International Journal of Education and Social Science Research

ISSN 2581-5148

Vol. 5, Issue.5, Sep-Oct 2022, page no. 152-161

To cite this article: Ruth Mathina, Ambrose Jagongo and Lucy Wamugo (2022). MODERATING EFFECT OF MARKET SHARE ON THE RELATIONSHIP BETWEEN SUPERVISORY REVIEW, MARKET DISCIPLINE AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA, International Journal of Education and Social Science Research (IJESSR) 5 (5): 152-161 Article No. 673, Sub Id 1080

MODERATING EFFECT OF MARKET SHARE ON THE RELATIONSHIP BETWEEN SUPERVISORY REVIEW, MARKET DISCIPLINE AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

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DOI: http://dx.doi.org/10.37500/IJESSR.2022.5510

ABSTRACT

Well-functioning commercial banks contributes directly to the growth of any economy. However, despite the mitigating efforts by the central bank of Kenya, commercial banks have recorded a decline in financial performance as shown by reduction in return on assets over the period of study (2013-2020), 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 supervisory review and market discipline on financial performance of commercial banks in Kenya. The target population comprised of forty-three commercial banks from which a sample of thirty-eight commercial banks was obtained using purposive sampling. Data analysis involved descriptive statistics and inferential analysis. The 5% significance level was used to test the research hypotheses. The panel regression findings showed that supervisory review had a positive significant effect on financial performance of commercial banks in Kenya. Market discipline had a positive and insignificant effect on financial performance of commercial banks in Kenya. Market share had a negative and insignificant moderating effect on the relationship between supervisory review, market discipline and financial performance of commercial banks in Kenya. The conclusion of the study was that supervisory review and market discipline positively affected financial performance of commercial banks in Kenya. The study thus, recommends that commercial banks in Kenya should adhere to the prudential guidelines on supervisory review so as to enhance financial performance in the long run.

KEYWORDS: supervisory review, market discipline, financial performance, commercial banks

1. INTRODUCTION

Financial performance is the ability of a firm to employ the available resources efficiently in order to generate revenue. [19] defined financial performance as the bank capability to create maintainable profits or it's the ability of a bank to employ available resources to increase shareholders' wealth and generate sustainable profits. The current study thus, defined financial performance as the use of the resources invested by the shareholders efficiently and effectively to generate revenue. Commercial banks financial performance was mainly arrived using ROA since it considers all the assets utilized

to generate revenue for the firm, in addition, the banks largest assets consist of bank loans and they are the largest source of earnings. Thus, the per Kenyan shilling return on assets is key to the commercial banks management [16]. Moreover, CBK employs return on assets to assess the financial performance of commercial banks in Kenya [4]. The present study therefore used return on assets to measure financial performance of commercial banks in Kenya. European union banks (EUB) profitability remained lower than before the crisis time with the 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 [8], [15]. Financial performance of commercial banks in Kenya declined as shown in table 1.

Table 1: Return on assets (ROA)

Year	2013	2014	2015	2016	2017	2018	2019	2020
ROA (%)	4.7	3.4	2.9	3.3	2.7	2.7	2.6	1.7

Table 1 indicates that return on assets on 2013 was at 4.7% which reduced to 3.4% in 2014 and further to 2.9% in 2015. In 2016 return on assets raised to 3.2% a time when interest capping was introduced by the government of Kenya. But in 2017, return on assets dropped to 2.7%, remained constant in 2018 at 2.7% while in 2019 return on assets, further reduced to 2.6% a time when the government of Kenya abolished the interest capping. In 2020, return on assets reduced further to 1.7%.

Supervisory review is the standard adopted by commercial banks to evaluate the extent to which commercial banks are adhering to stipulated rules guiding banking operations in their respective countries [9]. Supervisory review ought to be implemented by both regulatory agencies and respective commercial banks. To achieve supervisory review standards, commercial banks should invest in reasonable risk levels. From literature reviewed, it was noted that supervisory review increased financial performance of commercial banks [3]. The present study operationalized supervisory review as the oversight of banks in order to identify insecure practices which can be risky to economy or banks.

