**Exchange rate fluctuation and the value of the Nigerian Naira: The mediating effects on pricing strategies of local Firms**

**Abstract**

*This study investigated the effect of U.S dollar exchange rate fluctuations on the purchasing power of Naira and the pricing strategies of local traders in Nigeria. The study adopted a mixed research design (descriptive and ex-post facto). For the descriptive survey, the study population covers all the local sellers in all the main markets across Nigeria’s six (6) geopolitical zones. The sampled size covered 1440 local traders in the markets across the geopolitical zones using a multi-stage sampling process urea. Also, six (6) local traders were selected from the largest market in each of the six (6) geopolitical zones to conduct an intensive interview as per their pricing strategies. For the secondary approach, the study used a time series data spanning from 1990 to 2023 sourced from the CBN Statistical Bulletin and World Bank Database to obtain historical data on exchange rate. Several estimation techniques were adopted for the data analysis, including descriptive statistics, Pearson Correlation matrix, ARDL estimations, hierarchical regression and thematic analysis. From the analysis conducted it was evidenced that exchange rate fluctuation negatively and insignificantly affected the purchasing power of the Nigerian Naira. From the thematic analysis, it was revealed that fluctuations in the exchange rate significantly increased the prices of both foreign and locally produced commodities in Nigeria. Finally, the hierarchical regression result indicated that all the pricing strategies under consideration were positive and significantly influenced the purchasing power of Naira. Hence, it was concluded that dollar exchange rate fluctuations have a statistically negative impact on the purchasing power of Naira while the pricing strategies significantly boost the purchasing power of Naira. Corresponding to this conclusion, it was recommended that the Central Bank of Nigeria (CBN) should implement more robust exchange rate management policies, such as better control of the foreign exchange market, to minimize volatility.*

***Key Words:*** *Purchasing Power Parity, Exchange Rate, Pricing Strategies, Inflation*

**1.1 Introduction**

Nigeria is a nation which is highly dependent on imported goods and services. Over 80% of what is consumed in the economy is not produced locally (Ogundipe, 2020). By implication, over 80% of revenue which should be spent within the country is spent outside the country. The leading cause of this issue is due to the over-reliance on foreign products. There is a need for the Government to focus on import substitution through increased local production (Oyekola et al*.,* 2022). This would help in stabilizing exchange rates, just like the way it was in the 1970s and 1980s where agricultural products accounted for a significant percentage of the country’s export earnings.

Exchange rate fluctuation causes local businesses to fail, as they need to adjust their budgets frequently (Iheanachor & Ozegbe, 2021). In the recent times, the Federal Government adjusted their budget up to three times in a single fiscal year due to exchange rate fluctuations. In the same vein, foreign investors find it extremely difficult to declare their profits, because conversion would be inconsistent, and fluctuations in the exchange rate might mean that they did not make as much as the initial profit. Ultimately, this would discourage foreign direct investment (FDI), and they might even cease from operating in the country. In essence, stability in the exchange rate is very necessary to attract FDI. As the value of the Naira depreciates, local firms face rising costs of raw materials, transportation, and production, which in turn influence their pricing decisions and overall market competitiveness.

A peculiar issue in Nigeria which affects exchange rate, has to do with the multiple exchange rates in use over the past decades. The official, the interbank, SME and the parallel market rates are the exchange rates used in the country. These rates indicate that foreign exchange could be accessed at various values for different entities. These disparities create uncertainties in cost forecasting, forcing firms to adopt diverse pricing strategies to mitigate financial risks. Some firms responded by increasing prices to offset higher costs, while others adjusted product sizes, source alternative materials, or implemented hedging strategies to remain competitive (Ukangwa et al. 2022). Also, this diversity makes it difficult for adequate planning by the Government and other stakeholders in the economy. Therefore, entities go with the rate to which they have easier access to. The resulting consequence could have a multiplier effect on goods and services, by raising their prices beyond the normal level.

The subject matter at hand has been investigated by various scholars, however, an in-depth review of the available studies (Adebisi & Jaji, 2023; Bahmani‑Oskooee & Mohammadian, 2024; Burda, 2022; Ouyang & Guo, 2019; Ukangwa et al., 2022) at the disposal of the researchers show that there are still insufficient examinations in Nigeria. This serves as one of the drivers for the current study to be carried out. From the reviewed studies, it was also discovered that the relevance of the data used in the analysis did not reflect the current situation of the economy in Nigeria (Iheanachor and Ozegbe, 2021 from 1986-2019; Ukangwa et al., 2022 from 1987-2017). Certain important events which influenced exchange rates were not reflected in the period used among the reviewed studies, but this current study would take into consideration, primary and current events.

A thorough review of the available studies also revealed that only a handful of the scholars considered how U.S dollar fluctuations could affect the pricing strategy of local sellers, a feat this current study hopes to attain. The purchasing power of the Naira would also be examined in relation to the fluctuations in exchange rates of the dollar. Ultimately, it would contribute to empirical knowledge, and future studies might wish to concentrate on another foreign currency aside the US dollars ($) to carry out their research. Furthermore, it would easily serve as a reference point for future studies. The primary objective of this study is to explore the effects of U.S. dollar exchange rate fluctuations on the purchasing power of the Naira and the pricing strategies employed by local sellers in Nigeria. This study is significant because it provides empirical insights into how local traders navigate exchange rate volatility while maintaining pricing stability and competitiveness. Unlike previous studies that predominantly focused on exchange rate effects on imports and foreign goods, this study highlights the practical challenges and adaptive strategies of local traders operating in a volatile exchange rate environment. By addressing this critical gap, the findings will offer valuable perspectives for policymakers, financial analysts, and business owners seeking to mitigate exchange rate risks and enhance pricing efficiency in Nigeria’s evolving economic landscape.

