**Exchange Rate Fluctuations: the implications on the Purchasing Power of Naira and the Pricing Strategies of Local Traders in Nigeria**

**Abstract**

*This study investigated the effect of dollar exchange rate fluctuations on the purchasing power of Niara 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’s population covers all the local sellers in all the main markets in Nigeria. While the sampled size covered 1440 local traders in the markets across the geopolitical zones in Nigeria using a multi-stage sampling process urea. 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. Also, the primary approach involved conducting an intensive interview with six (6) local traders who were chosen from the largest market in each of Nigeria's six geopolitical zones. Several estimation techniques were adopted for the data analysis, including descriptive statistics, Pearson Correlation matric, ARDL estimations, hierarchical regression and thematic analysis. From the analysis conducted it was evidenced that the exchange rate fluctuated negatively and insignificantly affected the purchasing power of the Naira. From the thematic analysis, it was revealed that fluctuations in the exchange rate significantly drive up 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 Niara. Hence, it was concluded that dollar exchange rate fluctuations have a statistically negative impact on the purchasing power of Niara while the pricing strategies significantly boost the purchasing power of Niara. 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. 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 businesses to fail, as they need to adjust their budgets frequently (Iheanachor & Ozegbe, 2021). In fact, the Federal Government adjusted their budget up to three times in a single fiscal year due to exchange rate fluctuations. The spending of the public sector increased greatly. 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, and they might even cease from operating in the country. In essence, stability in the exchange rate is very necessary to attract foreign direct investments.

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 rate, the interbank rate, SME rate and the parallel market rate are the exchange rates used in the country. These rates indicate that foreign exchange could be accessed at various values for different entities. This diversity makes it difficult for adequate planning by the Government and other stakeholders in the economy. At the end of the day, 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.

Fluctuations in exchange rates could also lead to an increase in the repayment value of foreign loans thereby further putting pressure on the value of Naira. A foreign loan which was incurred a decade ago, would have risen in value to the borrower, because the value of the naira to foreign exchange has risen (Ukangwa *et al.*, 2022). This is particularly significant in the public sector where the Government has backed up foreign loans with future production of crude oil, even as past debt is spreading into the current and future budgets. From the perspective of the foreign supplier/creditor, the value of his resources would have dipped due to exchange rate fluctuations. Less dollars might be needed for certain domestic goods, but when converting the value back to dollars, there would be noticeable adverse difference.

The subject matter at hand has been investigated by various scholars, however, an in-depth review of the available studies (Ukangwa *et al.*, 2022; Adebisi & Jaji, 2023; Ouyang & Guo, 2019; Burda, 2022; Bahmani‑Oskooee & Mohammadian, 2024) 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 does not reflect the current situation of the economy in the country (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 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. Specifically, the study aims to analyse how fluctuations in the exchange rate impact the value of Naira in relation to goods and services. Additionally, it seeks to examine the ways in which local sellers respond to these fluctuations by adjusting their pricing strategies. Lastly, the study aims to investigate the wider economic consequences of these pricing adjustments, shedding light on their broader implications for economic stability and consumer welfare.

**2.0 Literature Review**

**2.1 Conceptual Review**

**2.1.1 International Trade**

International trade is the exchange of goods and services across national borders, between two or more nations (Bahmani‑Oskooee & Mohammadian, 2024; Beckmann & Comunale, 2021). The concept of international trade stems from the fact that no nation is completely self-sufficient. In one way or another, raw materials, technology, human resources and capital resources would be needed to carry out a project, prompting trade with another nation. International trade has helped the global economy in diverse ways, although, some scholars feel that international trade has caused negative exploitations of some nations, to the benefit of others. In Nigeria, the oil boom put the economy on the world map and brought in a lot of foreign exchange through the exportation of oil to other countries (Adebisi & Jaji 2023). Unfortunately, this unique resource has not done much to alleviate the poverty status of the nation. The concept of international trade brought about the notion of foreign exchange, where fairness and equity in value are measured to prevent the exploitation of smaller economies by bigger economies.

