



## Foreign Currency Exchange Risk Management and Financial Performance of Nigeria Deposit Money Banks

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**Abstract:** This study examined foreign currency exchange risk management and financial performance of Nigeria deposit money banks. The cross sectional survey design was adopted. The population of the study covers the entire listed deposit money banks in Nigeria. The study employed a census sample study for a period of ten years, 2012-2021 financial years. The panel ordinary regression analysis was used. The study's findings revealed that foreign currency exchange risk has a negative impact on the financial performance of Nigerian deposit money banks. The study recommended that banks reduce their currency risk through proper risk management strategies.

**Key words:** Banks, Currency, Financial, Foreign Exchange, Performance.

### Introduction

According to literature, various factors can influence a bank's profitability. Commercial bank performance can be influenced by both internal and external factors, which can be divided into bank-specific (internal) and macroeconomic variables (Ongore & Kusa, 2013). Internal factors are individual bank characteristics that affect bank profitability, and these factors are primarily influenced by management and board decisions. External factors are those that affect the entire industry or country and are beyond the company's control. In general, bank specific factors may refer to a bank's overall managerial practices on various operational aspects of the bank, whereas external factors are related to the industry and macroeconomic variables in which the bank operates (Kanwal & Nadeem, 2013).

One of the macroeconomic variables that can affect bank profitability is the exchange rate; it can affect individual banks directly or indirectly. Foreign exchange rate risk management is an essential component of any bank's decision to expose itself to foreign currency (Allayannis, Ihrig, & Weston, 2008). Currency risk or hedging strategies entail eliminating or reducing risk, and it necessitates an understanding of both

the ways in which exchange rate risk can affect economic agents' operations and techniques for dealing with the resulting risk implications. Because of the complexities involved in accurately determining current risk exposure and selecting the appropriate degree of risk exposure that should be covered, selecting the appropriate hedging strategy can be a frightening task. Currency risk management became necessary following the breakdown of the Bretton Woods system and the end of the US dollar's gold peg in 1973 (Papaioannou, 2008).

For financial institutions, managing currency risk is a separate concern from their core business, which is often handled by corporate treasuries. The majority of multinational corporations also have risk committees to monitor the treasury's approach to managing exchange rate (and interest rate) risk. This demonstrates the value businesses place on risk management concepts and methods. On the other hand, foreign investors typically, though not always, manage their foreign currency rate risk separately from the underlying assets and/or obligations. They frequently view currencies as a separate asset class requiring a currency overlay mandate since their currency exposure is linked to translation risks on assets and liabilities denominated in foreign currencies (Allen, 2014). Exchange rate volatility makes it hazardous to conduct business because future earnings and payments are unknown. These are made worse in nations that lack robust financial tools for hedging against foreign exchange risk, which is the case in many developing nations, including Nigeria (World Bank & MTTI, 2016).

According to Martin and Mauer (2014), the structure of assets and liabilities with foreign currency denominations, off-balance sheet exposure, and non-asset based services all have a direct impact on the banks. Exchange rate fluctuations have a direct impact on the valuations of assets and liabilities when they are invoiced in foreign currencies by causing gains or losses to be recognized (Rao & Lakew, 2012). The statement of financial position and income statement of the bank will not be directly impacted by an exchange rate variation if the number of foreign currency assets and liabilities are equal. When banks do not keep equal amounts of foreign currency assets and liabilities, it has a direct impact. Through its impact on loan demand, the level of competition, and other features of banking conditions, the exchange rate can have indirect effects on the performance of banks (Chamberlain et al., 2014).

### **Statement of Research Problem**

The price of local goods, import, export, and Foreign Direct Investment (FDI), among other things, may be impacted by exchange rate volatility. This could then have various effects on the operations and portfolio of banks. Studies like those by Rao & Lakew (2012), Kanwal & Nadeem (2013), Pan & Pan (2014), Ongore & Kusa (2013), and Kiganda (2014) have looked at how these internal and external factors affect the profitability of banks. However, only a small number of these studies have examined how the profitability of banks is affected by the currency rate, one of the macroeconomic determinants. For instance, Kiganda (2014) showed that the exchange rate had a negative influence on the banks' profitability as measured by ROA in his study of the effects of macroeconomic factors on commercial banks' profitability in Kenya.