**2.0 Literature Review**

**2.1 Conceptual Review**

**2.1.1 International Trade**

International trade refers to the exchange of goods and services across national borders between two or more nations (Bahmani Oskooee & Mohammadian, 2024; Beckmann & Comunale, 2021). It is rooted in the reality that no nation is entirely self-sufficient, necessitating the exchange of raw materials, technology, human resources, and capital to sustain economic activities. While international trade has significantly contributed to global economic growth, some scholars argue that it has also led to the economic exploitation of weaker nations by more dominant economies. In Nigeria, the oil boom positioned the country as a key player in global trade, generating substantial foreign exchange earnings through crude oil exports (Adebisi & Jaji, 2023). However, despite these earnings, the expected economic benefits, such as poverty reduction and industrial growth, have not been fully realized, largely due to structural inefficiencies and overdependence on oil revenues.

The integration of Nigeria into international trade also brought about the need for a robust foreign exchange system to facilitate cross-border transactions and maintain economic stability. The foreign exchange market determines the value of the Nigerian Naira relative to other currencies, influencing the pricing of imported and locally produced goods (Ekeocha & Uchenna, 2022). However, exchange rate fluctuations have posed significant challenges for businesses, particularly local firms that rely on imported raw materials and machinery. The volatility of the Naira has led to inconsistent production costs, forcing businesses to adjust pricing strategies to remain competitive. Inconsistent exchange rate policies, multiple exchange rate windows, and speculative currency trading have further compounded these challenges, making it difficult for local firms to stabilize prices and plan long-term business strategies.

**2.1.3 Foreign Exchange Rate Fluctuations**

Foreign exchange rate is the value of the conversion of one currency to another (Trung, 2023). In the context of this study, the foreign exchange rate is the value of the conversion of the Naira to the U.S Dollar. An increment in the foreign exchange rate means that goods which are imported into the country would rise in their cost to the final consumers. Implicitly, the purchasing power of citizens would reduce when it comes to imported goods, if the exchange rate is high.

**Table 1: Rate of Naira to Various Foreign Currencies**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Dollar to Naira | Pound to Naira | Euro to Naira |
| Before 2015 | $1 – N197 | £1 – N302 | €1 - N219 |
| 2015-2023 | $1 – N448 | £1 – N523 | €1 - N480 |
| 2023 till date | $1 – N1662 | £1 – N2201  | €1 - N1854 |

**Source: Author’s Compilation (2024)**

Table 1 shows the exchange rate of the Naira to the US dollar ($), British Pound (£) and Euro (€) for various periods. As the exchange rate rises, the implication is the devaluation of the naira. Thus, the purchasing power of the naira reduces. From table 1, it can be interpreted that a product costing N197-$1 before 2015 would be costing N1662-$1 in 2024. This represents more than 800% increase in cost. Inevitably, the poverty gap would widen as more people would be unable to meet their basic needs. Businesses would shut down as they are unable to meet certain targets and cost control estimations.

**2.1.4 Purchasing Power Parity**

The concept of Purchasing Power Parity (PPP) serves as a fundamental measure for comparing the relative purchasing power of different national currencies by evaluating the price levels of specific goods and services across countries (Akinlo & Adewuyi, 2019). According to Akpan and Ekerette (2020), the PPP indicator can be utilized to assess economies in terms of GDP, labor productivity, and real individual consumption, providing a more standardized basis for economic comparisons. Additionally, PPP is instrumental in analyzing price convergence and evaluating the cost of living in different regions. By eliminating price level disparities, the PPP currency conversion rate aims to equate the purchasing power of diverse currencies, ensuring a more accurate assessment of economic performance across nations.

The PPP theory posits that exchange rates should adjust to reflect differences in national price levels, thereby maintaining equilibrium in international trade (Narayan & Sharma, 2018). However, in Nigeria, persistent exchange rate fluctuations disrupt this equilibrium, leading to an increase in the cost of locally produced and imported goods while simultaneously weakening the Naira's purchasing power against stronger currencies like the U.S. dollar. This depreciation affects both businesses and consumers, as firms struggle with rising production costs and uncertainties in pricing strategies, the consumers face diminished purchasing power due to inflated prices. As a result, Nigerian households and firms are compelled to allocate more Naira for the same quantity of goods and services, ultimately straining economic stability and reducing overall welfare.

**2.1.5 Trade Openness**

Trade openness is a critical determinant of how a nation's economy integrates with global markets, influencing its exposure to external economic shocks. Ayanwale and Bamire (2024) define trade openness as the extent to which a country welcomes foreign investors and engages in international trade. Similarly, Chirwa (2018) conceptualizes trade openness as the ratio of a nation’s registered imports and exports, emphasizing its role in economic orientation toward global commerce. From these perspectives, trade openness can be quantified as the sum of a country's trade volumes (imports and exports) as a percentage of its GDP. This measurement underscores the extent to which an economy is interconnected with global trade flows, determining its vulnerability to exchange rate fluctuations and external market conditions.

As a control factor, trade openness significantly shapes the relationship between exchange rate fluctuations and domestic economic stability. In highly open economies such as Nigeria, rapid changes in the value of the U.S. dollar translate more swiftly into fluctuations in the Naira's purchasing power, affecting both the cost of imports and locally produced goods. Conversely, in economies with more restricted trade, the pass-through effect of currency volatility is less pronounced, as domestic markets rely more on local inputs and production. Therefore, strategically moderating trade openness could serve as a policy tool to reduce the extent to which dollar fluctuations destabilize the Naira, ultimately safeguarding pricing strategies of local firms and maintaining economic resilience.

