

Capital and Financial Performance of Commercial Banks in Kenya

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Abstract

Well capitalized commercial banks do not incur penalties imposed by regulatory authorities hence improving their performance. However, despite the mitigating efforts by the central bank of Kenya, commercial banks have recorded a decline in performance as noted by reduction of average return on assets over the period of study, that is; 4.7% in 2013, 3.4% in 2014, 2.9% in 2015, 3.3% in 2016, 2.7% in 2017, 2.7% in 2018, 2.6% in 2019 and 1.7% in 2020. The study sought to establish the effect of capital on performance of commercial banks in Kenya by adopting a causal research design. The target population included 38 commercial banks operating in Kenya between 2013-2020. Secondary panel data was collected from the banking supervision and individual bank's published annual reports. Data analysis involved descriptive statistical analysis so as to determine the trend of the study variables while linear regression was used to test the relationship between capital and financial performance. Findings of the study were presented using tables and narrations while hypotheses were tested at a significance level of 0.05. The study found out that capital significantly influenced financial performance of commercial banks in Kenya. The study recommends that commercial banks should build up their capital base in order to improve performance in the long run.

Keywords: Capital, Performance, Commercial banks

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1. Introduction

Capital is the amount of shareholder's funds that a regulator directs banks to maintain as per the prudential guidelines (Chinoda, Chingombe & Chawuruka, 2015). In Basel accord requirements capital is the main quantitative evaluation criterion for evaluating commercial banks conditions for risk adjustments (Abdalla & Noor, 2014). Capital are assessed on attributes such as risk management incentives adopted by commercial banks. From the literature reviewed, it is evident that capital is an important factor that affects performance of banks (Udom and Onyekachi (2018); Otwani, Namusonge and Nambuswa (2017). Besides that, banks tend to hold more capital above the level required by the regulatory authority or increases their capital when it nears the required level for the fear to incur penalties imposed by regulatory authorities (Assfaw, 2018; Odonkor & Barmor, 2012). Assfaw (2018) noted that banks holding more capital tend to invest in risky portfolios.

Commercial banks of different countries have been struggling to return to profitability after the 2008-2009 global financial crisis. For instance, European union banks (EUB) profitability remained lower than before the crisis time with average return on equity (ROE) declining from 4.4% in 2015 to 3.5% in 2016 and from 6.1% in 2018 to 5.4% in 2019. The ROE seem to be very low since the cost of capital was about 10% for most EUB after the global financial crisis. Non-performing loans ratio (NPLR) were still high in some of EU member countries after the crisis. For example, Greece NPLR in 2016 was 46.9% and in 2017 was 46.5% while Cyprus NPLR in 2016 was 47.4% and in 2017 was 42.7%. In Kenya, the performance of commercial banks recorded a decline in performance as noted by, decrease in average return on assets over the time of the study, that is, 4.7% in 2013, 3.4% in 2014, 2.9% in 2015, 3.3% in 2016, 2.7% in 2017, 2.7% in 2018, 2.6% in 2019 and 1.7% in 2020.

1.2. Statement of the Problem

Commercial banks of different countries have been struggling to return to profitability after the 2008-2009 global financial crisis. In Kenya, the performance of commercial banks recorded a decline in performance noted by, decrease in average return on assets over the time of the study, that is, 4.7% in 2013, 3.4% in 2014, 2.9% in 2015, 3.3% in 2016, 2.7% in 2017, 2.7% in 2018, 2.6% in 2019 and 1.7% in 2020. Empirical studies on the effect of capital on performance have produced mixed findings. For instance, Udom and Onyekachi (2018); Otwani, *et al.* (2017) documented that capital related insignificantly with performance while Assfaw (2018); Odonkor and Barmor (2012) found a negative significant effect of capital on performance and Susan and Nasieku (2016) found an insignificant positive effect of capital on performance. It was on the basis of these inconsistencies that the present study was done on establishing the effect of capital on financial performance of commercial banks in Kenya.

