Treasury Bill Investment and Financial Performance of Tier Three Commercial Banks in Kenya

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Crossref

Abstract

Purpose: Bank tier categorization is determined by size, complexity, and regulatory requirements, with criteria varying by country and authority (CBK, 2020). Tier 3 banks are the smallest, providing basic services to individuals and small businesses (CBK, 2020). This study investigated the impact of Treasury bill investment on the financial performance of Tier 3 commercial banks in Kenya.

Methodology: This study was grounded on the theory of Capital Asset Pricing. The study used secondary data from the Central Bank of Kenya and audited financial statements from 2015 to 2022. Focusing on Return on Assets, the findings aimed to help Tier 3 banks optimize financial performance.

Findings: Results showed that investing in treasury bills significantly improved financial performance of tier three commercial banks.

Unique Contribution to Theory, Practice and Policy: The study recommended that policy makers should come up with policies that favor allocating more investment capital towards Treasury bill investment so that banks may seize opportunities to optimize their investment strategies and consequently strengthen their overall financial performance in the market.

Keywords: *Treasury Bill, Investment, Financial Performance, Commercial Banks*

INTRODUCTION

Global financial markets have experienced several financial crises that have had far-reaching effects. The 2008 financial crisis resulted to the collapse of major financial institutions and have significantly impacted economic conditions in major markets worldwide (Waweru and Kalani,2008). Investment diversification is generally considered a prudent strategy for banks to realize sustainable high financial performance (Kiyota, 2011).

Statement of the Problem

Tier three commercial banks ideally should exhibit strong financial performance, characterized by stable and sustainable returns on assets (ROA). However, the annual supervision report from the CBK reveals declining financial results between 2015 and 2022. According to the CBK's findings, the ROA for tier three commercial banks varied significantly during this timeframe. Beginning in December 2015, these banks reported an ROA of 1 percent, which declined to 0.5 percent in December 2016. The trend continued with further decreases to negative 0.9 percent in December 2017 and negative 2 percent in December 2018. Subsequent years saw continued deterioration, with ROA declining to negative 0.4 percent in December 2019 and negative 3 percent in December 2020. However, there was a slight improvement noted in December 2021, where tier three banks recorded an ROA of 3.3 percent. Nevertheless, December 2022 witnessed a sharp decline in ROA, dropping to negative 1.3 percent. Overall, the data indicates a consistent downward trend in financial performance for tier three banks over the study period, with only a modest growth observed in 2021.

Objective of the Study

The objective of the study was to assess the effect of investing in treasury bills on the financial performance of tier three commercial banks in Kenya.

Research Hypothesis

H_{01}: Treasury bills have no significant effect on financial performance of tier three commercial banks in Kenya.
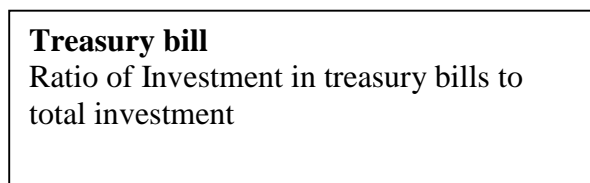
LITERATURE REVIEW

Theoretical Review

Capital Asset Pricing Theory

Capital Asset pricing theory was developed by William Sharpe in the 1960s. Capital Asset Pricing Theory (CAPM) is a financial model that helps investors determine the expected return on an investment based on its level of risk. The central idea of the CAPM is that the expected return of an investment is determined by its sensitivity to risk, hence categorizes risk into systematic and unsystematic risk. Capital Asset Pricing Theory (CAPT), particularly the Capital Asset Pricing Model (CAPM), is instrumental in understanding the rationale behind investing in treasury bills. The CAPM posits that the expected return on an investment is directly related to its risk, as measured by its beta coefficient. Treasury bills, being government-backed securities, are considered virtually risk-free and, therefore, have a beta of zero (Rossi, 2016).

Conceptual Framework

Independent Variables   **Dependent Variable**

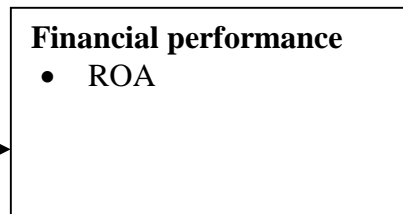| Treasury bill
Ratio of Investment in treasury bills to total investment | → | Financial performance
• ROA |

Figure 1: Conceptual Framework

Research Gaps

The existing empirically reviewed literature indicates that research efforts in the field of banks investment diversification have been conducted, but these attempts have not been comprehensive or conclusive. Previous studies primarily focused on credit and revenue diversification, overlooking investments as components of assets. Additionally, tier three banks were often neglected in earlier research. This study aims to broaden the scope by including previously neglected variables, thereby creating a more comprehensive, detailed, and conclusive analysis. Also, upon review of various relevant literatures, it becomes apparent that few studies have specifically addressed the relationship between tier three banks investment diversification and financial performance in Kenyan context

METHODOLOGY

Research design

The study employed the use of descriptive research design (Crano, 2000).