**2.1.6 Inflation**

Inflation plays a crucial role in regulating the relationship between changes in the value of the dollar and the Naira’s purchasing power. According to Ogundipe (2020), inflation in Nigeria rises as the dollar strengthens against the Naira, making imported goods more expensive. This leads to a general increase in the prices of goods and services within the country, forcing consumers to spend more Naira to acquire the same quantity of goods (Ajayi & Olofin, 2019). As a result, inflation erodes the real value of the Naira, reducing its ability to sustain purchasing power over time. This effect is particularly concerning for local firms that depend on imported raw materials, as their production costs increase, thereby influencing their pricing strategies and overall market competitiveness. Inflation also acts as a buffer in moderating the extent to which fluctuations in the dollar affect the Naira's purchasing power. Ogunleye and Olasehinde (2021) suggest that when inflation is already high, the impact of exchange rate fluctuations may be less severe, as local prices have already adjusted to inflationary pressures. Conversely, if inflation remains low or stable, a sharp rise in the dollar's value could cause a sudden spike in import prices, making the depreciation of the Naira more evident. This highlights the need for effective monetary and fiscal policies to contain inflation and stabilize the exchange rate, ensuring that local firms can maintain sustainable pricing strategies without excessive vulnerability to external currency fluctuations.

**2.2 Theoretical Review**

Theoretically, this study is underpinned by the theory of risk-based exchange rate stabilization. The theory of risk-based exchange rate stabilization can be traced to the works of Hassan et al*.* (2020, 2023). It recognizes the place of the Government in making policies which would attract foreign investments in a bid to regulate foreign exchange. This theory believes that when certain good policies are set by the Government, foreign investments would increase, which could bring in more foreign currency, and by extension, stabilize the exchange rate (Helena & Sujata, 2022). Over reliance on foreign exchange causes the domination of foreign currency over local currency, because local firms would want to be trading in dollars, instead of naira. Recently, the central Government passed a law that foreign remittances should be paid in naira into the bank accounts of the beneficiaries, instead of the foreign currency it was sent initially. This was aimed at boosting the use of the local currency.

In Nigeria, the US Dollar ($) is the anchor-currency which is used in foreign trade. There was a time when the exchange rate was pegged at a dollar ($1) to one hundred and fifty naira (N150). Minimum wage was N18,000. In recent times, a dollar ($1) is one thousand, six hundred naira (N1,600) and the minimum wage is N33,000. The increase in minimum wage does not reflect an increase in the purchasing power of the citizens, rather, there is a decrease in the purchasing power of the naira. This is simply due to foreign currency exchange rate and the fact that Nigeria is over reliant on imported goods. The theory of risk-based exchange rate stabilization holds true in numerous nations. In fact, the theory was borne out of empirical research, showcasing a strong relevance to the study. One of the major criticisms of the theory is that it does not recognize corruption and embezzlement happening in the public sector, which could stifle certain good policies from being implemented (Hassan et al., 2023). The theory purely gives an economic view of exchange rates, while ignoring how influential politics is, in that regard. One of the relevance of this theory to the research at hand is that having good economic policies could cause exchange rate stabilization.

**2.3 Empirical Review**

**2.3.1 The impact of dollar exchange rate fluctuations on the purchasing power of the Naira**

Understanding how foreign exchange fluctuations influence the purchasing power of the Naira, is a concept that has been investigated by various scholars. In the study of Egedegbe (2016), the impact of foreign exchange rate on Nigeria’s imports was covered, with data collected from 1970-2011. The ARCH and GARCH model were used to examine the data. Findings showed that exchange rate volatility had a negative and significant relationship with the level of imports. Further analysis revealed that the Real Effective Exchange Rate (REER) had a statistically significant effect on imports while the Nominal Effective Exchange Rate (NEER) had a positive and linear relationship with the level of imports.

Iheanachor and Ozegbe (2021) performed a study using data from 1986-2019 to reveal the effects of persistent exchange rate fluctuations on Nigeria’s economic performance. The autoregressive distribution lag (ARDL) technique was chosen for data analysis. It was uncovered that exchange rate, net direct foreign direct investments and inflation rate had a significant adverse impact on Nigeria’s economic growth in the long run. For Ukangwa et al. (2022), descriptive statistics was used on data from 1987-2017 to understand if the exchange rate depreciation had a significant effect on the level of exports and imports. It was discovered that the instability of the exchange rate policy was due to attempts being made by government to reduce the variations between the officials and parallel markets and that the fluctuation in exchange rate had significant effect on international trade in Nigeria. In the opinion of Adebisi and Jaji (2023), exchange rate unification had adverse impact on price stability and also influenced inflation and foreign investment. This finding was made through PLS-SEM.

**2.3.2 Local sellers’ usage of dollar exchange rate fluctuations to adjust the prices of goods and services**

Ouyang and Guo (2019) conducted a panel study to ascertain if a global financial cycle originating from center economies influenced the real exchange rates in developing economies and to what extent macro-prudential policies can isolate peripheral economies from this external shock. Through a dynamic stochastic general equilibrium (DSGE) model, it was unveiled that a countercyclical macro-prudential policy implementation was effective in mitigating the fluctuations in the real exchange rates caused by a U.S. interest rate shock. In the study of Beckmann and Comunale (2021), data was used from 2000-2016 to evaluate the financial channel of exchange rate fluctuations for 11 emerging countries and the link to the conventional trade channel. Findings revealed that domestic appreciations increased demand regarding foreign credit, implying positive effects on investment and GDP growth in the short-run; in the medium-long run, an increase of credit denominated in foreign currency decreased GDP.

Zhang et al. (2021) made a comparison between the currencies of China and the US to understand how exchange rate measures macroeconomic fluctuations. Multiple linear regression and quantile regression were chosen for analysis. Findings revealed that daily new confirmed cases, new cured cases, and market interest rates harmed the exchange rate. Oyekola et al*.* (2022) examined the effects of global shocks, relative to domestic shocks, in lieu of US business cycle fluctuations. It was proven through indirect inference estimation techniques that global shocks were the main drivers of movements in many US macroeconomic aggregates. Specifically, these global shocks explained about 40% of the variations in output and real exchange rate.

