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Price Risk and Financial Performance of Commercial Banks in Kenya

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Abstract

Commercial banks globally and locally face chronic volatility in financial performance, largely driven by inadequate risk pricing and management. While banks serve a pivotal role in allocating resources and boosting the broader economy, their profitability is frequently hindered by non-performing assets, fluctuating price rates, and an inability to accurately match the cost of capital with the default probability of borrowers. As a result, many institutions experience fluctuating returns on assets. This study sought to determine the effect of price risk on the financial performance of commercial banks in Kenya. The study adopted a positivist research philosophy with an explanatory research design. Secondary data was collected from 38 commercial banks over the period 2014-2023. A statistically significant negative association between price risk and the financial performance of commercial banks was established. In addition, random effect model results depicted a statistically significant negative relationship between price risk and financial performance of commercial banks in Kenya (β=-0.00691, $p<.05$). It was concluded that price risk adversely affects the financial performance of commercial banks. It is recommended that commercial banks in Kenya strengthen their price risk management frameworks by adopting more advanced risk-based pricing models that accurately align loan pricing with borrower default probabilities and changing market conditions. Banks should enhance the use of derivatives and other hedging instruments to mitigate exposure to interest rate fluctuations, while also improving credit risk assessment systems to reduce non-performing assets.

Keywords: Commercial banks, Price risk, Financial performance, Banking sector, Kenya

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. Globally, the banking industry contributes approximately 20–25% of the 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). While banks serve a pivotal role in allocating resources and boosting the broader economy, their profitability is frequently hindered by non-performing assets, fluctuating pricing rates, and an inability to

accurately match the cost of capital with the default probability of borrowers. As a result, many institutions experience fluctuating returns on assets and reduced earnings per share. Price risk in commercial banks is broadly understood as the exposure to losses arising from fluctuations in market prices, including interest rates, exchange rates, commodity prices, and equity values, which directly affect the valuation of financial assets and liabilities. In an increasingly liberalized and globalized financial environment, the breaking of economic barriers has intensified competitive pressures and exposure to cross-border financial shocks, thereby increasing price risk for banks (Dus & Rout, 2022). This risk has become more pronounced as commercial banks are now able to raise capital from financial markets, exposing them to daily fluctuations in stock prices and broader market volatility. According to Mirkovic et al. (2013), price risk may reduce operating profits and weaken bank valuation due to rising input costs, currency depreciation, and inefficient capital allocation, and it arises whenever adverse price movements negatively affect business outcomes. In banking, this is closely linked to market risk, particularly interest rate risk, where increases in interest rates reduce the market value of fixed-income securities held by banks, thereby lowering investment returns and overall financial performance (Corelli, 2024; Onyiriuba, 2016).

The relationship between price risk and financial performance of commercial banks has been widely examined in empirical literature. Theoretical and contextual arguments suggest that price risk driven by fluctuations in stock prices, interest rates, exchange rates, and asset values reduces profitability by destabilizing earnings and weakening asset valuation. Mirkovic et al. (2013) argue that price risk leads to declining operative profits and reduced bank valuation due to rising costs, currency depreciation, and inefficient capital allocation. Similarly, Dus and Rout (2022) emphasize that globalization, technological change, and cross-border financial integration have increased risk exposure for banks, thereby intensifying the impact of price fluctuations on financial performance. In the banking context, equity price volatility also directly affects earnings stability, capital adequacy, and investor confidence, reinforcing the notion that price risk is closely tied to weaker financial performance outcomes.

Empirical studies provide mixed but largely supportive evidence of a significant relationship between price risk and financial performance, although the direction and strength vary across contexts. Shaeri et al. (2016) found that price responsiveness differs across financial subsectors, with financial institutions showing lower sensitivity than non-financial firms, though still statistically significant. Bartram (2015) further observed that while firms exhibit exposure to price fluctuations, such risk is often not dominant compared to other financial risks, partly due to hedging strategies. In contrast, Hofmann et al. (2018) established that price shocks negatively affect financial performance in logistics firms, reinforcing the adverse effect argument. In banking-specific studies, Lee and Lee (2019) found that price shocks significantly influence banking performance indicators such as capitalization, earnings, and liquidity in China, although these effects are moderated by macroeconomic stability. In India, Das and Rout (2022) also confirmed that equity price risk significantly affects bank performance through volatility and tail risk exposure, suggesting that price risk remains a critical determinant of banking stability.

