
Exchange Rate Risk and Financial Performance of Commercial Banks in Kenya

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Abstract

The ever-growing amalgamation of the global economy combined with the amplified explosiveness of foreign exchange rates has made management of currency risks very critical to grow shareholder wealth by stabilizing organization income streams. This study sought to determine the effect of exchange rate risk on the financial performance of commercial banks in Kenya. The study adopted positivist research philosophy. Explanatory sequential research design was used. Both primary and secondary data were collected from 38 commercial banks. Primary data was collected through a structured questionnaire from 386 senior bank managers while secondary data covered the period 2014-2023 for all the 38 commercial banks. Respondents agreed that exchange rate risk affects bank performance (mean 3.55), with regression showing a significant positive effect on financial performance of commercial bank ($\beta=12.88$; $p<0.05$). It was concluded that exchange rate risk significantly affects financial performance of commercial banks. The study recommends the adoption of comprehensive exchange rate risk management strategies that include use of financial derivatives such as forward contracts, swaps and options to hedge against currency fluctuation. It is also vital for banks to diversify their foreign currency portfolios and establish robust internal policies for evaluating foreign exchange exposure.

Keywords

Commercial banks, exchange rate risk, financial performance

Introduction

The banking sector is a critical component of the global economy because it mobilizes savings, provides credit facilities, and supports socioeconomic development through financial intermediation. The banking industry contributes approximately 20–25% of the global economy, with the commercial banking market estimated at about USD 3 trillion (Ross, 2021; IbisWorld, 2022). Consequently, the financial performance of commercial banks remains a major concern for

regulators, practitioners, and researchers because it reflects the ability of banks to achieve profitability, operational efficiency, and long-term stability (Mansyur, 2017). Financial performance refers to the extent to which banks achieve their financial objectives through effective utilization of resources and investment decisions (Majok, 2015). Common indicators used to measure financial performance include Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM). ROA measures management efficiency in generating profits from available assets, ROE evaluates the effectiveness of utilizing shareholders' funds, while NIM reflects the efficiency of managing interest-earning assets (Khrawish, 2011; Ali & Oudat, 2020; Saksonova, 2014).

Among the factors affecting financial performance, exchange rate volatility has increasingly attracted scholarly attention due to globalization and intensified fluctuations in foreign currency markets. The growing integration of world economies has made foreign exchange risk management essential for stabilizing organizational income streams and maximizing shareholder wealth (Jacque, 2013). Exchange rate movements create macroeconomic uncertainty and significantly influence firm value regardless of whether firms operate domestically or internationally (Muller & Verschoor, 2006). Researchers have identified several indicators of exchange rate risk. Kumar (2014) and Jacque (1983) highlighted open foreign exchange positions as critical measures of exposure to currency fluctuations. Other studies, including Ewubare and Merenini (2019), Wang and Young (2009), Serenis and Tsounis (2013), and Adewole et al. (2011), used the standard deviation of exchange rates as a measure of foreign exchange volatility. The current study adopted the open position ratio as the measure of exchange rate risk.

In Kenya, the banking sector has shown notable growth and resilience despite fluctuating profitability trends. The sector's asset base increased to Ksh. 7.7 trillion in 2023, representing a growth of 17.6%, while banking sector assets accounted for 49.9% of GDP (Kenya Bankers Association, 2024). However, despite growth in income streams and loan expansion, profitability indicators have remained unstable. Industry ROA declined from 3.7% in 2022 to 2.9% in 2023, while ROE also fell significantly between 2018 and 2020 (CBK, 2022; Kenya Bankers Association, 2024). Such inconsistent performance weakens investor confidence and limits the ability of banks to provide financial support to businesses and individuals (Kiemo et al., 2019). Kenyan commercial banks are particularly vulnerable to exchange rate fluctuations because foreign currency transactions constitute a major part of their banking operations. The Kenyan shilling has experienced persistent depreciation against the U.S. dollar since 2021 due to global financial tightening and widening policy rate differentials. By October 2023, the shilling had depreciated by approximately 18.7% against the U.S. dollar (World Bank, 2023).

