results showed that the lags of the autoregressive coefficients in low and high regimes had a substantial effect on EMP. Conversely, when there is an increment in foreign reserves resulting in the switch of the EMP to a higher regime; resulting in inflationary prices worsening the exchange market pressure.

Hegerty [36] applied was the Vector Autoregressive (VAR) and Granger causality and the study found from its examination that Czech economy was mildly insulated from transmission emanating internationally, with the Hungarian economy more susceptible. Using the Autoregressive Distributed Lag (ARDL) technique, Khalaf [37] discovered that money multipliers and domestic credit, two often used monetary policy intervention measures, were unsuccessful in the setting of Iraq. The findings indicated that the Central Bank of Iraq (CBI) used foreign reserves as its main source of relief from market pressure for foreign exchange. Oliver and Marcus [38] used Panel data analysis and the study found that a percentage change in the growth rate of the monetary base (of M3) resulted in a rise in EMP in emerging market economies by 0.15 per cent, holding other variables constant.

Şıklar (2017) used a recursive VAR methodology and the results indicated that ERPT was quite low in Turkey in the years under consideration. Similarly, a comparison prior to 2001 and between 2002 and 2014, revealed that the impact of ERPT was less often in the examined period. Mogaji [39] applied the Robust Least Square (RLS) regression technique and found that in the West African Monetary Zone (WAMZ), there were diverse methods of managing market pressure. The majority of WAMZ members, including Nigeria, the top economy, responded to pressure from the exchange market by letting their own currency weaken instead of using up all of their reserves. Muhammad and Widodo (2017) show that the composition of foreign reserves and/or exchange rate had no significant impact on EMP for the nations studied during this time period. Ratnasari and Widodo [14] employed the Vector Error Correction Model (VECM) and determined that the authorities' actions led to a rise in EMP by restraining the growth of domestic credit. They showed a pattern of not offsetting the EMP effects during non-crisis periods but, in contrast, a tendency to offset and infuse liquidity into the banking system during crisis periods. Likewise, interest rate differential shock exerted a negative effect on domestic credit growth, a response possible because neither fixed nor free floating exchange rate regimes were applied.

Dou [40] found that in China, during the studied period, alleviating the EMP involved combining changes in one reserve with changes in the exchange rates of another reserve. The study also revealed that the composition of exchange rates and foreign exchange reserves significantly impacted the measure of exchange market pressure. Using a panel data modeling technique, Akinkunmi [41] found that central bank intervention had no effect on the exchange rate and did not cause the exchange rate rebound effect. Hoshikawa [42] utilized OLS, GARCH, and EGARCH methods, and the findings demonstrated exchange rate rebounds following interventions, with effectiveness being notable on the day following the intervention. Using the Generalized Method of Moments, Gilal et al. [43] found that the Central Bank of Pakistan significantly mitigated the effects of inflows of

foreign money. On the other hand, these sterilizing attempts led to counterbalancing adjustments in foreign assets, consistent with the idea of perfect asset substitutability.

According to Ojapinwa and Rotinwa [44], who used Autoregressive Distributed Lag (ARDL) and Vector Error Correction models, EMP has resulted in banking sector disequilibrium in Nigeria over time. Using the Error Correction Model (ECM), Younus [45] discovered that domestic credit in Bangladesh has a significant and negative impact on EMP. EMP was significantly impacted by monetary policy, as measured by domestic credit, according to the Impulse Response Functions (IRFs) and Volatility Decompositions (VDCs) produced from the Vector Error Correction Model (VECM). As anticipated, EMP has had a noticeable and unfavorable reaction to the shock pertaining to domestic credit. Akram and Byrne [46] conducted an analysis involving a panel of 40 countries using the Least Square Dummy Variable (LSDV) and the Probit Limited Dependent Variable (PLDV) approaches. They observed that capital controls were associated with weaker currencies, particularly in advanced economies. According to Aizenman and Binici [26], who employed a dynamic panel model estimation, external factors played a substantial role in driving EMP in both OECD and emerging market nations, with the latter having a greater impact. The study also discovered considerable evidence of an aggregate capital control measure lowering EMP in OECD nations, but no effect in the EME (emerging market economies) sample.