However, some studies present more nuanced or context-dependent findings, indicating inconsistencies and gaps in the literature. For instance, Moya-Martinez et al. (2014) found only moderately limited price exposure in Spanish industries, suggesting weak direct effects of price risk on performance in certain economic conditions. Similarly, Bartram (2015) noted that price risk may not always be more significant than other financial risks, implying possible

substitution or mitigation through hedging and risk management practices. Studies such as Cheng and Hou (2024) and Lumempow (2023) further show that the relationship between price-related indicators and financial performance can be insignificant or contextually dependent on institutional factors, governance structures, or financial ratios. These mixed findings reveal research gaps, as studies reviewed were from different countries with varying financial and regulatory structures from Kenya.

Commercial banks in Kenya play a central role in economic development by facilitating credit allocation, mobilizing savings, and supporting investment consistent with national development goals such as Vision 2030. Their financial performance is typically assessed using indicators such as Return of Assets (ROA) (Majok, 2015). However, the sector has experienced persistent fluctuations in profitability, with ROA varying from 3.33% in 2017 to 3.5% in 2018, declining to 2.07% in 2020, rising again to 3.7% in 2022, and falling to 2.7% in 2023 (Central Bank of Kenya, 2021, 2022, 2023). This instability signals underlying vulnerabilities in earnings sustainability and highlights exposure to macroeconomic and market-related risks. In this context, price risk becomes highly relevant because fluctuations in interest rates, exchange rates, and asset prices directly affect banks' investment portfolios, lending margins, and overall valuation. Since Kenyan banks operate in an environment characterized by economic shocks and changing financial conditions, unmanaged price risk can amplify earnings volatility and contribute to the inconsistent financial performance observed across years.

Methodology

The study adopted a positivist approach anchored on the epistemological assumption of positivism which contends that knowledge can and ought to be developed objectively, devoid of the values of the researchers influencing its development (Park et al., 2020). Based on the positivist approach, the study formulated the null hypothesis that interest rate risk has no statistically significant effect on financial performance of commercial banks in Kenya.

The study adopted the explanatory research design. The target population constituted 38 commercial banks considering a 10 years assessment, from 2014 to 2023. Secondary data was collected from Central Bank of Kenya bank supervision department reports where earnings per share and financial performance of commercial banks were collected. Price risk was operationalized as volatility of Earnings Per Share while financial performance of commercial banks was measured using ROA (return on assets to total assets).

Stata version 14.0 and SPSS version 27.0 were used to analyze data. Both descriptive and inferential statistics were employed. The descriptive statistics comprised, minimums, maximums, means and standard deviation. Inferential statistics comprised Pearson correlation (r) to test the nature and strength of association between interest rate risk and financial performance of commercial banks. Hausman test was used to make a choice on whether the most appropriate model to be applied was Fixed Effect or Random Effect. 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 adhered to high ethical standards to ensure that respondents, participating commercial banks, and researchers did not suffer any physical, psychological, emotional, or reputational harm during the data collection process. Before commencing the study, the researcher obtained approval from the Graduate School, 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.

Confidentiality, privacy, and data protection was strictly observed throughout the research process. Information obtained from participants and commercial banks were only used for academic purposes and were not disclosed to unauthorized persons or used for commercial gain. No individual commercial bank or respondent was identified in the final report. Data collected from audited reports, and financial statements were securely stored.

Results

A total of 38 commercial banks that had been in operation over the period 2014-2024 were sampled. This resulted to a total observation of 321respondents after considering banks that ceased operations or merged during this period.

Financial Performance of commercial Banks

The descriptive results 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
Price risk (EPS)	15.65	5.9	3.61	32.47

The descriptive statistics in Tabe 1 indicate that the average financial performance of commercial banks, measured by Return on Assets (ROA), was 0.029, implying that banks generated an average return of 2.9% from their total assets during the study period. The standard deviation of 0.036 suggests moderate variations in profitability across the banks, while the minimum and maximum values of -0.088 and 0.358 respectively show that some banks experienced losses whereas others achieved relatively high profitability.