Previous empirical studies have shown that exchange rate volatility affects financial performance. For instance, Keshtgar et al. (2020) established that exchange rate volatility had a significant negative effect on banking performance in Iran, while Kelilume (2016) found that exchange rate volatility adversely affected firms' return on assets and operational resilience in Nigeria. In Kenya, Ahmed (2015) established that foreign exchange exposure negatively affected the financial performance of commercial banks. This demonstrates that exchange rate risk is not only a macroeconomic issue but also a major determinant of bank profitability and sustainability.

Although several studies have examined the relationship between exchange rate volatility and financial performance, notable conceptual, contextual, and methodological gaps remain. Most existing studies have focused on general exchange rate volatility using measures such as standard deviation of exchange rates (Ewubare & Merenini, 2019; Serenis & Tsounis, 2013; Wang & Young, 2009), while limited attention has been given to open foreign exchange position ratios as a measure of exchange rate risk among commercial banks in Kenya. In addition, many studies were conducted in foreign contexts such as Iran and Nigeria, whose economic and regulatory environments differ significantly from Kenya's banking sector. Locally, few studies have comprehensively examined how exchange rate risk specifically influences the financial performance of commercial banks in Kenya amidst the recent depreciation of the Kenyan shilling and increasing foreign exchange market volatility. It is against this that the study sought to determine the effect of exchange rate risk on the financial performance of commercial banks in Kenya.

Methodology

The study adopted a positivist approach premised on collecting quantitative data to answer research problem (Park et al., 2020). Based on the positivist approach, the study formulated the null hypothesis that exchange rate risk has no statistically significant effect on financial performance of commercial banks in Kenya. The study used the explanatory sequential design, which underscores the use of secondary data followed by primary data. The target population was 38 commercial banks for 10 years, from 2014 to 2023. Secondary data was collected from Central Bank of Kenya bank supervision reports. In addition, primary data was drawn from 11,469 senior bank managers who possess specific knowledge of operations and market risk management within the respective commercial banks (Central Bank of Kenya, 2023). The sample size was 386 senior bank managers calculated using Yamane formula.

Stata version 14.0 and SPSS version 27.0 was used to analyse data. The primary data obtained through questionnaires was analysed and presented in narratives in order to elucidate the objectives of the study. Descriptive statistics comprised measures of central tendencies, such as mean, mode, median, and standard deviation, to illustrate the spread of data from the mean. The inferential statistics comprised Pearson correlation (r) to test the nature and strength of association between exchange rate risk and financial performance of commercial banks. It also involved regression analysis in form of simple linear regression and panel data regression analysis. Panel regression involved Random effects model (REM) which was most appropriate based on Hausman test results. If Hausman Test p value is greater than 0.05 then the method to be chosen is random effect model, and vice versa (Zulfikar & Stp, 2018).

Ethical Considerations

The study upheld high ethical standards to ensure that respondents, participating commercial banks, and researchers did not suffer any physical, psychological, emotional, or reputational harm during the research process. Before commencing the study, the researcher obtained approval from the School of Business, ethical clearance from the Institutional Scientific Ethics Review

Committee of the United States International University–Africa, and a research permit from the National Commission for Science, Technology and Innovation (NACOSTI). The researcher adhered to institutional ethical guidelines, NACOSTI regulations, and internationally accepted research ethics principles throughout the study period.

Participation in the study was entirely voluntary. Respondents were informed about the objectives, purpose, and significance of the research before participating. Informed consent was obtained from all participants prior to data collection, and respondents had the freedom to withdraw from the study at any stage without penalty or negative consequences. To protect participants from harm, the researcher ensured that no coercion, intimidation, or deception was used during data collection. The study findings have been presented objectively and professionally without the use of biased or sensational language that may damage the reputation of participating institutions. Confidentiality, privacy, and data protection was strictly observed throughout the research process.