Census Study

The census included all the 15 tier three commercial banks in Kenya. The list of these banks is shown in the appendix section of this paper.

Data Collection Instruments

A secondary data collection sheet was used to capture information about individual tier three commercial banks. The data covered the timeframe spanning 2015 to 2022.

Data Analysis

In this study data was coded and imported into STATA software for analysis.

Model specification

The study employed a panel regression model since the data was a combination of cross sectional and time series data (Park, 2015).

The main model for statistical analysis was:

$Y_{it} = \beta_0 + \beta_1 X_{it} + \varepsilon$…………… Equation 1

FINDINGS AND DISCUSSIONS

Descriptive Analysis

Table 1: Descriptive Statistics for the Investments of Tier Three Commercial Banks in Kenya

Variables	Obs Stat	Min Stat	Max Stat	Mean Median Stat	Std. Deviation Stat	Skewness Stat	Kurtosis Stat	Sig(P-value) Stat
T-bills Investment	120	0.015	0.952	0.2786786	0.1832254	-1.306	3.234	0.0000
Financial Performance (ROA)	120	0.006	19.81	1.966558	2.708118	0.3624	0.5147	0.0000

The findings indicate that the maximum proportion of investment in treasury bills in Kenya between 2015 and 2022 was 0.952, implying that the highest proportion of investment in treasury bills as of 2022 was 0.952. The minimum proportion of investment in treasury bills was 0.015, implying that the least proportion of investment in treasury bills as at 2022 was 0.015. The mean proportion of investment in treasury bills between 2015 to 2022 was 0.2786786, with a standard deviation of 0.1832254.

The skewness value falling within the range of -1 to +1, as noted by Hair & Alamer (2022) indicates a substantially normal distribution. In this context, a skewness of -1.3059 suggests that the distribution of investment in treasury bills aligns well with typical statistical expectations, contributing to its classification as excellent.

The positive kurtosis value of 3.2343 sheds light on the distribution characteristics of treasury bill data, revealing notable deviations from a standard normal distribution. With positive kurtosis, the distribution is more peaked than normal, implying a greater concentration of data around the mean and heavier tails (Westfall, 2014).

Correlation Matrix

Table 2: Bivariate Pearson Correlation Coefficients

	ROA	FOREX	T. BILL	LOAPORTFOLIO	DEPOSITPLACEMENT
R.O. A	1.000				
T. BILL	0.629 0.01	0.258 0.177	1.000		

The correlation coefficient of 0.629 between Treasury bill investment and financial performance of tier three banks also is an indication of statistically significant strong positive correlation between the two variables. This suggested that as tier three banks record growth in financial performance, there is a significant inclination towards increased treasury bill investment. The relationship was significant at a 5% level of significance since the p-value (0.000) was less than the selected level of significance (0.05).

Regression Analysis

Table 3: Model Summary and Analysis of Variance

SOURCE	SS	DF	MS	Obs=120			
MODEL	324.5358	4	81.13396	F(4,115) =85.679			
RESIDUAL	1.420426	115	0.946951	Prob>F=0.00			
TOTAL	325.9563	119	17.15593	R-squared=0.9956			
				Adj R-squared=0.9945 Root MS=.30773			
ROA	COEF.	St. Err	T	p>|t|	(95%Conf. Min	Interval) Max	
T-bill Investment	1.47444	0.192802	7.64	0.000	-2.8542	2.09468	
Cons	-15.7364	0.09292	-169.36	0.000	15.55347	15.91951	

According to the coefficient table, investment in Treasury bill positively and significantly influenced financial performance of tier three commercial banks in Kenya. This implies that increasing investment in T-bill by 1 unit leads to an increase in return on assets by 1.47444 on average, holding all other variables constant. The results of the findings are in tandem with the findings of Muia and Otii (2020) in Kenya.

$$Y_{it} = -15.73649 + 1.47444 \, X_{it} \ldots\ldots\ldots\ldots \text{Equation 1}$$

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The study findings indicated that investing in treasury bills has a favorable and statistically favorable influence on the financial performance of tier three commercial banks in Kenya.

Recommendations

The findings revealed a significant and positive impact of investment in treasury bills on the financial performance of Tier 3 Commercial Banks in Kenya. As a result, the study recommended that policy makers should come up with policies that favor allocating more investment capital towards treasury bill investment so that banks may seize opportunities to optimize their investment strategies and consequently strengthen their overall financial performance in the market.

Suggested Areas for Further Studies

The study concentrated on Tier 3 Commercial Banks in Kenya. However, there is an opportunity for further research to expand this scope by investigating treasury bill investment and its impact on financial performance in other tiers of financial institutions across the country. Such studies would contribute to enhancing the understanding of the factors that influence returns on investments for emerging players within Kenya's finance industry.

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