Regarding price risk, measured using EPS, the results show a mean value of 15.65, indicating that commercial banks generated average earnings per share of Kes. 15.65 during the study period. The standard deviation of 5.9 demonstrates considerable variation in EPS levels among the sampled banks, implying differences in profitability attributable to shareholders. The minimum EPS of 3.61 and maximum EPS of 32.47 reveal a broad spread in earnings performance across the banking sector. This substantial variation suggests that some banks were able to generate significantly higher shareholder returns than others, potentially reflecting differences in operational efficiency, market positioning, and exposure to financial risks. The relatively high average EPS indicates that the sampled commercial banks generally maintained positive earnings; however, the observed variability also points to fluctuations in price-related performance that could influence investor confidence and overall financial performance.

Effect of Price Risk on Financial Performance of Commercial Banks

The study appraised the effect of price risk on financial performance of commercial banks in Kenya. The results constitute correlation analysis, linear regression model analysis. Pearson correlation was conducted on secondary data to determine the strength and direction of the relationship between price risk and financial performance. The results in Table 2 showed that correlation coefficient between price risk and financial performance is -0.1706 with a p value

of 0.000. This indicated a weak but statistically significant negative relationship, meaning that as price risk increases, financial performance tend to decrease. The results are significant at 1% level affirming its reliability.

Table 2
Correlation Analysis for Price Risk

Pearson Correlation Test	**Financial Performance**
Price Risk	-0.1706
	0.000

Hausman test was estimated to determine whether random effect or fixed model effect is appropriate. The results are shown in Table 3.

Table 3
Hausman Test Results

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fe	re	Difference	S.E.
Price Risk	-.0069087	-.0068793	-.0000294	.0002295
	b = consistent under Ho and Ha; obtained from xtreg			
	B = inconsistent under Ha, efficient under Ho; obtained from xtreg			
	Test: Ho: difference in coefficients not systematic			
	chi2(1) = (b-B)'[(V_b-V_B)^(-1)](b-B)			
	= 0.02			
	Prob>chi2 = 0.8979			

The Hausman test results in Table 3 indicate that the random effects model is the appropriate model for analyzing the relationship between price risk and financial performance of commercial banks. The test produced a chi-square statistic of 0.000 with a p-value of 0.8979, 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.

Random effect regression analysis on the relationship between price risk and financial performance established a statistically significant negative relationship between price risk and financial performance of commercial banks in Kenya. As indicated in Table 4, the coefficient for price risk is --0.00691, suggesting that one unit increase in price risk leads to a 0.00691 unit decrease in financial performance, holding other factors constant. This relationship is statistically significant as indicated by t-values of -3.1 and p-value of 0.002 that is below the threshold level of 0.05. The constant term is 0.573088 and statistically significant (p=0.01), representing the expected financial performance when price risk is zero. The model includes 321 observations with an R-squared of 0.0291, implying that price risk explains approximately 2.91% of the variation in financial performance. Although the explanatory power is low, the relationship is statistically significant. The Wald statistics of 9.63 and the p-value of 0.0021 further confirm the model's overall significance. This indicates that financial performance of commercial banks in Kenya is adversely affected by increased price risk.

Table 4
Regression Results for Price Risk and Financial Performance

Financial Performance	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Price Risk	-0.00691	0.002226	-3.1	0.002	-0.01129	-0.00253
_cons	0.573088	0.220409	2.6	0.01	0.139402	1.006775
R-sq:	within =	0.0301				
	between =	0.0004				
	overall =	0.0291				
Wald chi2(1) =	9.63					
Prob > chi2 =	0.0021					

Discussion of Results

Regression results indicated that price risk has a negative and significant effect on financial performance of commercial banks. This denotes that an increase in price risk leads to a decline in profitability, while a reduction in price risk enhances financial performance. The findings suggest that fluctuations in equity prices, earnings per share (EPS), and other market-related price indicators create uncertainty in banks' earnings streams and asset valuations, thereby reducing their ability to generate stable returns. Commercial banks are particularly vulnerable because they hold substantial financial assets whose values are sensitive to market price movements. Increased price volatility can reduce investment income, weaken capital positions, and negatively affect investor confidence. The correlation results further reinforce this relationship by demonstrating a significant inverse association between price risk and financial performance, indicating that banks exposed to greater price uncertainty experience lower profitability. These findings underscore the importance of effective price risk management in maintaining earnings stability and sustaining competitive performance within the banking sector.