2. Literature Review

The developers of buffer theory of capital were Calem and Rob (1996). The prediction that commercial banks fear

the imposed penalties and hence they tend to maintain higher amount of capital beyond the set limit by regulators is the basis of the theory. Further, the theory suggests that undercapitalized banks tend to rise their capital towards the internally set target level while overcapitalized banks tend to keep their capital at the target level (Guidarra, Soumare and Tchana, 2013). In addition, banks with higher capital than the regulatory level tend to reduce their lending activities hence increasing the lending rate due to higher demand of loans by customers. The held up capital is used by banks to issue loans at bad times in the economy. Moreover, undercapitalized banks tend to either use their retained profits or issue new equity which seems costly to the bank (Krug, Legnick & Wohitmann, 2015). The theory therefore, predicts a positive connection between capital and performance of commercial banks. According to Guidarra, *et al.* (2013) and Tabak, Vasconcelos and Cajueiro (2013) capital adequacy positively influences bank performance. Buffer theory of capital was important in establishing the linkage amid capital and commercial banks financial performance in Kenya. Commercial banks tend to hold more money during times when the economy is growing and use the capital to survive at bad times of growth (Shim, 2013). Additionally, undercapitalized banks borrow more to support their assets compared to well capitalized banks (Munyamonera, 2013; Demirguc-Kunt & Huizinga, 2011). Consequently, the buffer theory of capital was key in establishing the linkage amongst capital and commercial banks financial performance in Kenya.

Udom and Onyekachi, (2018) conducted a study on capital adequacy and commercial bank performance in Nigeria. The capital adequacy was represented by total qualifying capital, capital to risk weighted assets and adjusted shareholders fund, while profitability was denoted by return on assets. The results of the study indicated that all capital dimensions did not influence return on assets. The results were in disagreement with Kipruto *et al.* (2017). However, the study was conducted outside Kenya where the economic, political and social structures are dissimilar from those in Kenya.

Otwani *et al.* (2017) studied the Nairobi Securities Exchange (NSE) company's performance and capital in Kenya. Capital indicators were capital structure, asset size, cash flows and portfolio risks while performance indicators were return on investment and profitability. The results of the study reported insignificant positive effect of all indicators of capital adequacy on all performance measures. The results of the study corroborated the findings by Susan and Nasieku (2016) and Assfaw (2018) studies. However, the study by Otwani *et al.* (2017) considered non-financial companies listed in NSE, Kenya and excluded financial companies which may limit the applicability of the findings in the present context.

Susan and Nasieku (2016) conducted a study on the effect of capital on financial performance of listed commercial banks in Kenya. The findings of the study showed that capital had a positive insignificant effect on performance of commercial banks. The findings of the study agreed with those of Udom and Onyekachi, (2018) study which showed that capital has no effect on performance. However, Susan and Nasieku (2016) study considered only listed banks which may hinder generalization of the findings to all commercial banks. The present study used all commercial banks operating in Kenya from 2013-2020.

Moussa *et al.* (2013) examined the impact of capital on financial performance of banks in Tunisia for the period between 2000 and 2009. Capital was measured using equity to total asset ratio where measures of financial performance were return on assets, return on equity and net interest margin. The study established that capital had a positive relationship with all performance measures, but only the relationship with return on assets was statistically significant. The results of the study agreed with the findings by Assfaw (2018) study. However, the study was carried out in Tunisia where conditions are different from those dominant in Kenya. Besides that, the study operationalized capital as equity capital to total assets while the present study defined capital as shareholder's funds to total risk weighted assets.

Odonkor and Barmor (2012) assessed the relationship between capital adequacy and performance of Ghanaian banks. Capital adequacy was measured as capital adequacy ratio while return on equity and return on assets, were measures of performance. The study reported a statistically insignificant negative relationship with return on assets whereas significant negative relationship with return on equity in association with capital adequacy. However, the findings of the study were inconsistent with the findings by Assfaw (2018) which reported a positive and significant effect of capital on performance. The inconsistencies in the findings motivated the researcher to undertake a similar study in a Kenyan context.

