Interest Rate Risk and Financial Performance of Investment Banks in Kenya

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ABSTRACT

This paper addresses the ascendancy of interest rate risks on performance of investment banks in Kenya. Methodologically the study was guided by positivism philosophy. The study applied explanatory sequential mixed method design which allows for both quantitative and qualitative approaches. The population of the study was drawn from 16 investment banks operating in Kenya. Quantitative data was obtained from the annual financial statements of 16 investment banks operating in Kenya. The data was collected using data collection sheets for the years 2011 to 2019 to compute financial ratios. Primary data was analysed qualitatively using thematic analysis to validate the quantitative data results (using interview guide tool) from interviewees composed of managers in the investment banks, the Exchange, and the Regulator. Both descriptive and inferential analysis methods were employed in the analysis. The regression results reveal that interest rate risk by investment banks in Kenya has a low but positive and significant influence on financial performance of investment banks in Kenya. From the empirical evidence and conclusion, investment banks should consider leveraging the bank debts to improve performance. However, this should be accompanied by enhancing effective management of interest rates by buying short-term debt instruments such as treasury bills and bonds with short-term maturities, use of financial hedging instruments including forwards, swaps, futures, and options, as well as non-financial hedging methods such as cash flow netting.

Key Words: Interest Rate Risk, Financial Risk, Financial Performance

I. INTRODUCTION

Investment banks are crucial institutions in the economy due to their provision of essential services that facilitate the flow of capital (Mahajan, 2016). As intermediaries, they connect capital providers with those in need of funds to pursue profitable investment opportunities. They also function as brokers in the trading of equity and debt securities, facilitating transactions between sellers and buyers of financial assets. Moreover, investment banks offer fund management services to individuals, pension funds, and institutional investors. Additionally, they play a vital role in advising and structuring mergers and acquisitions of companies. Furthermore, investment banks serve as transaction advisors for firms aiming to restructure their capital sources, such as issuing shares through initial public offerings, rights issues, and private placements, or utilizing various forms of leverage like bonds, loans, and commercial papers (Walter, Yawson & Yeung, 2008).
Financial performance in investment banks refers to the degree to which the bank is able to achieve its policies and objectives. Assessing financial performance helps management determine if the investment bank is operating profitably (Baraza, 2018). High-performing investment banks attract new shareholders and clients, leading to improvements in revenue (Njoki, 2018). Effective measurement of financial performance is therefore crucial for successful business management (Franco-Santos, Lucianetti & Bourne, 2012).

The management of interest rate risks plays a pivotal role in generating revenue and ensuring sustainability for investment banks, as they heavily rely on interest rates to generate income. Furthermore, investment banks primarily depend on advisory fees, rather than brokerage fees, to drive revenues, making the performance of the stock market a significant influence on their financial performance (Safavian & Zia, 2018). The behaviour of interest rates is crucial for decision-makers in both public and private sectors when it comes to resource allocation over time (Franco-Santos, Lucianetti & Bourne, 2012). Interest rates also impact other income-generating channels for investment banks, as their performance relies on the performance of clients and stock market movements, which are affected by changes in interest rates. Financial intermediation exposes investment banks to interest rate risks through mismatches in the maturity structure and re-pricing terms of their assets and liabilities (Purnanandam, 2005). Interest rate risk refers to the probability of adverse impacts on profitability or asset value resulting from interest rate changes (Horcher, 2011). According to Kithandi (2019), equity ratio and debt-to-equity ratio serve as proxy measures for an organization's leverage and exposure to interest rate risk.