Burda (2022) investigated how well contemporary exchange rate theories explained fluctuations in exchange rates of emerging economies, before and after the Global Financial Crisis (GFC), using data from 1999–2015. Through linear vector error correction (VEC) model, it was revealed that the main sources of EUR/PLN variability were found to be exchange rate shocks, terms of trade shocks and foreign and domestic short-term interest rate shocks, as well as foreign price shocks. Additionally, a study by Irmiya et al. (2023) examined the effects of exchange rate fluctuations on Nigeria's balance of payments from 2010-2019. The findings suggest that an unstable exchange rate has weakened the value of the Nigerian Naira, making imports more expensive, and hindering both domestic and foreign investment. This ultimately leads to a negative impact on the balance of payments.

Ahmed et al. (2024) performed a study in Egypt to ascertain how exchange rate policies affected economic growth and food security. The purchasing power parity (PPP) method and the computable general equilibrium model (CGE) were used to analyse the collated data. It was revealed that the fair exchange rate was EGP 38.5 per US dollar, which would cause insignificant positive impacts like better real GDP, more exports and fewer imports. On the other hand, it may lead to higher inflation, increased prices for goods and reduced consumption. Bahmani‑Oskooee and Mohammadian (2024) used nonlinear ARDL approach to assess the symmetric and asymmetric effects of GPU on trade flows of each of the G7 countries. In the short run, it was discovered that there were significant effects on trade flows of all countries. In the long run, exports of Canada, Italy, and Japan would be hurt by increased global uncertainty, while those of France would be boosted. On the other hand, the imports of Canada, France, Germany, Italy and the U.S. would be hurt by increased global uncertainty.

**2.3.3 The broader economic implications of dollar pricing strategies**

Liu et al. (2019) used a dynamic hierarchical factor model to investigate the driving forces behind fluctuations in exchange rate growth. Findings showed that since 2009, US monetary policy and Chinese economic growth had greater effects on emerging market exchange rate growth fluctuations. Statistically, 18.8% and 23% of the variations in the world factor after 2009 can be explained by US monetary policy shock and Chinese industrial production shock, respectively. In Turkey, Demir (2019) examined the impacts of some prominent macroeconomic factors on the Turkish Stock Market index using data from 2003–2017. The data was analysed using the ARDL Bounds Test. It was discovered that economic growth, the relative value of the domestic currency, portfolio investments and foreign direct investments raised the stock market index while interest rate and crude oil prices negatively affected it.

Kalemli‑Ozcan et al. (2021) assessed the effect of exchange rate fluctuations on firm’s leverage using data from 2002-2015. Descriptive statistics showed that when home currency applies, firms who hold foreign currency debt and local currency assets observed higher net worth because appreciation lowered the value of their foreign currency debt. These firms could borrow more as a result and increase their leverage. On the other hand, when the home currency depreciates, firms have to de-lever with a negative shock to their balance sheets. Helena and Sujata (2022) assessed the impact of global monetary shocks in advanced economies on exchange rate volatility in emerging markets. Using panel ARDL model, it was discovered that increase in quantitative easing had a significant impact on exchange rate volatility, whereas subsequent tapering did not.

Chávez and Rodríguez (2023) assessed the evolving impact of external shocks on Peru’s macroeconomic fluctuations using data from 1994–2019. Through time-varying parameters and stochastic volatility (RS-VAR-SV), it was proven that China growth shocks had a higher impact on Peru’s output growth. Giofré and Sokolenko (2023) used descriptive statistics to examine exchange rate volatility. It was unveiled that the negative association between bilateral foreign portfolio investments and the volatility of the exchange rate had markedly weakened over time. Trung (2023) examined the role of Exchange Rate Uncertainty (ERU) in driving economic fluctuations using data from 1972 – 2009. Using a VAR with stochastic volatility in the mean, it was discovered that ERU played a vital role in driving the business cycles of emerging economies. It was further discovered that the adverse effects of ERU on output were more severe under the fixed exchange rate regime than under the flexible exchange rate regime.

A study by Attih (2024) investigated the relationship between pricing strategies and consumer purchase decisions among marketing students at Akwa Ibom State University. The research found that penetration pricing and discount pricing had significant positive relationships with consumer purchase decisions, indicating that favorable pricing strategies can attract repeat purchases and patronage. Similarly, research by Abdullahi et al. (2024) assessed the effects of pricing strategies on marketing decisions of selected bakeries in Bida, Niger State. The study revealed that cost-plus pricing, value-based pricing, and price-skimming strategies significantly influenced the marketing choices of these bakeries.

**3.0 Methodology**

This study employs a mixed research design (descriptive and *ex-post facto*). The descriptive survey systematically examines the relationship between dollar exchange rate fluctuations and local sellers' pricing strategies in Nigeria. It captures economic trends and traders’ responses through a structured questionnaire. The ex-post facto design explores the historical impact of exchange rate fluctuations on key economic indicators, particularly the Naira’s purchasing power, using time series data from 1990 to 2023. This period covers key economic events, including military rule, oil price volatility, deregulation, the COVID-19 pandemic, and exchange rate floatation.

The study population consists of local sellers across Nigeria's major markets. A multi-stage sampling process was used to select 1,440 local traders from 72 markets across 24 states in all six geopolitical zones.

* Stage 1: Six (6) geopolitical zones were covered for regional representation.
* Stage 2: Four (4) states per zone were purposively selected based on economic activity, totaling 24 states.
* Stage 3: Three (3) key markets per state were judgmentally selected, ensuring economic relevance (72 markets).
* Stage 4: Twenty (20) traders per market were randomly selected for equal participation.

The study utilizes both primary and secondary research methods. A structured questionnaire, based on a 5-point Likert scale (SA, A, U, D, SD), ensures data consistency. Expert validation and a pilot study (40 traders) confirmed the questionnaire’s clarity and reliability, with Cronbach’s Alpha measuring internal consistency.