Conceptual framework

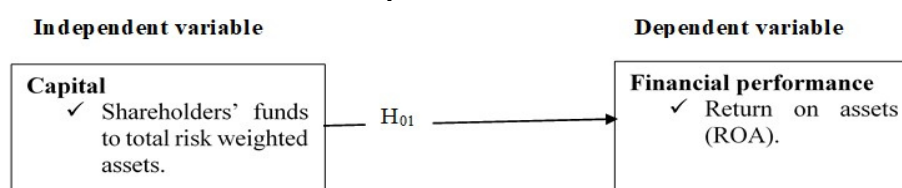


Figure 1. Conceptual framework

Research Hypothesis

H₀₁: Capital has no significant effect on financial performance of commercial banks in Kenya.

3. Research Methodology

3.1 Research Design

Casual research design was used to find the extent and the nature of cause-and-effect relationships prevailing between capital and financial performance. According to Zikmund, Babin, Carr and Griffin (2013) causal research design is used to assess what effect a specific change will have on prevailing norms and assumptions. Thus, capital as a regressor variable was varied to establish the change in the criterion variable, financial performance. Research design consists of how the research objective was achieved. That is, it shows how the data was collected, measured and analyzed (Saunders *et al.*, 2012).

3.2 Empirical Model

$$ROA_{it} = \beta_0 + \beta_1 CA_{it} + \varepsilon_{it} \dots \dots \dots (1)$$

Where;

ROA_{it} = Financial performance of commercial banks.

β_0 = Constant.

CA_{it} = Capital.

β_1 =Coefficient of capital.

ε_{it} = Error term.

Table 1: Operationalization and measurement of study variables

Type	Variable	Operationalization	Measurement	Measurement scale
Dependent	Financial performance	Profitability	ROA=Earnings before interest and tax/Total assets	Ratio
Independent	Capital	Equity capital	Capital=Shareholder's funds/Total risk weighted assets	Ratio

3.3 Target Population

The target population of the study consisted of 38 commercial banks operating in Kenya over the period of study (2013-2020).

3.4 Data Collection Procedure

The study used panel data consisting of both time series and cross sectional data. This enhanced the quality and quantity of data which would be impossible when using either cross-section or time series data only (Greene, 2011). The data for all the study variables were extracted from banking supervision reports and published financial reports of all commercial banks covering years 2013-2020 using document review guide.

3.5 Data Analysis and Presentation

Data was analyzed using descriptive statistics such as minimum and maximum, standard deviation and mean; inferential statistics including; panel regression analysis, correlation analysis. Descriptive statistics were used to explain the patterns of capital and performance of commercial banks in Kenya while the existence of the relationships between capital and financial performance measure were tested using correlation analysis and panel linear regression models after accounting for the violations of classical linear regression assumptions. Hausman specification test was done to decide whether to fit random or fixed effect model.

4.0 Empirical Results and Discussion

Table 2 shows descriptive statistics for the data used in the analysis.

Table 2: Descriptive Statistics

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Financial Performance	284	.0261067	.0381216	-.1980881	.4938343
Capital	284	.2115947	.1639331	0.0000025	2.130206

The descriptive statistics in table 2 shows that financial performance had a mean of 0.03 with a minimum of zero and a maximum of 0.5. The positive value of financial performance indicates that overall the banking industry has positive return on their assets. Capital had a mean of 0.2 with a minimum of zero and a maximum of 2.1.

4.2 Diagnostic Test Results

The study conducted the following diagnostic tests; panel unit root, normality, heteroscedasticity, autocorrelation

and model specification.

Panel Unit Root Test

The study utilized Fisher-type tests of panel unit root because the panel was unbalanced and the individual series had gaps.