Results

Questionnaires were distributed to 386 senior employees working in the 38 commercial banks. Out of these, 328 participants completed and returned the questionnaires yielding a response rate of 84.5 percent. The rate was considered satisfactory and in tandem with the recommendations of Dalati and Gomez (2018) that averred that a response rate exceeding 50% is universally acceptable for ensuring that the sample adequately represents the target population.

Financial Performance of commercial Banks

The descriptive results for secondary data are shown in Table 1.

Table 1

Descriptive Statistics Results

Variable	Mean	Std. Dev.	Min	Max
Financial Performance (ROA)	0.029	0.036	-0.088	0.358
Exchange rate risk	0.008	0.129	-1.635	0.826

Exchange rate risk recorded a relatively low mean of 0.008 with a standard deviation of 0.129. The low mean suggests that, on average, commercial banks in Kenya maintained broadly balanced foreign currency positions over the study period, implying limited persistent directional exposure to exchange rate movements. However, the standard deviation of 0.129 indicates that this apparent stability is punctuated by periods of significant dispersion in foreign exchange exposure, meaning that banks did not consistently operate with neutral currency positions. Instead, their exposure fluctuated over time, reflecting changing balance sheet structures, shifts in foreign currency lending and deposits, and varying hedging effectiveness. This demonstrates that foreign exchange volatility remained a potential source of uncertainty for banks engaged in international transactions.

The observed minimum (-1.635) and maximum (0.826) values provide important key finding into the nature of currency mismatches. Negative values indicate net short foreign currency positions, where foreign currency liabilities exceed foreign currency assets; in such cases, a depreciation of the Kenyan shilling would increase the local currency burden of obligations, potentially compressing profit margins and weakening capital positions. Positive values, on the other hand, represent net long foreign currency positions, where assets exceed liabilities; here, appreciation of the local currency can reduce the local currency value of foreign earnings, thereby lowering reported profitability. The coexistence of both negative and positive extremes suggests that banks periodically shift between opposite exposure positions, exposing them to asymmetric exchange rate risk depending on market direction. These dynamics imply that although average exposure appears contained, Kenyan commercial banks face episodic but potentially material currency mismatches, which can introduce volatility into earnings and affect financial performance through both transaction and translation risk channels.

The descriptive statistics indicate that the average financial performance of the commercial banks, measured by ROA, was 0.029, implying that banks generated an average return of 2.9% from their total assets during the study period. This suggests that, banks in Kenya were able to convert a small proportion of their asset base into net earnings, reflecting generally positive but moderate efficiency in asset utilization. The standard deviation of 0.036 suggests moderate variations in profitability across the banks. The relatively low standard deviation of 0.036 implies that profitability did not vary excessively across the sample on average, indicating a certain degree of stability in financial performance among banks. Despite this, the presence of variation around the mean still points to differences in operational efficiency, cost management, and income diversification strategies across individual institutions.

The minimum ROA value of -0.088 indicates that some banks experienced losses during certain periods, meaning their operating costs and financial obligations exceeded the income generated from their asset base. This reflects vulnerability to adverse economic conditions, credit risk exposure, or inefficiencies in asset deployment. On the other hand, the maximum ROA of 0.358 shows that some banks achieved exceptionally high profitability, suggesting strong asset management, effective risk control, or favourable market positioning. The wide gap between the minimum and maximum values highlights substantial performance heterogeneity within the banking sector, implying that while some institutions are highly efficient and profitable, others struggle with profitability challenges. These results suggest that financial performance varies across banks.