Also, the primary research involves structured interviews with six (6) local sellers from Nigeria’s largest markets (one per geopolitical zone). Structured interviews allow for in-depth insights through direct face-to-face interaction. To ensure validity, interview questions were reviewed by subject-matter experts and the research supervisor.

The study used both primary and secondary data. The primary data is obtained through a well-structured close-ended questionnaire that was administered through an online survey using different social media platforms such as WhatsApp, Facebook and Email. This is to ensure that the study covers a wide range as structured. Also, for those regions with limited internet access, the researcher administered the questionnaire through a face-to-face approach. For the secondary data, this study used a time series data spanning from 1990 to 2023 sourced from CBN Statistical Bulletin and World Bank Database.

Additionally, the sampled participants were given a comprehensive explanation of the study's purpose as part of the qualitative method, and one-on-one interviews were carried out. It was estimated that the interview with one participant would take 20 to 30 minutes. To gain a thorough understanding of the point of view, open-minded questions were asked in compliance with a planned interview guide. With the participants' permission, the interviews were recorded on tape and verbatim transcribed

This study adapted the model used by Nasiru *et. al*. (2023) to examine the implications of exchange rate fluctuation on household purchasing power in Nigeria. The linear representation of this model is presented as follows:

$GDPpc=β\_{0}+β\_{1}EXC+β\_{2}INF+β\_{3}INT+ ℇ\_{}$………………………………………..3.1

Where:

GDPpc implies gross domestic product per capita, EXC implies an exchange rate, INF implies inflation rate, and INT implies interest rate.

However, some modifications were made to suit achieving the specific objectives i and iii. Purchasing Power Parity (PPP) replaced the outcome variable, as it better accounts for price level differences across regions, providing a more accurate measure of household economic capacity. Inflation (INF) was retained as a control variable to account for general price level fluctuations, which directly impact household purchasing power. Its inclusion helps isolate the effects of other predictors on PPP. Trade Openness (TRO) was included as a control variable, as it affects the availability and pricing of imported and exported goods, influencing household affordability and purchasing behavior. The model incorporates various pricing strategies—cost-plus, value-based, dynamic, competitive, and penetration pricing—as predictors of purchasing power for Objective iii. These strategies directly impact household affordability, aligning with the study’s aim of analyzing their effect on economic capacity.

Thus, the new models are given thus in both functional and linear form:

**Model I:** Impact of dollar fluctuations on the purchasing power of the Naira

PPP = *f*(CPP, VBP, DVP, COP, PEP)…………………………………………………3.2

$PPP=β\_{0}+β\_{1}CPP+β\_{2}VBP+β\_{3}DVP+β\_{4}COP+β\_{5}PEP+ µ\_{}$…………………………..3.3

**Model II:** Broader economic implications of the various pricing strategies

PPP = f(EXC, TRO, INF)………………………………………………………………3.4

$PPP=β\_{0}+β\_{1}EXC+β\_{2}TRO+β\_{3}INF+ µ\_{}$ ……………………………………………….3.5

Where:

*CPP is Cost-Plus Pricing, VBP is Value-Based Pricing, DYP is Dynamic Pricing, COP is Competitive Pricing, PEP is Penetration Pricing, PPP is Purchasing Power Parity, EXC is Exchange Rate, TRO is Trade Openness, INF is Inflation.*

The data were analyzed using descriptive and inferential statistics. Primary data were examined using frequency and percentage tools, while secondary data were summarized through mean, standard deviation, kurtosis, skewness, and range to assess variable characteristics. Pearson correlation analysis identified relationships between variables, and a unit root test ensured data stationarity. ARDL analysis measured the short- and long-run impact of dollar fluctuations on Naira’s purchasing power (Objective 1). For Objective 2, thematic analysis explored sectoral differences in business responses to exchange rate fluctuations. Hierarchical regression assessed the effect of pricing strategies on purchasing power, controlling for confounding variables (Objective 3).

**4.0 Result and Discussion**

* 1. **Result**
		1. **Pearson Correlation Analysis**

Pearson correlation matrix was conducted to provide insights into the linear relationships between independent and dependent variables. The result presented in Table 2 showed that PPP has a negative relationship with EXC, TRO and INF with the coefficient values of *-0.43004, -0.11905* and *-0.52771* respectively. The negative relationship indicated that an increase in EXC, TRO and INF would breed a significant decline in PPP. Contrarily, the EXC has a positive correlation with TRO and INF with the coefficient values of *0.20555* and *0.31288* respectively. This implies that a rise in the EXC would breed an increase in TRO and INF. Finally, the correlation matrix indicated that a negative relationship exists between TRO and INF.

**Table 2: Pearson Correlation Matrix of this study**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PPP** | **EXC** | **TRO** | **INF** |
| PPP | 1.00000 |  |  |  |
| EXC | -0.43004 | 1.00000 |  |  |
| TRO | -0.11905 | 0.20555 | 1.00000 |  |
| INF | 0.52771 | 0.31288 | -0.08486 | 1.00000 |

*Source: E-view Output (2024). Where PPP is Purchasing Power Parity, EXC is Exchange Rate, TRO is Trade Openness, INF is Inflation*

* + 1. **Variance Inflation Factor**

The variance inflation factor was conducted to unveil the potential multicollinearity among the predictors. The multicollinearity test result presented in Table 3 indicated the absence of multicollinearity among the predictors as none of the predictors have VIF values above 10. This result undermines the models’ validity.