These earlier research concentrated on the strategies utilized by certain banks to manage foreign exchange risk without connecting these strategies to the efficiency and success of the banks. With more transactions using foreign currency, there is a greater risk of foreign exchange due to exchange rate volatility. Therefore, how the foreign currency risk is managed ultimately impacts the bank's financial performance. By examining the impact of foreign exchange risk management on the profitability of money deposit banks in Nigeria from 2012 to 2021, the study aims to close the knowledge gap.

The main objective of this study is to determine the impact of foreign currency exchange risk management and financial performance of Nigeria money deposit banks.

## Literature Review

### Foreign Exchange Risk and Financial Performance

How much the financial objectives of an association are being or have been reached within a given time frame is considered financial performance. It can also be described as a means of measuring an organization's success in terms of its plans, strategies, and overall operations as it works to meet its financial responsibilities. Therefore, financial performance can also be utilized by businesses to demonstrate how they have presented their results as well as how they have obtained their achievements. Performance can be used to show an entity's power, prosperity, and supremacy in the field in which it operates. (Trivedi, in Mutuku, 2016).

For assessing the financial performance of commercial entities, various ratios are available. The typical and acceptable indicators of financial performance are return on equity (ROE), return on assets (ROA), revenue, profit before and after taxes, and Tobin Q (Trivedi, in Mutuku, 2016). ROA was utilized in this study to measure banks' financial success.

According to Agbeja, Adelakun, and Udi (2016), currency risk, also known as foreign exchange (FX) risk, is stated to exist when a bank suffers a sizable loss as a result of currency changes. It is the possibility that a business will experience a financial loss from foreign exchange swings. It is also referred to as currency risk, FX risk, and exchange rate risk. It refers to the likelihood that changes in the relative values of the currencies involved could cause the value of an investment to decline. Every foreign business, according to Udoezika & Orjinta (2021), is impacted by the contracts' implicit fluctuation in currency value.

The expansion of shareholder wealth is the main goal of bank management. Most frequently, this main goal comes at a price, like increasing risks. Business banks face a variety of risks, such as premium risks, credit risks, reeling risks, business risks like innovation and operational risks, and organizations control risks, such as risks associated with international trade, a country's stability, liquidity risks, currency fluctuations, and bankruptcy risks (Kaaro, in Mutuku, 2016). The risks associated with such organizations that could result in underperformance by money deposit banks. The need for risk management becomes essential. Risk management issues that arise in the management of account segments and other financial foundations have a greater impact on establishments than they do on other aspects of the economy, such as financial development. The past stock return shocks from managing an account segment, according to some empirical evidence (Tai, 2004), had a significant impact not only on the variances of remote trade and total stock returns, but also on the prices of the stocks, indicating that financial institutions can be a significant source of infection during an emergency. A mean score will be used to link risk management and financial performance; the scores from each risk management method will be correlated with and linked to the ROA. The link will only be made for all of the money deposit banks in Nigeria since every bank is required to participate in the survey.

To ascertain the foreign exchange, risk management, and profitability of deposit bank money in Nigeria, Eyanuku (2022) conducted a study. The findings showed that the profitability of Nigerian banks is significantly impacted by foreign currency. In order to determine the effect of foreign exchange risk on firm value for a sample of Indian textile, oil, and gas, and pharmaceutical industries, Savani and Mistry (2022) conducted a study. The study chose fifteen organizations with ten years of data (from 2009 to 2010). The findings showed that the financial performance of Indian pharmaceutical, oil and gas, and textile companies is negatively impacted by foreign exchange risk.

A study on foreign exchange risk management in Indian Commercial Banks was conducted by Madhuchandrika in 2019. Data was gathered for the qualitative study using pre-designed questions.

Several non-parametric statistical techniques were used to analyze the data that were obtained. The study's findings showed that currency risk has a detrimental impact on corporate performance.

Denga and Jain (2017) looked at the methods used by multinational corporations in India and Ukraine to control FX risk. The outcome showed that keeping an eye on forex risk effectively shields businesses from losses caused by fluctuating exchange rates. Between 1997 and 2013, Isaac (2015) looked on the impact of foreign exchange risk on bank performance in Nigeria. The study's approach used ordinary least squares. The study's conclusions imply that foreign exchange risk significantly affects bank performance.

