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Firm-Specific Factors and Performance of Commercial Banks in Kenya

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Abstract:

The purpose of this research was to determine the effect of credit risk and income diversification on commercial bank performance in Kenya. Impaired loans and total loans were used to measure credit risk. Net interest income and net non-interest income were used to measure income diversification. The study's population consisted of thirty-nine Kenyan commercial banks. The study, which spanned eight years from 2013 to 2020, relied on secondary data from audited annual financial statements. The collected data was analyzed using descriptive statistics and multiple regression analysis. Based on the findings, credit risk has a significant impact on bank performance. An increase in credit risk tends to lower the bank's financial performance in terms of profitability. The study further examined the impact of income diversification on bank performance. According to the regression results, income diversification had a significant impact on bank performance. The analysis concludes that banks and monetary authorities should devise strategies to ensure that asset quality is appropriately maintained and that non-performing loans are regulated and kept to a minimum to improve their performance. Further, given that over-diversification can affect bank performance by increasing the volatility of returns and default risk, there should be a balance between interest income and non-interest revenue as a source of income.

Keywords: Credit risk, income diversification, financial performance, commercial banks

1. Introduction

The primary goal of every financial institution is to operate in a profitable environment to maintain stability and long-term growth. Many countries rely on financial institutions to control the amount of money in circulation by, among other things, accepting deposits, issuing loans, and providing transfer services. When these functions are not performed correctly, they suppress economic growth and destabilize a country's economy (Levine, 2012).

According to Gicharu, Evusa, and Ariemba (2016), bank performance indicates a bank's ability to achieve its objectives through a set of indicators. Increased financial performance reflects the bank's management's efficiency in utilizing its resources to achieve its goals by optimally combining its financial services and set of inputs (Itumo, 2013).

Selected internal factors are aspects that influence how banks operate and perform internally. These aspects vary from bank to bank and are always within the scope that the bank can manipulate (Maingi, 2019). Credit risk is regarded as the most significant financial risk that banks face, owing to losses resulting from defaulted loans. Commercial banks lend money to borrowers in the form of debt, expecting them to repay it. However, there appears to be no guarantee that the funds issued will be repaid by the borrowers, and thus the risk of default is always a possibility for commercial banks' lending loans (Sangmi & Nazir, 2010).

With the reduction in interest margins, commercial banks have been forced to diversify into alternative income sources other than traditional sources of the interest income (Njigo, 2018). In the banking industry, increasing non-interest revenue within a bank's net operating income is income diversification, which should result in high risk-adjusted performance and a low-risk level (Mercieca, Shaeck & Wolfe, 2006). According to Hassan (2017), banks diversify to reduce financial risks and gain a competitive advantage over their competitors by diversifying into new services and products that allow them to enter new markets, thereby diversifying their income from traditional intermediate activities to more innovative non-interest income activities.

1.1. Statement of the Problem

Profit maximization is a firm's primary goal, so profitability is a key criterion in determining a firm's financial position. When making investment decisions, the majority of investors consider a company's profitability. Profitability is thus critical in ensuring a firm's sustainability in rapidly changing market conditions (Malik et al., 2016). Commercial banks control a large portion of Kenya's financial sector because of their critical role in sustaining and encouraging economic development by matching the demand and supply of the financial market. Commercial banks play an important intermediary role by performing basic functions such as accepting deposits, issuing loans, and providing transfer services (Ongore & Kusa, 2013).

Commercial banks' financial performance in Kenya has improved over the last ten years. However, there have been instances where performance has been significantly compromised (CBK, 2019). Commercial banks experienced a 20% decline between fiscal years 2010 and 2015, according to Onuonga (2014). Commercial banks increased their pre-tax profit by 16.6% in the fiscal year 2012/2013, down from 20.6 percent the previous year. Because banks play an important intermediary role, it is critical to understand the impact of bank size on financial performance.

Due to the important intermediary role that banks play and despite sufficient empirical evidence, the findings of most of these prior studies, such as Xu (2012), Obamuyi (2013), Kapaya and Raphael (2016), Ajao and Ogieriakhi (2018), Bhattarai, (2019), Yakubu and Egopija, (2021), Siddique et al., (2021), Rabson and Norman, (2016), Kosumi and Kosumi (2021) and Ashraf et al., (2017) presented contextual, empirical and methodological gaps. Locally, there seems to be little literature available on the relationship between bank-specific factors and performance. Ongore & Kusa (2013), Mumbo (2015), Kamande (2017), and (Muriuki et al., 2019) conducted studies on selected microeconomic factors and bank financial performance in Kenya. The results from the studies had contradicting findings and were inconclusive, thus, creating empirical and conceptual gaps.