Market discipline is financial disclosure of information in the published reports of commercial banks so as to aid in decision making by stakeholders [11]. Market discipline refers to non-financial information that a bank should disclose to the public as required by regulatory body which is the central bank [2]. It enhances measures adopted by commercial banks for prudent risk management. Moreover, it amplifies corporate transparency and provides a tool for rewarding and punishing non-performance amongst managers [11]. It is mostly evaluated through extent of voluntary disclosure and risk management strategies adopted by banks [1]. Market discipline was measured using corporate disclosure index where if an item was disclosed scored a 1 or a 0 otherwise [1].

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ISSN 2581-5148

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1.2 Statement of the Problem

Financial performance of commercial banks in Kenya has reduced between 2013 to 2020 as shown by return on assets; 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 [6]. In addition, charter house bank, imperial bank and chase bank were put under statutory management in 2006, 2015 and 2016 respectively [4], [5]. The reduction in financial performance of commercial banks in Kenya may be linked to poor execution of supervisory review policies and market discipline policies. In view of this, the researcher sought to establish the moderating effect of market share on the relationship between supervisory review, market discipline and financial performance of commercial banks in Kenya. Previous studies have produced contradicting results on the effect of supervisory review on financial performance. For instance, [10] documented a positive and significant effect of supervisory review on financial performance whereas [13] established a negative and significant influence of supervisory review on financial performance. Moreover, the studies on the effect of market discipline on financial performance only concentrated on one aspect of disclosure of information; i.e. corporate governance [18] and corporate social responsibility [14]. The contradiction in findings may be attributed to contextual differences. Further, most of the previous studies are cross-country level analysis and not bank level analysis [3], [10]. Moreover, locally, there are few studies if any on the effect of supervisory review, market discipline on financial performance of commercial banks in Kenya. It is against this background that the study sought to fill in the existing gap and established the moderating effect of market share on the relationship between supervisory review, market discipline on financial performance of commercial banks in Kenya.

2.1 Empirical review: supervisory review and financial performance

[12] did research on supervisory review and bank financial performance in United States. The findings informed that supervisors of large banks in a district recorded more hours as compared to small banks. Additionally, increased supervision lead to less volatility in earnings and less risky lending. The study by [7] also identified supervisory review as a vital factor in improving the financial performance and reducing the riskiness of a bank. However, the study by [12] was done in a developed country. [17] studied on the influence of bank supervisory review on bank financial performance in United States. However, the study of [17] was done in an advanced country. [10] investigated regulations influence on supervisory review on European banks profitability. Banking regulations had significant positive effect on profitability. Also, there was significant positive effect of capital adequacy on profitability. Thirdly, increased banking regulations enhanced commercial banks financial performance. The study by [10] however, was a cross-country level analysis and not bank level analysis.

2.1.1 Empirical review: market discipline and financial performance

[2] studied the voluntary disclosures level among commercial banks listed in Bahrain bourse. The study reported that voluntary disclosure in Bahrain bourse as a whole was equal to 41% which indicated low disclosure of information by commercial banks in Bahrain. [19] established that when companies disclose more information it enhances their financial performance and also assists investors

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to make informed decisions during investment. However, [2] excluded supervisory review. [14] analyzed the impact of disclosure of corporate social responsibility (CSR) on share prices of listed companies in United Kingdom. The findings of the study indicated that share prices increased with higher levels of CSR disclosure. The results of the study supported the results by [19]. However, the [14] study was done outside Kenya. In addition, the study was involved in CSR disclosures of listed non-financial companies and not information disclosure of financial companies. Besides that, the study did not incorporate a moderator variable.