The impact of foreign exchange risk management on the performance management of exporting enterprises in Uganda was studied by Mbabazie, Daniel, and Ekise in 2014. In order to assess the data gathered from the field, the study used proportionate stratified sampling, simple random sampling procedures to choose study participants, and Spearman's rank correlation coefficient. The study's findings demonstrated the beneficial effects of managing foreign exchange risk on exporting companies' performance.

The impact of FX risk management strategies on the financial results of commercial banks in Kenya was examined by Limo (2014). The outcome demonstrated that the use of currency risk hedging strategies enhances banks' operational efficiency. Singh (2013) conducted research on the connection between foreign exchange trading and the financial success of Nigerian commercial banks. The research design for the study was survey-based. Information from secondary sources was gathered. The study's findings showed that the financial performance of Nigerian banks was significantly impacted by foreign exchange trading.

### Theoretical Literature

International Fisher Effect Theory is the foundation of the study investigation. Irving created this framework in 1930. It explains why exchange rates fluctuate over time using market interest rates rather than inflation rates. According to the international Fisher effect, changes in interest rates offset changes in exchange rates. The Fisher hypothesis merely asserts that real interest rates were equivalent across nations due to the potential for financial market arbitrage possibilities, which often take the form of capital flows. Real interest rate equality implies that the nation with the higher rate of interest should also have a higher rate of inflation, which over time causes the real value of the nation's currency to decline. The interest rate theory of exchange rate expectations explains the connection between relative interest rates and currency exchange rates. Nominal interest rate differences between two nations typically reflect changes in the exchange rate. According to the International Fisher Effect (IFE) theory, foreign currencies with relatively high interest rates have a tendency to lose value since these high nominal rates represent the predicted pace of inflation (Madura, 2010). Does the difference in interest rates genuinely aid in forecasting future currency movement? Similar to the PPP theory, there is conflicting evidence at this time. Eventually, there will be a connection between interest rate differences.

### Methodology

The study adopts a cross-sectional research design. The cross-sectional design is one of the quantitative designs that investigates the relationship between variables that are collected from a range of units. The population of the study covers all deposit money banks quoted on the Nigerian Exchange Group (NGX) from December, 2012 to December 2021. A census sample of the money deposit banks were selected within the period of survey.

*The method of data collection was secondary data collection method. Data was sourced through the database of CBN and NGX fact-books and bulletins. Other sources included journals, test-books, annual financial statements of the various quoted money deposit bank in Nigeria.*

### Model Specification

In analyzing the impact of foreign currency exchange risk management and financial performance of Nigeria banks, a panel data regression analysis method was adopted. Based on the fact that there are different currency risk and financial performance proxies, the model below was used to determine the relationship between currency risk and bank performance in Nigeria. The model is expressed as ;

$$\text{Bank performance} = f(\text{financial risk}) \dots \dots \dots (1)$$

Where bank performance is proxied by Return on Assest (RoA) and currency risk proxied by foreign exchange risk, (FXR)

Equation 1 is based on the nexus of the dependent variable (bank performance– (BP) measured by (RoA) and independent variables; (foreign exchange risk, (FXR))), however, equation. 2 is expressed explicitly as;

$$RoA_{it} = \beta_0 + \beta_1 FXR_{it} + e_{it} \dots \dots \dots (2)$$

Where;  $i$  = cross section of sampled money deposit banks ;  $t$  = time;  $e_{it}$  = error term

### Method of Data Analysis

Panel data regression was used. The data obtained was analyzed in phases: pre-estimation; like descriptive statistics, and multicollinearity test and the estimation proper will comprise of pooled ordinary least square (POLS), fixed and random effects and Hausman specification test. A-priori expectation is that;  $B_1$  will be negative and significantly impact deposit money banks performance.