Given the significance of their intermediary role, the correlation between selected internal factors and commercial bank performance, and the existing gaps, this study aims to add to the existing literature by investigating the influence of selected internal factors on commercial bank performance in Kenya.

1.2. Significance of the Study

The findings will contribute to the existing literature on how selected internal factors affect bank performance. This could be accomplished by supporting or contradicting existing theories. The study will help bank managers and directors make business decisions. Understanding the effects of these internal variables on financial performance will help make better decisions. The study will provide information to the government. Kenya's banking sector is critical to the country's economic growth. For example, by creating jobs and paying taxes, the government can draft policies with the impact on the industry's performance in mind.

2. Literature Review

This section discusses a summary of previous research done by scholars on factors affecting commercial bank financial performance.

2.1. Theoretical Review

2.1.1. Credit Risk Theory

In 1974, Melton proposed credit risk theory, also known as structural theory. He defined it as an event with a high probability of failure. Default is viewed as a lodged put option presented to a borrower when there are economically attractive opportunities for the borrower to fully exercise their option of not repaying their loan, according to the theory (Lando, 2004).

According to Woolcock and Narayan (2000), lending institutions' strategies shape the demand for credit. The style of the loan contracts may encourage the screening of prospective borrowers and address their opportunistic behavior. As a result, lending institutions would raise the cost of credit to the point where they expected their income to be at its peak. According to Van Gestel and Baesens (2008), increasing the cost of credit raises the expected return for lenders while increasing the likelihood of a borrower defaulting. As a result, the theory influences the development of credit guidelines, which specify the extent and manner in which the credit portfolio will be managed.

This theory is relevant because it encourages lending institutions to obtain all relevant borrower information before extending loans to avoid defaults and thus improve performance. As a result, the theory supports the relationship between Kenya's commercial banks' credit risk and performance.

2.1.2. Modern Portfolio Theory

In the early 1950s, Harry Markowitz developed the portfolio theory (Markowitz, 1952). This was later published by Black and Scholes (1973) in the 1970s, providing banks with a strategy for diversifying their loans and investments. According to portfolio theory, risk-averse investors can build a diversified portfolio to maximize investment return, given the level of market risk.

According to the theory, by establishing an efficient frontier of optimal portfolios, it is possible to achieve the expected return at a given level of risk. This allows investors to evaluate and monitor the performance of their investments and investment professionals to meet the needs of their clients and select portfolios based on expected return and risk tolerance (Fabozzi et al., 2002).

The theory is appropriate for the study because it links income diversification to bank performance. It will also highlight the various systematic and unsystematic risks built into an asset portfolio, affecting the overall future contribution of its earnings.

2.2. Empirical Review

Financial risk contributes to bank profitability volatility. Operational risk, market risk, liquidity risk, and credit risk are all included. The primary financial risk impeding the performance of banks is the risk of default. They lend money to borrowers in the form of debt, expecting them to pay it back. However, there is no guarantee that borrowers will repay the borrowed funds, so the risk of default is always a possibility when commercial banks lend money. Credit risk is a term used by researchers and analysts to describe loan repayment default. Commercial banks regard default risk as the most significant financial threat due to its association with potential losses (Shahid et al., 2021).

With recent reductions in interest margins, commercial banks have been forced to diversify into sources of income other than traditional sources of the interest income (Njigo, 2018). Income diversification in the banking sector refers to increasing an institution's non-interest income within its net operating income, resulting in high risk-adjusted performance and a low-risk level (Sharma & Anand, 2018). It is boosted by commissions and fees on loan advances, treasury notes, sales and leasing income, and foreign exchange earnings (Cytonn, 2016).

Bhattarai (2019) investigated the impact of credit risk on Nepalese commercial banks' financial performance. From 2001 to 2016, panel data from ten banks were used in the study. The regression results indicated a link between the predictor and dependent variables. This implies that the impact of credit risks on profitability can be forecasted. Credit risk had a negative but statistically significant impact on financial performance, according to the model used.

Addai et al. (2022) investigated income diversification and the performance of foreign banks. From 2011 to 2018, they used annual data from 46 Sub-Saharan African countries. According to the study's findings, the characteristics of emerging and regional African banks are not always the same as those of global banks. They discovered that diversifying income improves bank performance and that global and emerging banks outperform regional African and domestic banks.