Using the autoregressive distributed lag (ARDL) approach, Omojolaibi and Gbadebo [47] found that there was a long-term equilibrium relationship between money supply parameters and central bank interventions in the foreign exchange market. Hegerty [48] employed the VAR methodology result revealed that, Ukrainian and Belarusian EMP spilled over from one to another, with both spillovers originating in Russia. Russia, on the other hand, is less affected by events in its neighbors' exchange markets. But, like the others, the Russian dynamic was vulnerable to declines in oil price and stock markets. The transmission from Russian stock prices to EMP is unidirectional, however; the ruble does not influence Russian stocks.

Baghjari and Najarzadeh [49] employed the Two-Stage Least Squares (2SLS) approach, and the results demonstrated that the mean value of EMP, at 0.062, provided evidence of a prevailing depreciation pressure throughout the study period. Furthermore, the intervention index's mean value of 0.44 showed that fluctuations in foreign exchange reserves and exchange rates absorbed forty-four. The average value of Iran's currency also consistently declined, which prompted the Central Bank of Iran to launch an active intervention operation. Specifically, to bring the foreign exchange market back to balance, the Central Bank of Iran used interventions in the foreign currency reserve and exchange rate. The intervention index supports the managed float exchange rate system, which is in line with this policy.

Baghjari and Najarzadeh [49] employed the Two-Stage Least Squares (2SLS) method, and their findings indicated that the average value of EMP, standing at 0.062, provided proof of a continuous prevalence of depreciation pressure over the study duration. Additionally, the intervention index's mean value of 0.44 indicated that variations in foreign exchange reserves and exchange rates absorbed roughly forty-four. In a similar vein, the average value of Iran's currency was consistently declining, which prompted the Central Bank of Iran to launch an active intervention campaign. To restore equilibrium levels in the foreign exchange market, the Central Bank of Iran specifically used both exchange rate adjustments and foreign currency reserve interventions. The intervention index supports the managed float exchange rate regime, which is consistent with this strategy.

3. FOREIGN EXCHANGE MANAGEMENT IN NIGERIA

Over the years, the Nigerian foreign exchange market has undergone a transformation, transitioning from the fixed exchange rate system under the International Monetary Fund (IMF) before 1973 to becoming an autonomous and interbank foreign exchange market in 1995 and 1999, respectively. Presently, exchange rate management in Nigeria operates under a managed floating system, where the exchange rate is primarily determined by the market forces of supply and demand, with the Central Bank of Nigeria (CBN) stepping in as needed. A comprehensive account of the historical development and evolution of foreign exchange management in Nigeria can be found in works by

Obadan [50], Obaseki [51], and on the CBN website[1]

- **Foreign Exchange Management in Nigeria prior to 1986**

Before 1973, Nigeria's approach to managing exchange rates adhered to the International Monetary Fund's (IMF) fixed exchange rate system, known as the par value system. The Nigerian pound was not actively traded, and the exchange rate was primarily passive, closely tracking the dynamics of either the British pound sterling or the U.S. dollar. Specifically, the Nigerian pound was pegged to the British pound sterling until 1967. However, between 1968 and 1972, the British Pound parity system was temporarily suspended, and the naira was pegged to the U.S. dollar following the collapse of the par value system in December 1971. Subsequently, in 1978, the naira was pegged to a basket comprising 12 currencies from Nigeria's major trading partners. By 1985, the exchange rate management regime shifted to quoting the naira against the U.S. dollar, as documented by Obadan [50].

For individuals involved in exporting and importing, participation in the foreign exchange market during this period was contingent on obtaining a license from the Federal Ministry of Commerce (FMC). Import procedures adhered to international standards, where an importer initiated a letter of credit (L/C) and received confirmation from a foreign correspondent bank. To monitor and curb unethical practices, the Comprehensive Import Supervision Scheme (CISS) was established in 1979, which led to the introduction of Form 'M.' Authorization of foreign exchange disbursements was a shared responsibility between the Federal Ministry of Finance (FMF) and the Central Bank of Nigeria (CBN). The FMF oversaw applications from the public sector, while the CBN handled applications from the private sector. To alleviate pressure on foreign exchange demand, the government emphasized the promotion of exports and introduced incentives for non-oil exports. These incentives included the establishment of export free zones, granting exporters a 25 percent concession on export proceeds, liberalizing export and import licensing, and setting up an export credit guarantee and insurance scheme. In September 1986, the government relinquished control of foreign exchange to adopt a mechanism that aligned with the prevailing macroeconomic conditions in the country.