**Table 3: Multicollinearity Test of this study**

|  |  |  |
| --- | --- | --- |
| **Variables**  | **VIF** | **1/VIF** |
| EXC | 4.15 | 0.241 |
| TRO | 3.48 | 0.287 |
| INF | 4.32 | 0.231 |

*Source: E-view Output (2024). Where EXC is Exchange Rate, TRO is Trade Openness, INF is Inflation*

* + 1. **Unit Root Test**

A unit root test was carried out to ascertain the integration order of the variables. This is important for the co-integration test. There are many methods with which unit root test can be performed to determine the stationarity of the variables. However, Augmented Dickey-Fuller (ADF) with the test hypothesis that the variable contains unit root was used. Table 4 shows that only TRO is stationary at the level while PPP, EXC and INF become stationary after the first difference. The test, therefore, confirms that the variables are a mix of I (0) and I (1) series indicating that a bounds test will be carried out to determine the long-run relationship.

**Table 4.: Unit Root Test of this study**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Level** | **First difference** | **Order of Integration** |
| **Test statistic** | **p-value** | **Test statistic** | **p-value** |
| PPP | 4.501398 | 1.0000 | -3.911249 | 0.0053 | I(1) |
| EXC | 3.501803 | 1.0000 | -4.566611 | 0.0010 | I(1) |
| TRO | -8.32754 | 0.0000 | ------- | ------ | I(0) |
| INF | -2.32572 | 0.1702 | -6.489887 | 0.0000 | I(1) |

*Source: E-view Output (2024). Where EXC is Exchange Rate, TRO is Trade Openness, INF is Inflation. Note: \*, \*\* and d \*\*\* indicate rejection of the null hypothesis at 1%, 5% and 10% significance levels respectively.*

* + 1. **Analysis of Research Objectives**

**4.1.4.1 Impact of dollar fluctuations on the purchasing power of the Naira.**

The result of the ARDL estimation adopted for this model is presented in Table 5. The bounds test was used to determine whether there is a long-term relationship between the variables. In this case, the F-statistic is *9.896791*, which was compared against the critical value bounds at different significance levels. At the 1%, 5% and 10% significance level, the lower bound and the upper bound are *3.65*(*4.66*), *2.79*(*3.67*) and *2.37*(*3.2*) respectively. Since the f-statistics are greater than the upper bound values, a statistically significant long-term relationship exists between the variables under consideration. Hence, the dollar fluctuation (EXC) has a statistically long-run effect on the purchasing power (PPP) of Naira. In the short run, the EXC has a negative insignificant effect on PPP. This indicated that for the period covered, the higher the EXC, the lesser the purchasing power of Naira in Nigeria. The CointEq (-1) term, which measures the speed of adjustment back to equilibrium, is *0.08617* with a p-value of *0.0000*. This indicates that the model corrects any short-term disequilibrium, though the speed of adjustment is quite slow, as the coefficient is close to zero. In the long run, the EXC has a negative insignificant impact on the purchasing power of the Naira to the tune of *-0.187512*(*p=0.9438>0.05*). The negative impact indicated that the higher the EXC, the lesser the purchasing power of Nigerian currency. To ascertain the reliability of the long-run result, several diagnostic tests were conducted and through the result, it was evidenced that the residuals are normally distributed, there is no serial correlation in the residuals and there is no heteroskedasticity in the model, meaning the variance of the errors is constant. Hence, the long-run effect result is considered the most reliable estimation for this model.

**Table.5: Results of Cointegration Estimate and Diagnostic Tests**

|  |
| --- |
| **Dependent Variable: PPP** |
| **Bounds Test Result** |
| F-stat. | Sig. level | Critical value bounds |
| Lower bound | Upper bound |
| 9.896791 | 1% | 3.65 | 4.66 |
| 5% | 2.79 | 3.67 |
| 10% | 2.37 | 3.2 |
| **Short-run Estimation Result** |
|  Var. | Coe.  | Prob. |
| D(EXC) | -0.18176 | 0.2331 |
| D(TRO) | -0.61677 | 0.0003\*\* |
| D(INF) | -0.07034 | 0.5325 |
| CointEq(-1)\* | 0.08617 | 0.0000\*\*\* |
| **Long-run Estimation Result** |
| C | 52.03520 | 0.000\*\* |
| EXC | -0.187512 | 0.9438 |
| TRO | -2.334958 | 0.1699 |
| INF | -3.420178 | 0.032\*\* |
| **Diagnostic Tests** |
| Normality Test (Jarque-Bera) | 0.255694 | 0.879988 |
| Serial Correlation LM Test (Breusch-Godfrey) | 2.075110 | 0.1521 |
| Heteroskedasticity Test (Breusch-Godfrey Pagan) | 1.860539 | 0.1214 |

*Source: E-view Output (2024). Where EXC is Exchange Rate, TRO is Trade Openness, INF is Inflation.*

**4.1.4.2 How local sellers use these fluctuations to adjust the prices of goods and services.**

From the participants' respondents, it could be agreed that the dollar’s exchange rate is the key determinant of all products including the locally produced products. Many of the participants explained that though their goods are products locally, their prices will increase due to some other increased expenses traced to the rise of the exchange rates such as the cost of packaging materials which are commonly imported, the cost of transportation, cost of imported raw materials such as fertilizers and many more. An increase in all the expenses would breed a significant rise in the prices of locally produced goods.

Obviously, responses from the participants indicated that local sellers mostly fail to reduce their prices when there is a fall in the dollar exchange rate. Many claim that their decision not to reduce prices is attached to other sectors' decision not to reduce costs such as the cost of importing packaging materials, and the cost of transportation.

**4.1.4.3 Broader economic implications of the various pricing strategies**

The estimated hierarchical regression model of broader economic implications of the various pricing strategies is presented in Table 6. the diagnosis of the model including the F statistics suggests the model's fitness. In the first step of the hierarchical model, cost-plus pricing constructs of the pricing strategies show a positive and significant value (*β = 0.534, p<0.05*) with an *R2* value of *0.436* and a significant f-change value of the model. The R2 value suggests that cost-plus pricing as a pricing strategy could individually account for about 44% changes in the purchasing power of Naira. The positive value suggests that an increase in cost-plus pricing could result in a 0.53% increase in the purchasing power of Naira.