3. Research Methodology

3.1. Research Design

The study used a causal design. According to Saunders et al. (2009), a causal research design is used to explain the cause-and-effect relationship between the study variables. It seeks to discover the why of an event. The causal research design was chosen because the case under study is free of manipulation and allows for conclusions and inferences because it involves an existing state of affairs over which the researcher has no direct control.

3.2. Variable Operationalization and Measurement

The study variables were operationalized, as shown in the table below.

Variable Type	Variable	Operationalization	Indicator	Measure	Measurement Scale
Dependent Variable	Bank Performance	Measures how well banks utilize their financial assets to generate revenue	Return On Assets (ROA)	Net profit/ Total assets	Ratio
Independent variables	Selected internal factors	These factors measure the ability of a bank's management to influence the stability of the bank.	Credit Risk (CR)	Non-performing loans/ Gross loans	Ratio
			Income diversification	Interest income to Non-interest income	Ratio/ Interval

Table 1: Variable Operationalization

3.3. Target Population and Sampling

According to CBK (2020), there are 41 banking institutions, 39 of which are commercial banks. Thirty-nine banks are the study's target population. A census sampling technique was used, which included all elements with similar characteristics in the study. It is ideal for the research because it reduces sampling errors (Ott & Longnecker, 2015). Thirty-nine banks were included in the sample because those under statutory management and receivership were excluded.

3.4. Data Source and Collection Instruments

From 2013 to 2020, quantitative secondary data was gathered from CBK supervision reports and bank annual financial statements. A document review guide was used to extract data for the study.

3.5. Analytical Model

The study used a regression model to test the relationship between credit risk, income diversification, and the performance of commercial banks in Kenya.

$$BP_{it} = \alpha + \beta_1 CR_{it} + \beta_2 IND_{it} + \varepsilon_{it} \quad \dots \quad 3.1$$

Where:

- **Regression Parameters**

α - constant term

β_1 and β_2 - Explanatory variables coefficients

ε_{it} - Error term

- **Independent variable**

CR – Credit risk

IND- Income diversification

- **Dependent variable**

BP- Bank Performance

4. Results and Discussions

4.1. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	184	.013	.032	-.204	.081
Credit risk	184	.058	.09	-.003	.565
Income diversification	184	.443	.549	1.667	3.878

Table 2: Descriptive Results

The average return on assets (ROA) for commercial banks in Kenya was 1.3 percent between 2013 and 2020, indicating that a significant portion of their assets was used to generate profits. With a standard deviation of 0.32, the minimum and maximum values were -0.204 and 0.81, respectively. The credit risk values were -0.03 and 0.565, with an average and standard deviation of 0.58 and 0.09, respectively. The minimum and maximum values for income diversification were 1.667 and 3.878, respectively, with a mean and standard deviation of 0.443 and 0.549.

4.2. Diagnostic Tests

The selected variables were evaluated to ensure that they met the requirements of multiple regression techniques and that the results were consistent and accurate.

4.2.1. Normality Test

The variables were checked for normality before proceeding with the analysis. Statistical analysis will be difficult if the response variable is not normally distributed until the variable is normally distributed (Sarsfield & Garson, 2017). The p-value for the research variables was greater than 0.05, and the results in table 3 show that bank performance followed a normal distribution.

Variable	Obs	W	V	z	Prob>z
ROA	184	0.718	39.086	8.399	0.075
Credit risk	184	0.618	52.938	9.094	0.145
Income diversification	184	0.575	58.99	9.342	0.136

Table 3: Normality Results

4.2.2. Multicollinearity

When the independent variables have a high correlation, multicollinearity occurs. Using collinearity statistics, the variance inflation factor (VIF) and tolerance were calculated by increasing the standard errors of the coefficients. VIF is a metric that indicates how much multicollinearity inflates the regression coefficient and skews the standard errors. Every VIF value in the table below was less than 5, indicating that the collinearity had no negative consequences. Since all tolerance results were greater than 0.2, the assumption that multicollinearity does not exist was not violated.