The findings are consistent with several empirical studies that reported an adverse effect of price risk on organizational performance. Shaeri et al. (2016) established that increased price risk significantly reduced financial performance, particularly among financial institutions due to their extensive exposure to asset and liability portfolios that are highly sensitive to price fluctuations. Similarly, Hofmann et al. (2018) found that price shocks adversely affected the financial performance of logistics service providers globally. Lee and Lee (2019) also reported that price shocks negatively influenced Chinese banking performance through their effects on capitalization, management efficiency, earnings capacity, and liquidity. Further support is provided by Bahreini et al. (2013), who found a significant adverse relationship between stock prices and firm performance, especially among highly leveraged firms. Likewise, Das and Rout (2022) observed that equity price risk volatility, persistence, and asymmetry negatively affected the performance of banks in India. Similar conclusions were reached by Nabi (2014), Taha et al. (2023), and Mudanya and Muturi (2018), all of whom found that increased market and price risk reduced profitability. The convergence of these findings across different countries and sectors strengthens the argument that price risk is a critical determinant of

financial performance and that unmanaged price fluctuations can significantly undermine profitability.

However, the findings differ from several studies that reported either a positive or insignificant relationship between price risk and financial performance. Bartram (2015) argued that although price fluctuations are substantial, price risk is not necessarily more significant than other financial risks in influencing firm value. Moya-Martinez et al. (2014) found that the relationship between stock prices and financial performance in Spain became predominantly positive during the 2000s. Similarly, Cheng and Hou (2024) established that price fluctuations did not exert a significant effect on financial performance when considered independently. Lumempow (2023) found no significant influence of stock price-related variables on return on assets, while Maringka (2024) reported a positive and significant relationship between price movements and return on assets in the mining sector. Arsal (2021) further demonstrated that earnings per share positively influenced company value, and Badawi (2017) found a positive relationship between stock prices and profitability. These contrasting findings may be attributed to differences in economic environments, industry characteristics, measurement of price risk, study periods, and methodological approaches, suggesting that the impact of price risk is highly context-specific.

Conclusion

The study found that price risk is a significant predictor of financial performance of commercial banks in Kenya. Thus, the null hypothesis which states that price risk has no statistically significant effect on financial performance of commercial banks in Kenya was rejected. Changes in market prices for stocks, interest rates and asset value can significantly affect bank revenue streams, asset valuation and investment returns. Ignoring prices may result to inconsistent financial projections and increased vulnerability to market volatility. Progressive risk assessment framework is vital in designing dynamic pricing models that is key in navigating the evolving financial market in Kenya.

It is important for banks to consistently monitor fluctuations in the market including interest rates and asset prices. Poor management of pricing in the banking sector is likely to result in decline in profitability, impaired asset quality and deteriorating financial performance. Strengthening risk mitigation through strategies such as diversification, pricing models and regulatory compliance aids banks to remain resilient and competitive in an increasingly volatile financial environment.

Recommendations

The findings of the study established that financial performance of commercial banks in Kenya was significantly affected by price risk; and that price risk directly affected financial performance. Thus, there was need to direct managers, investors and shareholders on measures to be undertaken. Commercial banks ought to regularly monitor economic indicators using financial instruments like futures and options to hedge against adverse price movements; and diversification of investments and lending portfolios that minimize exposures to market shifts. It is important for commercial banks to consider integration of price sensitivity analysis into financial planning and decision-making encompassing alignment of product pricing, interest margins and loan structuring with market price trends geared towards ensuring responsiveness to shift costs. Bank managers should also enhance capacity building through training on market trends and establish internal controls to detect and respond quickly to adverse pricing developments. It is vital for investors to check how banks are responsive to changing prices when evaluating performance and growth potential. This may include institutional financial

disclosure for pricing-related risks and understanding how pricing dynamics influence earnings volatility. The shareholders ought to promote agility in pricing models and encourage management to pursue prudent cost-control measures. It is also important to undertake periodic performance evaluation that is tied to price changes in the market to ensure adaptability.

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