Interest rate risk can manifest in various forms, including re-pricing risk, yield curve risk, and basis risk. Re-pricing risk occurs when the average yield on a bank's liabilities is highly sensitive to changes in market interest rates. Yield curve risk reflects the possibility that changes in the shape of the yield curve could have differential effects on the bank's assets and liabilities. Additionally, investment banks may face basis risk, which arises when changes in underlying interest rates used to price assets and liabilities do not change in a correlated manner, resulting in narrower margins. Investment banks can also be exposed to interest rate risk through the interest sensitivity of their non-interest income, such as mortgage interest (Gitonga, 2010). Indeed, interest rates in an economy have a significant impact on the profitability of organizations. In Kenya, the introduction of interest rate caps resulted in low interest rates and business contraction, creating challenges for investment banks to maintain earnings performance (Ongore & Kusa, 2013).

The liquidity preference theory, initially proposed by Keynes (1936), provides insights into the level of liquidity, interest rates, and credit status of investment banks. According to this theory, investors often demand higher interest rates when dealing with securities with long-term maturities, as interest serves as the reward for parting with liquidity for a specified period (Tily, 2012). When all other factors are held constant, investors prefer cash or highly liquid holdings. Liquidity, interest, and credit are interrelated, as low liquidity leads to high interest rates being offered and an increased probability of credit defaults.

In addition to Keynes's liquidity preference theory, several modern theories explain the term structure of interest rates and the resulting yield curve. The expectations theory suggests that forward interest rates represent the market's expected future interest rates, and the shape of the yield curve reflects these expectations (Herbert & Saher, 2010). The liquidity theory proposes that investors will choose longer-term maturities if they are provided with additional yield that compensates for the lack of liquidity, thus supporting the inclusion of liquidity premiums and interest rate expectations in forward interest rates (Correa, 2009). The preferred habitat hypothesis suggests that investors with preferences for specific maturity horizons can be persuaded to change horizons if an appropriate premium is offered (Herbert & Saher, 2010). This implies that the shape of the yield curve depends on the policies of market participants. The market segmentation theory suggests that different investors have different investment horizons based on the nature of their business or investment restrictions, preventing them from significantly changing maturity dates to take advantage of temporary interest rate opportunities (Claycamp & Massy, 1968). Companies with long investment time horizons, for example, are less interested in capitalizing on short-term interest rate opportunities (Horcher, 2011).

II. METHODOLOGY

The research employed a descriptive approach based on a positivist ontological research philosophy and utilized an explanatory sequential mixed methods research design, allowing for qualitative analysis to provide explanations or elaborations on the quantitative findings.
The population of the study consisted of 16 investment banks operating in Kenya during the period of the study. Secondary data was collected from audited financial statement reports published by all the investment banks between 2011 and 2019.

The primary data targeted 40 respondents, including finance managers, risk and compliance managers from investment banks, key informants from the compliance and analysis department at the Nairobi Securities Exchange (NSE), and staff working at the Capital Markets Authority (CMA) involved in compliance, surveillance, and financial analysis of investment banks. These individuals possessed specific knowledge relevant to the financial and risk operations of investment banks, which was important for this study. The distribution of the targeted population is presented in Table 1.

Descriptive statistics were used to summarize the data, identify trends, assess normality, and analyse the predictors' spread. Qualitative data was analysed using stepwise linear logistic regression. Inferential statistics, such as correlation analysis and panel data regression methods, were employed to generate inferences about the relationships between variables. Diagnostic tests were conducted to check for normality, stationarity, multicollinearity, and heteroscedasticity using tests such as Shapiro & Wilk (1965), Harris & Tzavalis (1999), variance inflation factor, and

Breusch & Pagan (1979). The findings were presented in figures and tables. Ethical considerations, including obtaining respondents' consent and ensuring confidentiality, were observed by the researcher.

III. RESULTS

Correlation Analysis

Correlation analysis was conducted to establish the linear association between interest rate risk proxies and financial performance (ROA) of investment banks. Table 2 shows the summary of correlation analysis.

Table 2:

Correlation Results

Correlation Variables	Coefficient (r)	P. Value
ROA Vs Debt-to-equity ratio	0.2874	0.001

Table 2 shows that debt to equity ratio has a positive and significant relationship with return on assets (r=0.2874, p=0.001). The result implies that increase in debt-to-equity ratio leads to increase in return on assets.