In the second model, value-based pricing was added to the model. The *R2* value of the model is 0.496 suggesting an improvement over the model. The adjusted R2 also improves from the previous value of 0.429 to 0.467 with a change in *R2* value of 0.06. the positive value of a change in R2 indicates improvement over the first model. The coefficient of determination indicates that the inclusion of value-based pricing in the model could result in 46.7% changes in the purchasing power of Naira. The estimated coefficients of the included variables in the model- cost-plus and value-based pricing are positive and significant (*p<0.05*). Cost-plus pricing is positive and significant (*β = 0.587, p<0.05*) and value-based pricing is positive and significant (*β = 0.417, p < 0.05*). therefore, the result indicated that both variables have direct economic implications on the purchasing power of the Naira.

In the third model, dynamic pricing was included. The results indicate an improvement in *R2* (*0.513*), Adjusted *R2* (*0.498*) and a change in *R2* (*0.017*). the f-statistics and its change value are also significant (p<0.05). the result shows that cost-plus pricing (*β = 0416, p<0.05*), value-based pricing (*β = 0.853, p<0.05*) and dynamic pricing (*β = 0.534, p<0.05*) are significantly related to purchasing power of Naira. An increase in the adoption of these pricing strategies would respectively increase the purchasing power of Naira.

In the fourth model, competitive pricing was included. The result shows an improvement in the overall model. The contribution of all the included variables is positive. Cost-plus pricing (*β = 0.274, p<0.05*), Value-based pricing (*β = 0.627, p<0.05*), Dynamic pricing (*β = 0.714, p<0.05*) and competitive pricing (*β = 0.846, p<0.05*). This implies that an increase in each of these strategies would breed a *0.27, 0.63, 0.71* and *0.85* increase respectively in purchasing power of Naira at a significant level.

Finally, in the fifth model, penetration pricing was included. The result shows that the combination of all five pricing strategies (CPP, VBP, DYP, COP, and PEP)would breed 69% increase in the purchasing power of Naira. Independently, the result shows that CPP (*β = 0.432, p<0.05*), VBP (*β = 0.428, p<0.05*), DYP (*β = 0.573, p<0.05*), COP (*β = 0.623, p<0.05*) and PEP (*β = 0.283, p<0.05*) have a positive and significant economic implication on purchasing power of Naira. Overall, this result suggests a positive significant economic implication of pricing strategies on the purchasing power of Naira.

**Table 6: Hierarchical Regression Result on Broader economic implications of the various pricing strategies**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Model I** | **Model II** | **Model III** | **Model IV** | **Model V** |
| **β** | **T-Val.** | **β** | **T-Val.** | **β** | **T-Val.** | **Β** | **T-Val.** | **β** | **T-Val.** |
| C | 0.726 | 3.716\*\* | 0.624 | 3.182\*\* | 0.533 | 2.162 | 0.326 | 3.192\*\* | 0.524 | 2.165 |
| CPP | 0.534 | 2.374\*\* | 0.587 | 7.153\*\*\* | 0.416 | 3.623\*\* | 0.274 | 1.264\* | 0.432 | 3.253\*\*\* |
| VBP |  |  | 0.417 | 5.742\*\* | 0.853 | 6.176\*\*\* | 0.627 | 2.163\*\* | 0.428 | 4.172\*\*\* |
| DYP |  |  |  |  | 0.534 | 4.265\*\* | 0.714 | 4.173\*\*\* | 0.573 | 2.864\*\* |
| COP |  |  |  |  |  |  | 0.846 | 4.452\*\*\* | 0.623 | 5.152\*\*\* |
| PEP |  |  |  |  |  |  |  |  | 0.283 | 1.276\*\* |
| R2 | 0.436 |  | 0.496 |  | 0.513 |  | 0.624 |  | 0.714 |  |
| Adj. R2 | 0.429 |  | 0.467 |  | 0.498 |  | 0.587 |  | 0.685 |  |
| Change in R2 | 0.436 |  | 0.060 |  | 0.017 |  | 0.111 |  | 0.091 |  |
| F change | 24.351 |  | 17.273 |  | 13.274 |  | 11.583 |  | 9.263 |  |

*Source: E-view Output (2024). Where CPP is* *Cost-Plus Pricing, VBP is Value-Based Pricing, DYP is Dynamic Pricing, COP is Competitive Pricing, PEP is Penetration Pricing*

**4.2 Discussion of Findings**

This study investigated the effect of dollar fluctuations on the purchasing power of Naira and the pricing strategies of local sellers in Nigeria. Three objectives were outlined and analysed using the most appropriate analysis techniques. This discussion is based on the analysis result of each of the specific objectives as stated below:

**Impact of dollar fluctuations on the purchasing power of the Naira**

The ARDL estimation result showed that dollar fluctuation captured with the exchange rate negatively and insignificantly affected the purchasing power of the Naira with the coefficient and probability values of *-0.187512* and *p=0.9438>0.05* respectively. This finding pictures the reality of practices in the Nigerian economy. Many adverse effects are attributed to slight increases in the dollar exchange rate such as inflation, increased production and importation, higher debt servicing costs, erosion of investment, food insecurity, etc. All this amounts to a significant decline in the value of Naira. The coefficient value (*-0.187512*) indicated that just a 1% rise in the dollar exchange rate would breed a 19% decline in the purchasing power of Naira and at an insignificant level. This indicated that the dollar exchange rate lacks an independent capacity to positively influence Naira's purchasing power. This finding aligns with the findings of Egedegbe (2016) that exchange rate volatility had a negative relationship with the level of imports. However, Iheanachor and Ozegbe (2021) reported that exchange rate, net direct foreign direct investments and inflation rate had a significant adverse impact on Nigeria’s economic growth in the long run.