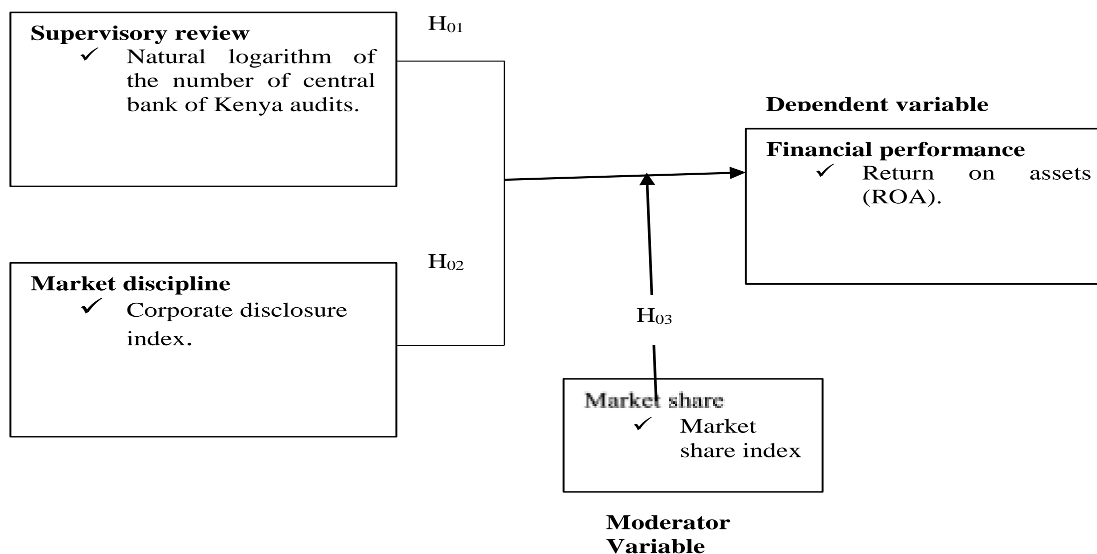

Figure 1: Conceptual Framework

Research Hypothesis

H_{01}: Supervisory review has no significant effect on financial performance of commercial banks in Kenya.

H_{02}: Market discipline has no significant effect on financial performance of commercial banks in Kenya.

H_{03}: Market share has no significant moderating effect on the relationship between supervisory review, market discipline and financial performance of commercial banks in Kenya.

3.1 Empirical Model

$$ROA_{it} = \beta_0 + \beta_1 SR_{it} + \beta_2 MD_{it} + \varepsilon_{it} \quad \dots (1)$$

Where;

ROA_{it}= Financial performance of commercial banks.

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β_0= Constant.

SR_{it}= Supervisory review.

MD_{it}= Market discipline.

ε_{it}= Error term.

$$ROA_{it} = \beta_0 + \beta_1 SR_{it} + \beta_2 MD_{it} + \beta_3 M_{it} + \varepsilon_{it} \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots . (2)$$

$$ROA_{it} = \beta_0 + \beta_1 SR_{it} + \beta_2 MD_{it} + \beta_3 M_{it} + \beta_4 (M * SR)_{it} + \beta_5 (M * MD)_{it} + \varepsilon_{it} \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots .. \dots (3)$$

Where;

$\beta_3 M_{it}$= Market share.

$(M * SR)_{it}$= Interaction term between market share and supervisory review.

$(M * MD)_{it}$= Interaction between market share and market discipline.

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$=Regression coefficients.

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	Supervisory review	Oversight of banks in order to detect unsound practices that can affect a bank as well as whole economy.	Natural logarithm of number of central bank of Kenya audits to an individual bank.	Ratio
	Market discipline	Commercial banks' disclosure of financial and non-financial information to the public.	CDI= $\frac{\text{individual bank's scores attained}}{\text{maximum scores attainable by a bank}}$ Where: CDI is the corporate disclosure index	Ratio

Moderator	Market share	Market share index (MSI)	MSI= Weighted composite index measured by capital, assets, deposits, loan and deposit accounts.	Ratio

3.2 Target Population

The target population for the study consisted of forty-three commercial banks operating in Kenya over the period of study (2013-2020). However, only thirty-eight commercial banks were selected since five were under statutory management.

4.0 EMPIRICAL RESULTS AND DISCUSSION

Table 2: Descriptive Statistics

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Financial Performance	284	.0261067	.0381216	-.1980881	.4938343
Supervisory Review	282	0.4447629	0.4709894	0	1.098612
Market discipline	276	0.7048395	0.3025226	0	0.9285714
Market Share	284	2.640634	3.318887	0	14.4

The results in table 2 show that return on assets had a mean value of 0.0261067, a standard deviation of 0.0381216. while supervisory review had a standard deviation of 0.4709894 with a mean value of 0.4447629, market discipline had a mean value of 0.7048395 and a standard deviation of 0.3025226 and finally, market share had a mean value of 2.640634 and a standard deviation of 3.318887.