Regression Analysis (Random Effects Model)

Regression analysis was conducted to establish the relationship between interest rate risk proxy and financial performance (ROA) of investment banks in Kenya. Table 3 shows the summary of the results, and the following model guided the analysis.

$$Y_t = \beta_0 + \beta_1 X1_{it} + \varepsilon \qquad (Equation\ 1)$$

Table 3:

Random Effects Model Regression Results (Interest rate risk vs Financial Performance)

Number of obs =	129		
Number of groups =	16	Wald chi2(1)	9.02
Obs Per Group: min =	5	Prob > chi2	0.004
avg =	8.1	R-sq between	0.2055
max =	9	R-sq overall	0.0826

ROA	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf. Interval]	
D/E ratio	0.112627	0.0396106	2.84	0.004	0.0349	0.1902
_cons	0.0889278	0.0633779	1.4	0.161	-0.035	0.213146

Table 3 shows the summary of the results of the bivariate model Return on assets vs Debt to equity ratio. In the first bivariate model, overall random effects regression model is significant as revealed by Wald chi-squared value of 9.02 and its respective p.value of 0.004. This implies that debt to equity ratio is a significant predictor of ROA. In addition, the overall R squared is 0.0826, suggesting that debt to equity ratio explains 8.26% variations in ROA. The result reveals that debt to equity ratio of investment banks in Kenya has a low but positive and significant influence on financial performance (ROA) of investment banks in Kenya (Coef. = 0.11, p=0.004). In addition, the z statistics (2.84) which is a measure of precision or reliability with which the regression coefficient is measured indicates that the coefficient is reliable. A z statistic greater than 2 indicates that the regression coefficient is reliable and different from zero. Since high debt to equity ratio implies that the investment banks are highly leveraged and consequently highly exposed to interest rate risk, the results reveal that by increasing interest rate risk exposure by one unit, investment

banks would increase their financial performance by 0.11. This is perhaps because most of the investment banks in Kenya are not leveraged and are conservative in nature as revealed by descriptive statistics; hence by ensuring that they are more leveraged would result into better performance.
The optimal regression model is expressed as follows:

$$Y_t = 0.0889 + 0.1126 Debt\ to\ Equity\ ratio + \varepsilon \qquad (Equation\ 2)$$

Qualitative Analysis on Interest Rate Risk and Financial Performance

The thematic analysis of the interview responses provided by investment bank experts revealed recurring themes. A prominent theme was the preference of investment banks for shareholders' funds or retained earnings as a source of finance, indicating a tendency to avoid bank debt and reduce exposure to interest rate risk. The majority of respondents stated that obtaining debt from banks in Kenya is expensive. This high cost of debt during the study period was attributed to interest rate capping, which imposed stringent borrowing conditions and limited the number of borrowers. Moreover, prior to interest rate capping, the cost of debt was exceptionally high, resulting in minimal returns that rendered the debt unsustainable and impractical. Additionally, commercial banks perceive investment banks as engaging in risky ventures, which leads them to refrain from lending to investment banks. Consequently, investment banks tend to seek financing from equity rather than debt.

Furthermore, investment banks display a financing bias towards equity, influenced by the high cost of bank debt and the associated moral hazards. Additionally, many investment banks are family businesses that prioritize reinvesting profits and personal assets into the business rather than relying on debt. This preference allows them to retain all profits from the opportunities they encounter without sharing proceeds with external financiers. The aversion to debt also stems from memories of high interest rates in Kenya during the 80s and 90s, which resulted in the collapse of businesses with bank loans.Maintaining debt on their books poses challenges for investment banks in meeting regulatory liquid capital requirements. In the case of investment banks that are subsidiaries of international multinationals, directors may opt for subordinated debt, a loan granted by the directors themselves, which is less risky and not exposed to interest rate changes.