**How local sellers use these fluctuations to adjust the prices of goods and services**

 From the thematic analysis, it was revealed that fluctuations in the dollar exchange rate significantly drive up the prices of both foreign and locally produced commodities in Nigeria. Foreign goods are directly tied to the dollar exchange rate because they are imported, and any increase in the exchange rate raises their landing costs. Interestingly, locally made goods, which are expected to remain relatively stable in price, are not exempt from the inflationary pressures caused by dollar fluctuations. This is because various cost components associated with producing and distributing these goods, such as transportation, packaging materials, and agricultural inputs like fertilizers and insecticides, are influenced by the exchange rate. These elements are often imported or linked to global markets, and their costs rise in tandem with the dollar, leading to a cascading effect on the prices of locally made goods.

While locally produced goods might seem insulated, their dependence on imported inputs and the effects of dollar-denominated costs, such as transportation and energy, demonstrate how deeply integrated the economy is with global markets.. This finding aligns with the discovery of Irmiya et al. (2023) that an unstable exchange rate has weakened the value of the Nigerian Naira, discouraging exports of local goods, making imports more expensive, and hindering both domestic and foreign investment.

**Economic implications of pricing strategies on the purchasing power of Naira**

The hierarchical regression result indicated that all the pricing strategies under consideration including CPP, VBP, DYP, COP, PEP were positive and significantly influence the purchasing power of Naira to the tune of *0.432* (*p = 0.027<0.05*), *0.428* (*p = 0.0452<0.05*), *0.573* (*p = 0.002<0.05*), *0.623* (*p = 0.0126<0.05*) and *0.283* (*p = 0.024<0.05*) respectively. This implies that with a 1% rise in the adoption of these pricing strategies among the local sellers in Nigeria, there is a significant rise in the purchasing power of Naira. This indicated that these pricing strategies have an independent capacity to significantly boost the purchasing power among the local sellers in Nigeria. the positive effect could be because these pricing approaches allow the local sellers manage their cots and maintain affordability for consumers, thereby boosting the real value of Naira in the domestic market.

The theory of risk-based exchange rate stabilization provides theoretical support for these findings. This theory emphasizes that market actors can mitigate the adverse effects of exchange rate volatility through strategic adjustments, including pricing decisions. By adopting tailored pricing strategies, local sellers effectively absorb or redistribute risks associated with exchange rate fluctuations, preserving consumer confidence and spending power. These strategies provide a buffer against the inflationary pressures of exchange rate instability, fostering a stable economic environment where the Naira's purchasing power is less eroded. The justification for this positive and significant effect lies in the ability of these pricing methods to balance profit margins with affordability, ensuring market competitiveness and economic stability. Through strategic pricing, local sellers contribute to a resilient economy, bolstering the purchasing power of Naira amid external shocks. This finding supports the conclusion of Attih (2024) that penetration pricing and discount pricing had significant positive relationships with consumer purchase decisions, indicating that favorable pricing strategies can attract repeat purchases and patronage. Also, Abdullahi et al. (2024) concluded that cost-plus pricing, value-based pricing, and price-skimming strategies significantly influenced the marketing choices of bakeries.

**5.0 Conclusion and Recommendations**

Globally, U.S. dollar has been identified as the most important exchange currency which makes it serve as the primary currency for international transactions and a safe asset during economic uncertainty. However, its acceptance to be a crucial exchange currency often cause more harm to the Nigerian economy. Empirically, several studies have been conducted on how exchange rate influence the economic development of Nigeria economies. However, a dearth of studies have been conducted on how exchange rates influence the purchasing power of Naira at the local markets. Also, many of the reviewed studies failed to adopt a mixed methodological approach to provide holistic analysis of dollar fluctuation's impact on the purchasing power of the Naira and provide validity of the findings made. In addition, none of the reviewed studies covers a wider period of 34 years spanning from 1990 to 2023. To bridge these gaps, this study investigates the effect of dollar fluctuations on the purchasing power of the Naira and the pricing strategies of local sellers in Nigeria. from the analysis conducted, it was concluded that dollar fluctuations have a statistically negative impact on purchasing power of Naira while the pricing strategies significantly boost the purchasing power of Naira. Corresponding to this conclusion, the following recommendations are made:

1. Given the finding that the dollar exchange rate fluctuated negatively and insignificantly affected the purchasing power of the Naira, the Central Bank of Nigeria should adopt a multi-faceted exchange rate stabilization strategy. This should include strengthening foreign exchange reserves to cushion against sudden currency depreciation, implementing a managed float system to prevent excessive volatility, and enforcing stricter regulatory oversight on speculative currency trading. Additionally, the government should prioritize economic diversification by providing targeted funding and incentives for key non-oil sectors such as agriculture, manufacturing, and technology. This would reduce import dependency and make the Nigerian economy more resilient to external shocks.
2. The study reveals that effective pricing strategies—such as CPP, VBP, DYP, COP, and PEP—positively influence the purchasing power of the Naira. To operationalize this, the Nigerian government, through relevant agencies such as the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), should develop training programs and workshops for local traders and businesses on effective pricing models. Additionally, industry associations should collaborate with financial institutions to offer tailored financial products that support businesses in implementing price stabilization mechanisms, such as hedging against currency fluctuations.
3. Since local goods remain vulnerable to exchange rate fluctuations due to their reliance on imported raw materials, packaging, and transportation, a structured policy approach is needed to promote local sourcing. The Nigerian government should introduce tax reliefs, subsidies, and low-interest loans for firms that prioritize domestic inputs. Furthermore, establishing partnerships between local producers and research institutions can drive innovation in locally produced substitutes for imported materials. A dedicated task force under the Ministry of Industry, Trade, and Investment should monitor the implementation of these incentives and assess their impact on reducing cost burdens for businesses, thereby ensuring long-term economic sustainability.

**Disclaimer (Artificial intelligence)**

Option 1:

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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