Table 3: Panel Unit Root Test

Variable	Tests	Level		First difference	
		Statistic	p-value	Statistic	p-value
Financial performance	Inverse Chi-Squared	93.2791	0.0644	107.4934	0.0027
	Inverse Normal	-0.1466	0.4417	0.2911	0.6145
	Inverse Logit	-0.2029	0.4197	-0.4693	0.3197
	Modified Inv. Chi-Squared	1.5847	0.0565	3.1688	0.0008
Capital	Inverse Chi-Squared	195.6957	0.0000		
	Inverse Normal	-8.0861	0.0000		
	Inverse Logit	-8.4011	0.0000		
	Modified Inv. Chi-Squared	10.0033	0.0000		

The results in table 3 shows that capital had p-values of zero implying the rejection of the null hypothesis that all the panels contain a unit root while financial performance first difference was obtained thus avoiding spurious results. Therefore, capital and financial performance were integrated in the order of zero and one respectively (Greene, 2011).

Table 4: Heteroscedasticity Test

H0: Data is homoscedastic Chi2 (37) = 3.2e+05 Prob>Chi2 = 0.0000
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The test results in table 4 shows that F test value of 3.2e+05 with the p-value was 0.000<0.05. This implied that the rejection of the null hypothesis that the data was homoscedastic. The study used the robust standard errors option to solve heteroscedasticity problem.

Table 5: Autocorrelation Test

H0: No first- order autocorrelation F (1, 35) = 2.394 Prob > F = 0.1308

The results in table 5 shows that F test value of 2.394 with a p-value of 0.1308<0.05. The study therefore failed to reject the null hypothesis that the data contained first order autocorrelation since the p-value was above 0.05 significance level.

Model Specification Test

The researcher had to apply either random or fixed effects model hence the decision was made using Hausman specification test (Baltagi, 2013). The null hypothesis stated that random model was preferred to fixed model. Model specification test reported a chi square of 12.35 with a p-value of 0.0063<0.05. The results indicated that the chi square value was statistically significant at 5%. Hence the null hypothesis that random model was preferred to fixed model was rejected. The study concluded that fixed effect model was consistent. The researcher then tested for panel effects in the data by using Breusch and Pagan Lagrangian multiplier test for random effects. The null hypothesis stated that ordinary least square model was preferred to fixed effect model. The chibar2 value was zero with a p-value of 1.0000 hence the null hypothesis that ordinary least square model was preferred to fixed effect model was not rejected. The researcher concluded that the data did not have panel effects and thus employed ordinary least square model (Greene, 2011).

Table 6: Results of correlation analysis

	Financial Performance	Capital
Financial Performance	1.0000	
Capital	0.0836	1.0000

From the output in table 6 the study found that financial performance was positively related with capital (r=0.0836).

4.2 Inferential statistics: Regression analysis and Hypothesis testing

The following hypothesis was tested by the study.

H01: Capital has no significant effect on financial performance of commercial banks in Kenya.

Table 7: Effect of capital on financial performance

	Coefficient	Robust Std. Err.	t	P>t
Capital	.024888	.0114144	2.18	0.030
Constant	.0044411	.0056281	0.79	0.31
Dependent variable= Financial performance (ROA)				

As shown in table 7, the coefficient of capital ($\beta=.024888$, $p=0.030<0.05$) indicates that capital related significantly with financial performance of commercial banks in Kenya. This implies that the null hypothesis was rejected at 5% significance level. The current study finding agreed with those of Assfaw (2018) and Moussa *et al.* (2013) which indicated capital and performance were significantly related. However, the study finding disagreed with those of Odonkor and Barmor (2012), Chinoda *et al.* (2015) whose results showed that capital and financial performance association was insignificant. The contradictions in the findings could be due to contextual differences.

5.0 Conclusion and Recommendations

This study analyzed the effect of capital on financial performance of commercial banks in Kenya using positivism research philosophy and causal research design. Based on the hypothesis, the study found that capital had significant effects on financial performance of commercial banks in Kenya. The study recommends that commercial banks should build up their capital base to improve performance.

A similar study can be conducted to investigate the effect of capital on performance of other financial and non-financial institutions.

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