The study also explored the strategies and practices employed by investment banks to manage and control exposure to interest rate risks. While investment banks were not significantly exposed to such risks, they managed exposure by investing in treasury bills and short-term bonds. Some investment banks purchased long-term bonds for growth or yield but diversified their portfolio by including short-term investments. Others made investment decisions based on their expectations of future interest rate movements. For instance, if an investment bank anticipated an increase in interest rates, they would refrain from committing to long-term bonds. The responses indicated that investment banks in Kenya do not engage in activities like hedging, forward or future options trading. Instead, they closely monitor the market, observe performance in relation to market conditions, and take proactive measures accordingly.

IV. DISCUSSION

The aim of the study was to determine the impact of interest rate risk on the financial performance of investment banks in Kenya. The findings demonstrated that interest rate risk has a positive effect on the financial performance of investment banks. The regression analysis revealed a significant and positive relationship between interest rate risk and financial performance (ROA) of investment banks in Kenya. The study indicated that a one standard deviation improvement in interest rate risk management practices, specifically improvements in the debt-to-equity ratio, would lead to a 28 percent enhancement in return on assets. This improvement is statistically significant, thereby rejecting the null hypothesis and concluding that there is a significant effect of interest rate risk on the financial performance of investment banks in Kenya. These findings suggest that investment bank practices aimed at mitigating exposure to interest rate risks have a beneficial impact on financial performance. Several other studies, such as Thanyaku (2010) and Harelimana (2017), have also reported the positive effects of interest rate risk on the performance of banks.

There are several factors that contribute to the significant beneficial effects of interest rate risk on the financial performance of investment banks. Firstly, investment banks tend to avoid debt and rely primarily on equity financing, which effectively minimizes exposure to interest rate risk. This preference for equity financing is driven by the high cost of bank debt and the associated moral hazards. Additionally, investment banks manage their exposure to interest rate risks by investing in short-term bonds. While some may also purchase long-term bonds for growth or yield, the majority of investment banks focus on short-term investments based on their expectations and market conditions. This approach results in increased profit margins and, consequently, higher returns on assets. Furthermore, investment banks in Kenya do not actively engage in hedging, forward or future options trading. Instead, they closely monitor the market, observe performance relative to market trends, and take prompt and positive actions. This proactive approach enhances their awareness of changes and trends in interest rate risks, allowing them to respond promptly and avoid any negative impact on their performance in the Kenyan market.

Conclusion

Based on the findings and discussion presented in the study, it is evident that interest rate risk has a noteworthy and positive impact on the financial performance of investment banks in Kenya. Therefore, the study concludes that enhancing the practices related to managing interest rate risk would yield advantageous outcomes for the financial performance of investment banks. The research indicates that investment banks effectively mitigate interest rate risk by minimizing their exposure, primarily through a strong reliance on equity financing instead of debt financing. This strategic approach has proven to be effective and beneficial for investment banks in Kenya.

Recommendations

The study reveals a significant relationship between interest rate risk and financial performance. As a result, it is imperative for the leadership of investment banks to enhance their current practices in managing interest rate risks to attain improved financial performance. To achieve this, financial risk managers within investment banks should consider leveraging bank debt as a means of financing, as they currently heavily rely on equity. However, this approach should be coupled with effective management of interest rates, which can be accomplished by investing in short-term debt instruments like treasury bills and bonds with shorter maturities. Additionally, the utilization of

financial hedging instruments such as forwards, swaps, futures, and options, as well as non-financial hedging methods like cash flow netting, should be enhanced.

To gain a comprehensive understanding of the determinants of investment banks' financial performance in the Kenyan context, future studies could explore other variables. For instance, given the high dependence of investment banks on their employees, future research could investigate whether employee-related aspects such as recruitment, competency, and employee retention have any beneficial effects on the performance of investment banks in Kenya.

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