4.1 Model Specification Test

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 $0.0063<0.05$. Hence the null hypothesis was rejected. Breusch and Pagan Lagrangian multiplier test was applied to test for panel 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 was not rejected.

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4.4 Inferential statistics: Regression analysis and Hypothesis testing

The following hypotheses were tested by the study.

H_{01}: Supervisory review has no significant effect on financial performance of commercial banks in Kenya.

H_{02}: Market discipline has no significant effect on financial performance of commercial banks in Kenya.

H_{03}: Market share has no significant moderating effect on the relationship between supervisory review, market discipline and financial performance of commercial banks in Kenya.

Table 3: Effect of supervisory review, market discipline on financial performance

	Coefficient	Robust Std. Err.	t	P>t
Supervisory Review	0.0297212	0.0055910	5.32	0.000
Market discipline	0.004552	0.0056074	0.81	0.418
Constant	.0044411	.0056281	0.79	0.31
Dependent variable= Financial performance (ROA)				

The following model was formulated based on the analysis in table 3.

$$ROA_{it} = 0.0044411 + 0.0297212SR_{it} + 0.004552MD_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (4)$$

In table 3 supervisory review coefficient (β=0.0297212, p-value of 0.000<0.05) indicates supervisory review has a positive and significant effect on financial performance (ROA) of commercial banks in Kenya hence the null hypothesis **H_{01}** was rejected. Moreover, the coefficient of market discipline (β=0.004552, p-value of 0.418>0.05) indicates that market discipline has a positive insignificant effect on financial performance (ROA) of commercial banks in Kenya, implying that the null hypothesis **H_{02}** was not rejected.

H_{03}: Market share has no significant moderating effect on the relationship between supervisory review, market discipline and financial performance of commercial banks in Kenya. **H_{03}** was tested using Baron & Kenny approach as shown in tables 4 and 5.

Table 4: Market share as an explanatory variable on ROA

	Coefficient	Robust Std. Err.	t	P>t
Supervisory Review	.0034089	.0141661	0.24	0.810
Market Discipline	.0053514	.0056849	0.94	0.347
Market Share	.004546	.003138	1.45	0.149
Constant	.004173	.0065277	0.64	0.523
Dependent variable= Financial performance (ROA)				

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The following model 5 was formulated based on the results in table 4.

$$ROA_{it} = 0.004173 + 0.0034089SR_{it} + 0.0053514MD_{it} + 0.004546M_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots. (5)$$

As shown in table 4, market share coefficient (β=0.004546, p-value of 0.149>0.05) indicates a positive and an insignificant effect of market share on return on assets.

Table 5: Market share as a moderator variable on ROA

	Coefficient	**Robust Std. Err.**	**t**	**P>t**
Supervisory review	0.002039	0.0148653	0.14	0.891
Market discipline	0.0079341	0.0091747	0.86	0.388
Market share	0.0128236*	0.00577	2.22	0.027
Interaction between supervisory review and market share	-0.0054815	0.0034023	-1.61	0.108
Interaction between market discipline and market share	-0.0009128	0.0020246	-0.45	0.652
Constant	-0.0081872	0.0099765	-0.82	0.413
Dependent variable= Financial performance (ROA) *Denotes 5% level of significance.				

Based on the analysis in table 5 the following model 6 was formulated.

$$ROA_{it} = -0.0081872 + 0.002039SR_{it} + 0.0079341MD_{it} + 0.0128236M_{it} - 0.0054815(M * SR)_{it} - 0.0009128(M * MD)_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.6$$

As shown in table 5, market share coefficient (β=0.0128236, p-value of 0.027<0.05) displays that market share has a

positive significant effect on returns on assets. Coefficient of the interaction between supervisory review and market share (β=-0.0054815, p-value of 0.108>0.05) has a negative and insignificant effect on ROA. Therefore, market share does not moderate the relationship between supervisory review and financial performance. Coefficient of the interaction between market discipline and market share (β=-

0.0009128, p-value of 0.652>0.05) has a negative and an insignificant effect on ROA. Thus, market share does not moderate the relationship between market discipline and financial performance.

5. RECOMMENDATIONS

The study recommends that central bank of Kenya should design banking financial policies that increase the number and quality of audit reviews. Further, commercial banks should adhere to the prudential guidelines on supervisory review so as to enhance financial performance.

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