The descriptive statistics in Table 2 indicate that the financial performance of commercial banks was generally moderate to good across the various indicators examined. The findings show that the banks recorded the highest mean score on maintaining a healthy capital adequacy ratio of 8% and above (Mean = 3.79, SD = 1.28), indicating that most respondents agreed that the banks are financially stable and adequately capitalized to absorb potential losses arising from operational and credit risks. Similarly, the ability of banks to meet short-term obligations through maintaining a liquidity ratio above 1 registered a relatively high mean score (Mean = 3.56, SD = 1.57), showing that the banks possess adequate liquidity levels to support daily operations and customer

withdrawals. The management of interest-bearing assets and liabilities also received favourable ratings (Mean = 3.32, SD = 1.42), indicating that the banks are fairly effective in generating net interest income, which is a major determinant of profitability in the banking sector. In addition, the effectiveness of managing operating costs with a cost-to-income ratio of 55% and below recorded a mean of 3.18, demonstrating moderate efficiency in controlling operational expenses relative to income generation.

Table 2

Descriptive Statistics from Financial Performance of Commercial Banks using Primary Data

Financial Performance	Mean	Standard Deviation
The bank has been recording high Earning Per Share	3.01	1.48
The bank is efficient at using its assets to generate income	2.42	1.45
The bank is efficient at generating profit from its shareholders' equity	2.71	1.39
The bank is effective in managing its interest-bearing assets and liabilities (Net interest income)	3.32	1.42
The bank is effective in managing operating costs to its total income with cost to income ratio of 55% and below	3.18	1.56
The bank is able to meet its short-term obligations by maintaining liquidity ratio above 1	3.56	1.57
The bank maintains a healthy proportion of a bank's capital relative to its risk-weighted assets of 8% and above	3.79	1.28
Aggregate Mean and Standard Deviation	3.14	1.45

However, the findings further reveal relatively lower mean scores on profitability indicators associated with shareholder returns and asset utilization. The statement that banks had been recording high earnings per share obtained a moderate mean score (Mean = 3.01, SD = 1.48), implying that respondents were uncertain or only moderately agreed about strong shareholder returns. Likewise, the efficiency of banks in generating profits from shareholders' equity recorded a mean of 2.71 (SD = 1.39), while efficiency in using assets to generate income had the lowest mean score (Mean = 2.42, SD = 1.45). These findings indicate that although the banks demonstrate strong liquidity and capital adequacy positions, they may still face challenges in maximizing profitability and asset utilization efficiency. The relatively high standard deviations across most indicators further imply variations in responses, indicating differing perceptions among respondents regarding the financial performance of commercial banks.

Exchange Rate Risk and Financial Performance of Commercial Banks

The study determined the effect of exchange rate risk on financial performance of commercial banks in Kenya. The findings presented in the section include hypothesis testing to establish if the coefficient of exchange rate risk is statistically significant, descriptive results of exchange rate risk aspects, and correlation analysis.

Descriptive Statistics for Exchange Rate Risk

The study employed mean and standard deviation to analyse and interpret the findings as shown in Table 3. The mean values ranging from 1-1.49 were classified as strongly disagree, values 1.50-2.49 categorized as disagree, values between 2.5-3.49 were categorized as indecisive, while values that ranged from 3.5 to 4.49 indicated agreement; and values that ranged between 4.5 to 5 depicted a strong agreement to the statements regarding exchange rate risk.

Table 3

Descriptive Findings for Exchange Rate Risk

Statement on Exchange Rate Risk	Mean	Standard Deviation
The bank prioritizes the management of foreign related exchange rate risks in order to stabilize bank's income streams and grow shareholder wealth.	3.49	1.47
The bank experiences frequent exchange rate variations substantially affecting firm value.	3.58	1.38
The bank diligently follows the international financial reporting standards set to lessen exposure to foreign exchange risks.	3.60	1.40
The bank has put in adequate hedging strategies like foreign exchange hedging, matching foreign currency assets and liabilities, currency diversification and risk-sharing agreements with clients to mitigate foreign exchange rate risks.	3.49	1.48
The bank is frequently exposed to high foreign currency translation related risks.	3.58	1.37
The bank often faces foreign exchange rate's fluctuations that exacerbate the mismatch between assets and liabilities resulting to loss to the bank.	3.58	1.39
Aggregate Mean and Standard Deviation	3.55	1.42

Examination of responses on exchange rate risk management in banks deduced a moderate level of agreement among the respondents, with mean values ranging from 3.49 to 3.60. The values suggest that while banks acknowledge existence of foreign exchange rate risk, level of preparedness and persistent adoption of risk mitigation strategies varies across different aspects.