- **Foreign Exchange management in Nigeria, 1986 – 2002**

In July 1986, Nigeria adopted the structural adjustment program (SAP), and in line with the tenets of SAP which emphasizes free market system, there was a paradigm shift towards market determined exchange rate. Consequently, the framework for trading the naira in a free-market system was institutionalized and a dual exchange rate system (first and second tier) was adopted in September 1986 to usher in the market determined exchange rate regime. Whereas the exchange rate was administered in the official (first-tier) market, in the second-tier market, it was determined by the forces of demand and supply. The official rate was applied to some official international transactions like debt servicing and obligations to international organizations, while the market determined rate was applied to other transactions. The dual exchange rate regime aimed at circumventing a significant depreciation of the naira. The dual exchange rate regime allowed the naira to depreciate in the SFEM while it was gradually adjusted downward in the official market until convergence is achieved at a reasonable rate. The SFEM was, therefore, expected to ensure a realistic exchange rate of the naira and reduce excess demand for foreign exchange to import finished goods and services, as well as stimulate non-oil exports.

In July 1987, the dual markets were unified to become the unified foreign exchange market (UFEM) and the first-tier rate was abolished. Thus, the FMF transferred its powers of allocating foreign exchange to the CBN, though, it retained the power to approve public sector transactions. In effect, the naira exchange rate became more market driven and various pricing methods were introduced including the marginal, weighted average, and the Dutch system and by March 1992, the naira exchange rate had become entirely determined by the market forces, there was, however, a policy reversal in 1994 due to unabated pressure on the foreign exchange market. To deepen the FEM, Bureaux de Change (BDCs) were licensed in 1989 to provide foreign exchange to small scale users. Exchange rates in the Bureaux de Change were market driven. It is important of note that the

[1] *Central Bank of Nigeria | Foreign Exchange Management (cbn.gov.ng)*

parallel market which had been in existences sine the era of foreign exchange control, fostered during this period due to scarcity in the officially recognised markets and prevailing bureaucratic procedures.

In 1995, the policy reversal from SAP to "guided deregulation" led to the establishment of the autonomous foreign exchange market (AFEM). The unified FEM operated the official, and AFEM. The aim was to make the autonomous market competitive with the parallel market and attractive to exporters. However, the tendency towards high arbitrage premium and round tripping by authorized dealers made the autonomous market destabilizing. Hence, in October 1999 the AFEM metamorphosed into the interbank foreign exchange market (IFEM). The aim was to widen and deepen the FEM and curb speculation of the naira.

Beside the establishment of institutional framework for appropriate pricing of foreign exchange, other measures used in the management of foreign exchange in NIgeria include demand and supply side management. The CBN and fiscal authority deliberately established the Nigerian Export Promotion Council (NEPC) and the Nigerian Export-Import Bank (NEXIM) to foster foreign exchange accretion.

- **Foreign exchange management in Nigeria, 2002 – 2015**

In 2002 the Inter-bank Foreign Exchange Market (IFEM) was deregulated to allow BDCs source forex from the IFEM and incentivise non-oil exports to enhance autonomous forex supply. These among others were expected to ensure appropriate duty rates for goods imported into Nigeria, reduce the incentive to patronize the parallel market and minimize the arbitrage premium. In addition, the retail and wholesale Dutch Auction System (RDAS and WDAS) were introduced to enhance the efficiency of foreign exchange allocation using market-based exchange rate determination. Under the Dutch Auction System (DAS) auctions were conducted twice weekly with customer-based bids in the RDAS window but banks bought and sold to customers in the WDAS window. Funds were transferable among banks in the WDAS window but was not permissible under the RDAS.

These efforts were retained up until 2010 when some were amended. Authorized dealers could deal freely in autonomous funds subject to compliance with advised Net Open Position (NOP) limit and banks were not allowed to purchase funds for or on behalf of a customer without a valid underlying transaction and supporting document. BDCs were also allowed to continue direct foreign exchange cash sales with a ceiling of US$5000.00 per approved transaction. Furthermore, holders of domiciliary accounts were allowed unfettered access to their funds. In 2015, the CBN migrated to the IFEM regime, where all items where traded on the interbank market. The CBN intervenes directly in the market to provide forex directly to customers.