**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 above 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 price of certain items in various nations is measured by purchasing power parity (PPP), which is used to compare the absolute purchasing power of the currencies of those nations (Akinlo & Adewuyi, 2019). According to Akpan and Ekerette (2020), the purchasing power parity indicator may be used to compare economies in terms of GDP, labour productivity, and real individual consumption. It can also be used in certain situations to analyse price convergence and compare the cost of living in different locations. By removing price level disparities across nations, the buying Power Parity (PPP) currency conversion rate seeks to equalise the buying power of various currencies. The PPP theory states that exchange rates ought to alter to account for variations in national prices (Narayan & Sharma, 2018). This equilibrium is distorted in Nigeria by regular currency fluctuations, which raise the cost of local products and services while lowering the Naira's buying power in relation to the dollar. Nigerian consumers' total purchasing power may be diminished because of having to pay more Naira for the same items, both imported and domestically manufactured.

**2.1.5 Trade Openness**

Ayanwale and Bamire (2024) define trade openness as the degree to which the host country is accommodating and open to foreign investors for trade. It refers to how a nation's economy is orientated in relation to global commerce. Additionally, Chirwa (2018) defined trade openness as the degree of openness determined by the actual ratios of an economy's registered imports and exports. According to the definitions given above, trade openness is the total of a nation's imports and exports (trade volumes), represented as a percentage of GDP. Trade openness plays a pivotal role as a control factor: in highly open economies, fluctuations in the dollar's value exert a faster and more significant impact on Naira’s purchasing power. Conversely, in economies with more restricted trade, this effect is less pronounced. Thus, reducing trade openness can serve as a strategic tool to mitigate the extent to which dollar fluctuations influence the domestic economy and Naira’s stability.

**2.1.6 Inflation**

The link between changes in the value of the dollar and Naira’s buying power is mostly regulated by inflation. Nigerian inflation occurs as the dollar's value increases in relation to the Naira because imported items become more expensive (Ogundipe, 2020). The overall level of prices for products and services in the nation grows in tandem with inflation (Ajayi & Olofin, 2019). As a result, customers must pay more Naira for the same products and services, lowering the Naira's buying power. Because it may either increase or decrease the effect of dollar fluctuations on the buying power of the Naira, inflation serves as a buffer in this connection. For example, a rising dollar exchange rate may not have as much of an impact on Nigeria if the country already has significant inflation since local prices are already high. However, the impact of dollar fluctuations on Naira’s buying power would be more noticeable if inflation remained low or steady since import prices would rise dramatically, thereby diminishing the Naira's total purchasing power (Ogunleye & Olasehinde, 2021). Consequently, stabilising the link between dollar fluctuations and the buying power of the Naira may be achieved by containing inflation through efficient monetary and fiscal policy.

**2.2 Theoretical Review**

Theoretically, this study is underpinned by 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 that 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 to 2019. The findings suggest 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. This ultimately leads to a negative impact on the balance of payments. The study concludes that exchange rate volatility can cause a balance of payments deficit and recommends that the Central Bank of Nigeria promote exchange rate stability to enhance overall economic performance.

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 (Autoregressive Distributed Lag) 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. The authors recommend that bakery businesses adopt a market-oriented approach, regularly assessing customer feedback and market demand to ensure that pricing strategies remain aligned with evolving customer preferences.

**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.

The secondary method 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 (<https://www.cbn.gov.ng/documents/statbulletin.asp>) and World Bank Database (<https://data.worldbank.org/indicator/PA.NUS.PPP?locations=NG>).

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:

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 model is given thus in a linear form:

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 purchasing power parity has a negative relationship with exchange rate, trade openness and inflation with the coefficient values of -0.43004, -0.11905 and -0.52771 respectively. The negative relationship indicated that an increase in exchange rate, trade openness and inflation would breed a significant decline in purchasing power parity. Contrarily, the exchange rate has a positive correlation with trade openness and inflation with the coefficient values of 0.20555 and 0.31288 respectively. This implies that a rise in the exchange rate would breed an increase in trade openness and inflation. Finally, the correlation matrix indicated that a negative relationship exists between trade openness and inflation.