ROA	VIF	1/VIF
Income Diversification	1.097	.912
Credit Risk	1.063	.941

Table 4: Multicollinearity Results

4.3. Regression Analysis

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Cr	-.083	.026	-3.22	.002	-.134	-.032	***
Constant	.018	.003	6.48	.000	.012	.023	***
Mean dependent var		0.013		SD dependent var		0.032	
R-squared		0.054		Number of obs		184	
F-test		10.365		Prob > F		0.002	
Akaike crit. (AIC)		-747.809		Bayesian crit. (BIC)		-741.379	

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 5: Credit Risk and Bank Performance

The findings show that credit risk has a significant impact on bank performance. With a -.083 coefficient and a 5% level of significance, this implies that a one-unit increase in credit risk was followed by a 0.83-unit drop in bank performance. With an R-squared value of 0.054, credit risk explains 5.4% of the variation in bank performance, leaving the remaining 94.6% to be explained by other factors. The F value was 10.365, and the p-value was 0.002. The data in the table above were used to develop the following equation.

$$Y_{it} = \alpha + \beta X_{it} + \epsilon_{it}$$

$$BP = 0.018 - 0.083 \text{Credit risk}$$

The findings indicate that credit risk has a negative impact on bank performance in both the long and short term. This is consistent with the findings of Muriithi et al. (2016) and Amin et al. (2014) regarding the negative impact of non-performing loans on bank performance. However, the findings contradict those of Afriyie (2011) and Ogboi (2013), who found that credit risk positively influences bank performance.

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Ind	.02	.004	4.83	.000	.028	.012	***
Constant	.022	.003	7.57	.000	.016	.028	***
Mean dependent var		0.013		SD dependent var		0.032	
R-squared		0.114		Number of obs		184	
F-test		23.313		Prob > F		0.000	
Akaike crit. (AIC)		-759.794		Bayesian crit. (BIC)		-753.364	

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 6: Income Diversification and Bank Performance

Based on the data in the table above, the P-value was less than 0.05, indicating that income diversification had a significant impact on bank performance. The value of r - square was 0.114, implying that changes in income diversification account for 11.4% of the variance in bank performance, with the remaining 88.6% explained by other factors. The coefficient was calculated to determine the degree and direction of the interaction between the predictor and explanatory variable. For every unit increase in income diversification, bank performance increased by 0.02 units. With a p-value of 0.000, the F value was 23.313. The model listed below is represented by the results in the table above.

$$Y_{it} = \alpha + \beta X_{it} + \epsilon_{it}$$

$$BP = 0.022 + 0.02 \text{Income diversification}$$

5. Summary Findings

The study aimed to investigate how selected internal factors affected Kenya's commercial banks' performance. The research specifically investigated the impact of credit risk on bank performance and income diversification impact on commercial bank performance in Kenya. At the 5% level of significance, the results showed that credit risk has a significant impact on bank performance. According to the findings, an increase in credit risk tends to reduce the bank's financial performance in terms of profitability, which is the bank's primary purpose in lending money. To improve financial performance, the bank must provide adequate resources to support the credit risk management team's activities, and assets must be properly allocated. According to the regression analysis, income diversification had a significant impact on bank performance. According to the study's findings, greater income diversification improves bank performance. Bank profits and risk-adjusted profits result from a shift from interest-yielding revenue to non-interest income activities, for example. Income diversification may improve banking financial performance by increasing the bank's income or decreasing the bank's operating costs as a result of diversifying operations. Given that net trading income, fee revenue, and other non-interest income are not always perfectly related to net interest income; increasing income diversification reduces operational income fluctuations.

5.1. Conclusion

The study's findings demonstrate that selected internal characteristics have a significant impact on bank performance. The study also sought to ascertain how credit risk affected the performance of Kenyan commercial banks. The results showed that commercial banks' credit risk, as measured by their non-performing loan ratio, had a significant negative impact on their performance. Banks and monetary authorities should devise strategies to ensure that asset

quality is appropriately maintained and that non-performing loans are regulated and kept to a minimum to improve their performance. Income diversification, on the other hand, was shown to be statistically significant and to have a positive impact on the performance of Kenyan commercial banks. Banks should take advantage of this by creating optimal portfolios that maximize returns. Given that over-diversification can harm bank performance by increasing the volatility of returns and default risk, there should be a balance between interest income and non-interest revenue as a source of income. When deciding where to invest in diversification, banks must consider their core competencies and expertise.

5.2. Recommendations

The following recommendations are made based on the study's findings and conclusions. According to the study, commercial bank management should consider the issue of impaired loans in order to reduce the risk of default. The study's detailed findings on how credit risk affects bank performance, and other commercial bank regulatory requirements will be useful to policymakers. The findings will help investors and regulators understand the importance of income diversification in building shareholder wealth and reducing income volatility. As a result, the study recommends that strict regulations should be put in place to prevent over-diversification, which can harm bank performance and raise the overall risk of bank failure.

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