- **Foreign exchange management in Nigeria, 2016 to 2022**

Mounting demand pressure on foreign exchange and low accretion to reserves, due to decline in crude oil receipts forced the CBN in June 2016, to adopt a managed floating exchange rate regime. Enhancing The objectives of the regime included enhancing efficiency and liquidity in the forex market and facilitating transparency. During this period the authorities removed control on the Naira and allowed its value to be market determined, though, the CBN intervenes directly in the IFEM to enhance liquidity whenever the need arises.

In furtherance of the new foreign exchange regime, the CBN introduced some windows for special purposes, which according to CBN (n.d) include: "the retail special secondary market intervention sales (SMIS) for raw materials and machineries, agriculture, airlines and petroleum products; the invisibles window for business and personal travel allowance (BTA/PTA), sales of school fees, hostel accommodation, maintenance allowance and medical expenses abroad; the small and medium enterprises window for small scale importation of US$20,000.00 and below per quarter subject to completion of Form Q supported with Proforma Invoice and importer's BVN; the Investors' and Exporters' (I&E) Foreign Exchange window; and the Naira settled over the counter (OTC) foreign exchange futures in collaboration with financial market dealers quotation OTC Plc (FMDQ)" to enhance market liquidity.

Every year, the CBN issues new guidelines or retains existing ones in the management of the foreign exchange market. The policy thrust of exchange rate policy over the years has been to maintain a stable exchange rate, balance of

payment equilibrium, and foreign reserve accretion. The CBN observed that BDC operators were involved in sharp practices and flouted existing regulations due to their drive for high premium, facilitated unlawful financial transactions and other financial crimes which promote corruption in the system. These activities did not only expose the naira to unwarranted volatility but also led to gradual dollarization of the Nigerian economy [15]. Thus, in July 2021 the CBN banned the sales of foreign exchange to BDCs and suspended the application for and issuance of new licenses.

In February 2022, the CBN introduced the RT200 foreign exchange programme with the aim of reducing the "exposure to volatile sources of foreign exchange and to earn more stable and sustainable inflows." Under the programme, the CBN gives N65 (N35) rebate to nonoil exporters for every US$1 repatriated and sold in the I & E window to authorized dealer bank (ADB) for third-party (own) use. The rebate programme aims to raise US$200 billion in foreign exchange earnings over a period of five years from repatriated nonoil export proceeds [15].

4. CONCLUSION AND POLICY REMARKS

In conclusion, this paper provides a comprehensive analysis of the concepts of foreign exchange pressure and foreign exchange intervention as they pertain to the Nigerian foreign exchange market. It undertakes a thorough examination of both the theoretical foundations and the empirical evidence surrounding these critical aspects of economic policy in Nigeria.

First and foremost, the paper highlights the various factors contributing to foreign exchange pressure in the Nigerian context. These include trade imbalances, external shocks, and economic fluctuations, which exert significant pressure on the exchange rate and foreign exchange reserves. Understanding the drivers of this pressure is essential for policymakers and market participants to develop effective strategies for managing it.

Moreover, the paper sheds light on the theoretical frameworks and models that underpin the concept of foreign exchange intervention. By delving into these theories, it becomes evident that interventions by the central bank and government can have a substantial impact on the stability of the foreign exchange market. These interventions are crucial in preventing abrupt currency devaluations and maintaining macroeconomic stability.

Additionally, the empirical literature reviewed in this paper provides valuable insights into the practical implications of foreign exchange pressure and intervention in Nigeria. It demonstrates that the Nigerian central bank employs various measures, such as capital controls, foreign exchange auctions, and exchange rate pegs, to manage foreign exchange pressure. The effectiveness of these measures, as revealed in the empirical studies, varies and depends on specific market conditions and external factors.

This analysis shows that managing foreign exchange pressure in Nigeria is a multifaceted and challenging endeavor. It requires a delicate balance between market forces and regulatory interventions. The paper underscores the need for policymakers to stay informed about the ever-changing dynamics of the foreign exchange market and to adapt their strategies accordingly.

In conclusion, this paper enriches our understanding of foreign exchange pressure and intervention in the context of the Nigerian foreign exchange market. It illuminates the theoretical foundations, empirical evidence, and practical implications of these concepts, offering valuable insights for both academics and policymakers. Effectively managing foreign exchange pressure in Nigeria is pivotal for ensuring economic stability, promoting international trade, and supporting sustainable economic growth in the country.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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