**Table 2: Pearson Correlation Matrix**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **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**

|  |  |  |
| --- | --- | --- |
| **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 PP, 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**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **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 (exchange rate) has a statistically long-run effect on the purchasing power (purchasing power parity) of Naira. In the short run, the exchange rate has a negative insignificant effect on purchasing power parity. This indicated that for the period covered, the higher the exchange rate, 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 exchange rate 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 exchange rate, 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 (Cost-Plus Pricing, Value-Based Pricing, Dynamic Pricing, Competitive Pricing, and Penetration Pricing)would breed 69% increase in the purchasing power of Naira. Independently, the result shows that Cost-Plus Pricing (β = 0.432, p < 0.05), Value-Based Pricing (β = 0.428, p < 0.05), Dynamic Pricing (β = 0.573, p < 0.05), Competitive Pricing (β = 0.623, p < 0.05) and Penetration Pricing (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 Niara and the pricing strategies of local sellers in Nigeria. Three objectives were outlined and analyzed 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 Niara'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.

The Purchasing Power Parity (PPP) Theory provides theoretical support for this observation. PPP theory posits that exchange rate movements should equalize the price of goods between countries, assuming no trade barriers. However, in practice, exchange rate fluctuations impact domestic prices, particularly in import-dependent economies like Nigeria. As the dollar strengthens against Naira, the purchasing power of the local currency declines, causing imported goods to become more expensive. 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 interplay of costs explains why local goods experience price increases despite being domestically produced, further reinforcing the PPP theory's relevance in understanding these dynamics. 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 Niara**

The hierarchical regression result indicated that all the pricing strategies under consideration including Cost-Plus Pricing, Value-Based Pricing, Dynamic Pricing, Competitive Pricing, Penetration Pricing were positive and significantly influence the purchasing power of Niara 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 Niara. 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 Niara 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 current 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. In the history of Nigerian exchange rate, the rising of the Naira against the U.S dollar has been far more common than falling. The general trend has been a persistent weakening of Naira which has significantly caused more havoc to the purchasing power of Niara. Empirically, several studies have been conducted on how exchange rate influence the economic development of Nigeria economies. However, dearth 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 Niara while the pricing strategies significantly boost the purchasing power of Niara. Corresponding to this conclusion, the following recommendations are made:

* + 1. The finding that the dollar exchange rate fluctuated negatively and insignificantly affected the purchasing power of Naira suggests that there is a need for more effective measures to stabilize the exchange rate. 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. Additionally, promoting a more diversified economy could reduce Nigeria’s reliance on imports, making the economy less vulnerable to exchange rate fluctuations.
    2. The study indicates that pricing strategies, such as Cost-Plus Pricing, Value-Based Pricing, Dynamic Pricing, Competitive Pricing, and Penetration Pricing, positively influence the purchasing power of the Naira. Local traders and businesses should be encouraged to adopt these pricing strategies as part of their pricing model. These strategies help manage costs and inflation, ensuring that price increases due to exchange rate fluctuations do not excessively burden consumers.
    3. Since local goods are not immune to the effects of exchange rate fluctuations due to their dependence on imported inputs like raw materials, packaging, and transportation costs, promoting the use of more locally sourced materials can help mitigate the impact of dollar fluctuations. Government incentives and subsidies for local production could encourage producers to reduce reliance on imported goods and services. By increasing the use of locally sourced materials, businesses can lower their costs, which would, in turn, reduce the need for frequent price hikes driven by exchange rate volatility.

**COMPETING INTERESTS DISCLAIMER:**

Authors have declared that they have no known competing financial interests OR non-financial interests OR personal relationships that could have appeared to influence the work reported in this paper.

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