**Table 1: Descriptive Statistics**

	FXR	RoA
Mean	6.02	0.61
Median	6	0.58
Maximum	13	0.9
Minimum	2	0.36
Skewness	1.01	0.86
Kurtosis	4.00	2.88
Jarque-Bera	28.04	16.24
Probability	8.13	0.00

**Source: Researcher's Computation 2023.**

The result of table 1 indicated the descriptive statistics of the study. It covered the mean, median, maximum, minimum, skewness, Kurtosis and Jarque-Bera probability. For this study, emphasis was Jarque-Bera. This is because the researcher is only interested on the normality of the variables The results of the Jarque-Bera showed that the distribution is normal. The probability value (p-value of 8.13) was greater than 0.05.

**Table 2: Matrix Correlation (multicollinearity test)**

	FXR	RoA
FXR	0.090	
RoA	-0.014	0.035

**Source: Researcher's Computation 2023**



The result of table 2 showed that there is absence of multi-collinearity because none the correlation coefficient was up to 75% (0.75). So the statistical significance of the independent variables are not undermined or reduced.

### Panel Regression (OLS Fixed and Random Effects) Results

**Table 3: Fixed and Random Effects Results ( DV :RoA)**

Variables	Fixed Effect Result	Random Effect Result
C	<b>-84.61013</b> (0.2725)	<b>-189.9717</b> (0.0001)*
FXR	<b>-0.472511</b> (0.4414)	<b>-0.611840</b> (0.3326)
Prob(F-statistic)	0.000000	0.000002
D.W stat	2.030071	1.701282
Hausman Test		0.7106 > 0.05
<b>Cross-sections included</b>	<b>10</b>	<b>10</b>
<b>Number of observations</b>	<b>100</b>	<b>100</b>

*Source: researcher's computation 2023: Note: P values in bracket() \* (significant)*

From the result of table 3, since the Prob>chi2 (0.7106) was greater than 0.05, it meant that the null hypothesis was accepted meaning that the result of the random effect was preferred to the fixed effect, hence the random effect result was more desirable. The meant that the intercepts were time variant (the value of the variable does change across time) or that the parameters of the study are heterogenous or individually different. The result also revealed that the dependent variable was deposit money bank performance measure by RoA while the independent variables was FXR. The result of Prob > F which was 0.000002 and less than 0.05 showed that all the coefficients in the model were different from zero which made the model good. The result of *DW statistic* of 1.701282 approximately 2 indicated the absence serial auto correlation which meant that the model was desirable.

The coefficient result of FXR revealed that a unit increase in foreign exchange risk will decrease deposit money banks performance by 0.611840 but it insignificantly affect bank performance because the *p-value* of 0.3326 was greater than 0.05. This meant that an increase in FXR will decrease bank performance by 0.6118 units.

### Discussion of Findings

This study ascertained the impact of foreign currency exchange risk management on deposit money banks performance in Nigeria from 2012 to 2021. From the study it is clear that financial risks (foreign currency exchange risk have negative impact on banks performance in Nigeria within the period the study covered. However, only currency risk was insignificant while other risks were significant. The result of this study is not in line with Eyanuku (2022) who found that currency foreign has significant effect on profitability of banks in Nigeria and Isaac (2015) and found that foreign exchange risk has a significant effect on bank performance. . However, this study is in line with Savani and Mistry (2022) revealed that foreign exchange risk has negative effect on financial performance of Indian pharmaceutical companies, oil and gas companies and textile companies. Also, this study is in line with Madhuchandrika (2019) revealed that currency risk has negative effect on firm performance.

## Conclusion and Recommendations

This study was on the impact of foreign exchange rate risk on financial performance in Nigerian money deposit banks. Several empirical reviews were being reviewed in the literature to identify the unfilled gap. Meanwhile, the findings have revealed directional association between exchange rate and financial performance of banks. However, the study concluded that the shock from exchange rate moves at a negative and insignificant direction to the bank performance.

In view of the problem definition and research findings, it is recommended that strategic managers in banks take financial risk management as a priority especially liquidity, credit, and interest rate risks. They should be mindful of the short-run and long-run influence of currency risk on financial performance. Effective management of risks will enhance their performance and hence their ability to properly manage their assets and equity shareholders. Furthermore, policymakers in government should formulate economic and financial policies with due cognizance of factors that can affect a bank's performance. This requires a holistic view to policy formulation to ensure that cost trade-offs are considerably minimized in all strata of the economy. Specifically, macroeconomic policies that impact on deposit money banks' performance.

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