The highest mean score (3.60) corresponds to the statement that bank follows international financial reporting standards (IFRS) to lessen exposure to foreign exchange risks. This indicates that compliance with global standards is a crucial strategy employed by banks in management of exchange rate-related uncertainties. Likewise, a mean of 3.58 was observed in three statements: the experience of frequent exchange rate variations affecting firm value, frequent exposure to foreign currency translation-related risks, and the occurrence of mismatches between foreign currency-denominated assets and liabilities. Therefore, foreign exchange volatility is a common challenge that directly affects banks' financial position.

Statements on prioritization of foreign exchange risk management and implementation of hedging strategies each recorded a mean of 3.49. This suggests a more neutral to slightly agreeable stance, indicating that while these strategies may be key, their effectiveness or application may vary significantly. The relatively high standard deviation across all items (ranging from 1.37 to 1.48) reflects a wide dispersion in responses, which could indicate differences in how exchange rate risk is managed within the respective spheres of operations.

Correlation analysis of Exchange Rate Risk and Financial Performance of Commercial Banks in Kenya

In appraising the association between exchange rate risk and financial performance of commercial banks in Kenya, simple linear regression was employed. The findings indicated that correlation coefficient between exchange rate risk and financial performance is .4495, with a p-value of 0.000. This indicated a moderate positive and statistically significant relationship between the two variables at the 1% significance level.

Table 4

Correlation analysis of Exchange Rate Risk and Financial Performance

Pearson Correlation Test	Financial Performance
Exchange Rate Risk	.4495
	0.000

The Hausman test was conducted to determine whether FE or RE model was more appropriate to determine the association between exchange rate risk and financial performance. The results are shown in Table 5.

Table 5

Hausman Test Results

	---- Coefficients ----			
	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
Exchange Rate Risk	8.932026	9.05122	-0.11919	0.200403
chi2(1) =	0.58			
Prob>chi2 =	0.9657			

The Hausman test results indicate that the random effects model is the appropriate model for analysing the relationship between exchange rate risk and financial performance. The test produced a chi-square statistic of 0.000 with a p-value of 0.9657, which is greater than the conventional significance level of 0.05. Therefore, the null hypothesis that the difference in coefficients between the fixed effects and random effects models is not systematic cannot be

rejected. This implies that the random effects estimator is consistent and efficient, making it preferable to the fixed effects model. The random effect model results are shown in Table 6.

Table 6

Regression Results for Exchange Rate Risk

Financial Performance	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]
Exchange Rate Risk	12.88789	1.434779	8.98	0.000	10.07577 15.7
_cons	0.201356	0.191494	1.05	0.293	-0.17397 0.576678
R-sq:	within =	0.1992			
	between =	0.3566			
	overall =	0.2020			
Wald chi2(1) =	80.69				
Prob > chi2 =	0.000				

Based on the analysis of secondary data, the study deduced that there is a strong and statistically significant positive relationship between exchange rate risk and financial performance. The coefficient for exchange rate risk is 12.88789 indicating a positive association between exchange rate risk and financial performance of commercial banks. This effect is highly significant as shown by the z-value of 8.98 and p-value of 0.00. The constant is 0.201356 and not statistically significant ($p=0.293$), suggesting that when exchange rate risk is zero, financial performance is not significantly divergent from zero. This also includes 321 observations and has an R-squared of 0.202, meaning 20.2% of the variation in financial performance is explained by exchange risk. The Wald statistics of 80.69 and a p-value of 0.000 confirm that the overall model is statistically significant. These findings suggest that exchange rate risk are a key factor influencing financial performance of commercial banks in Kenya. Based on the results the null hypothesis that exchange rate has no statistically significant effect on financial performance of commercial banks in Kenya was rejected reaching to a conclusion that exchange rate has a statistically significant effect on financial performance of commercial banks in Kenya.

Discussion

It was found that exchange rate risk has a positive and statistically significant effect on financial performance of commercial banks. Fluctuations in foreign exchange rates create opportunities for banks to increase income through foreign exchange trading, international transactions, and foreign currency-denominated assets. This commonly occurs in banks with strong treasury management and diversified international operations, where depreciation or appreciation of the domestic currency generates higher trading margins, transaction fees, and revaluation gains. Fluctuation in exchange rate can present profitable opportunities for banks and particularly those engaged in foreign currency transactions or international operations. It suggested that well-managed exposure to exchange rate can enhance financial performance. Additionally, banks that effectively hedge their foreign currency exposure and strategically manage exchange rate movements can minimize losses while maximizing returns, thereby improving overall financial performance. The findings

are consistent with those of Mouna and Anis (2016), who established that exchange rate volatility significantly affects financial sector returns during crisis periods in developed and emerging economies. Likewise, a study by Fazli and Arian (2025) while statistically insignificant showed that exchange rate fluctuation exhibits a positive relationship with bank profitability.

However, the results do not agree with Moyo and Tursoy (2020) who found a weak inverse relationship between exchange rate volatility and return on equity in South Africa, while Abubakar (2020) concluded that exchange rate volatility had no significant effect on return on assets and return on capital employed in Nigeria. Similarly, El-Hussein and Osman (2019) established a weak adverse influence of exchange rate fluctuations on bank performance in Sudan. Chow et al. (2013) found that exchange rate risk exposure had negative short-run effects on asset returns in Pacific Basin countries. In developing economies, Keshtgar et al. (2020) in Iran, Kelilume (2016) and Lambe (2015) in Nigeria, as well as Ahmed (2015) and Majok (2015) in Kenya, all reported that exchange rate volatility negatively affects banks' profitability and financial performance. These inconsistencies may be attributed to differences in methodologies, variables used, and contextual factors across countries. For instance, some studies used exchange rate volatility measures such as standard deviation and GARCH models, while the current study used open foreign exchange position ratios that directly capture banks' exposure to currency mismatches. Differences in regulatory frameworks, hedging practices, market sophistication, and macroeconomic conditions may also explain the variation in findings across different economies.

Conclusion

The study concludes that the financial performance of commercial banks in Kenya is significantly affected by exchange rate. Exchange rate directly influences the profitability of banks, cost structure and overall financial performance. Banks' engagement in foreign currency transactions may result to loss or profit decline depending on the level of exposure on hedging. Banks with effective risk mitigation practices are better positioned to cushion against adverse exchange rate movements. Ultimately, managing exchange rate risk is essential in enhancing profitability and ensuring financial sustainability of banks in the dynamic macroeconomic environment.

Recommendations

The findings of the study established that exchange rate risk had a statistically significant effect on financial performance of commercial banks in Kenya. The study recommends the adoption of comprehensive exchange rate risk management strategies that include use of financial derivatives such as forward contracts, swaps and options to hedge against currency fluctuation. It is also vital for banks to diversify their foreign currency portfolios and establish robust internal policies for evaluating foreign exchange exposure. There is need to have real time tracking and forecasting systems implemented to anticipate and respond to currency volatility promptly. It is also paramount for investors to evaluate level of exposure on foreign exchange risk before making investment decisions. Commercial banks ought to have well-established risk management practices and reduce mismatch of foreign currencies to deliver stable returns. It is vital for investors to undertake analysis of bank's international operations, forex trading policies and historical

performance under currency pressure. Banks are supposed to adopt international practices in risk governance and support investments in technology and training that enhance currency risk analysis. Collectively, these efforts will strengthen financial performance and protect stakeholder value in a volatile global economic environment.

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Declaration of competing interests

The authors declare no conflict of interest.

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