Journal of Finance and Economics, 2022, Vol. 10, No. 1, 1-6
Available online at http://pubs.sciepub.com/jfe/10/1/1
Published by Science and Education Publishing
DOI:10.12691/jfe-10-1-1

Effect of Market Discipline on Financial Performance of Commercial Banks in Kenya

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Received December 21, 2021; Revised January 22, 2022; Accepted January 31, 2022

Abstract Commercial banks practicing improved information disclosure in their annual reports have recorded better performance. However, despite the mitigating efforts by the central bank of Kenya, commercial banks have recorded a decline in performance as shown by reduction in 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 market discipline on performance of commercial banks in Kenya. Causal research design was employed. 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 market discipline and financial performance. The decision whether to fit a random or fixed effects model was determined after running Hausman specification test. Findings of the study were presented using tables while hypotheses were tested at 0.05 significance level. The study found out that market discipline insignificantly influenced financial performance of commercial banks in Kenya. The study recommends, that the managers of commercial banks should ensure that they strictly adhere to the regulations on information disclosure set by the central bank of Kenya in order to enhance their financial performance in the long run although the influence was not significant.

Keywords: *market discipline, performance, commercial banks*

Cite This Article: Ruth Mathina, Ambrose Jagongo, and Lucy Wamugo, "Effect of Market Discipline on Financial Performance of Commercial Banks in Kenya." *Journal of Finance and Economics*, vol. 10, no. 1 (2022): 1-6. doi: 10.12691/jfe-10-1-1.

1. Introduction

Market discipline is commercial banks financial disclosure of information in their annual reports which aids in decision making by stakeholders [1]. 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 [1]. It is mostly evaluated through extent of information disclosure, corporate governance and risk management strategies adopted by banks [3]. Market discipline have been connected with increased performance of banks [4,5].

Globally, commercial banks have been struggling to sustain their profitability after the 2008-2009 global financial crisis. For instance, European union banks (EUB) profitability remained lower than before the crisis time with 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) was still high in some of EU member countries after the financial 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 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.

1.1. Statement of the Problem

Globally, commercial banks have made efforts to return to profitability after the 2008-2009 global financial crisis. In Kenya, the performance of commercial banks recorded a decline in performance as shown by reduction 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. The linkage between market discipline and performance showed inconclusive results, for example; [1,6] showed a positive effect of market discipline on performance while Ref. [3] reported a negative effect of market discipline on

performance. Additionally, some studies defined market discipline as financial disclosure [3,4,6] while other studies defined market discipline as corporate governance disclosure [7]. Moreover, most studies were conducted in a different sector other than financial sector [8]. It was on the basis of inconsistencies in results, conceptual gaps that the present study was done on establishing the effect of market discipline on financial performance of commercial banks in Kenya.

2. Literature Review

2.1. Theoretical Literature Review

The first proponents of agency theory were Ref. [9,10] and Reference [11] and later advanced by [12]. Agency relationship is a covenant where one party or parties (principal) involve another party (agent) to implement tasks on their behalf which includes delegating to agent authority. The mostly identified agency relationship is the one between shareholders and company executives being as principals and agents respectively. This theory argues that agency problem occurs due to information asymmetry, limited earnings, risk preference, separation of ownership and control, duration of involvement as well as moral hazard [9,10,11]. Agency theory argues that separation of ownership from control makes it difficult for the contributors of capital to monitor properly the behavior of managers in misusing the assets of the firm for their own benefits. Moreover, the owners and the managers of the organization have different risk preferences, that is, the owners are risk takers while the managers are risk averse [10]. In addition, the managers are present in an organization for a limited time and try to maximize their own benefits over that period before moving to a new organization. Also, managers are important stakeholders of a company but they only get limited earnings inform of compensation [9,11]. Further, in relation to information asymmetry, the managers manage the company and thus they know all the information concerning the owners' business and the owners depend on them to obtain information relating to their business. In addition, in relation to moral hazard, the owners better understand the risks involved in the projects invested while the managers are not aware of the risks the projects are exposed to but carry out their duties in good faith [12]. The theory further provides that, when there is asymmetric information between the agent and the principal, it may lead to conflict between them and may be minimized by disclosure of more information in final reports of the firm [11]. The agency theory was criticized by [13] in that, it only put into consideration the agency cost, agency conflict and rearrangement of the principal and agent interests in order to reduce the agency problems. In addition, Ref. [14] noted the limitations of the agency theory as; it considers the goal of the proprietors of the firm as maximization of their wealth but their role in the firm is limited. Second, the directors' role in the firm is considered as monitoring the managers only. Third, the managers of the firm competences are ignored and only considered as opportunistic. The agency problems may be minimized by increasing the disclosure of information so as to reduce information asymmetry between the executive officers and the shareholders of the bank hence increasing the performance of the banks [15]. Larger firms tend to disclose more information than smaller firms so as to reduce agency costs hence increasing the profitability of the firms [1]. Agency theory claims that profitability is enhanced when more information is disclosed in the annual accounts of the firm [4]. Reference [16] noted that managers tend to give more information to the public so as to increase their pay. From literature reviewed, market discipline has been identified as a key factor that affect profitability of a firm [3,6]. Commercial banks disclose information to the shareholders, other stakeholders and investors in their annual reports. According to Ref. [5] disclosure of information in the annual reports reduces the information asymmetry between managers and investors and also increases the value of a bank. Reference [5] noted that large bank avails detailed information in yearly reports in contrast to banks that are small. Based on the opinions of the theory the study established the influence of market discipline on financial performance of commercial banks in Kenya.

2.2. Market Discipline and Financial Performance

Ref. [1] explored association amongst commercial bank characteristics on voluntary disclosure in Libya. Voluntary disclosure and size, ownership, age and listing status shown a positive relationship per the study results while liquidity, profitability portrayed a significant negative relationship with voluntary disclosure. However, the study by reference [6] findings did not agree with the findings by Ref. [1] who reported a significant positive effect of voluntary disclosure on performance. The contradictions in findings motivated the researcher to undertake the current study to determine the effect of market discipline on the financial performance of commercial banks in Kenya. Besides, Ref. [1] study, profitability and disclosure were independent and dependent variables respectively while in the current study, disclosure and profitability were explanatory and criterion variables respectively.

Reference [16] analyzed the influence of corporate social responsibility (CSR) disclosure on share prices of United Kingdom listed companies. The findings of the study indicated that share prices increased with higher levels of CSR disclosure. Moreover, the study noted that CRS disclosures by companies in other industries showed a weak association with share prices unlike CSR disclosures by companies in environmentally sensitive industries which showed a stronger association with share prices. The study concluded that disclosure of information to the public helped investors to make informed investment decisions. However, the Ref. [16] did a study in a different context from Kenyan context. In addition, the study was involved in CSR disclosures of non-financial companies and not information disclosure by financial companies like commercial banks. Furthermore, the study defined market discipline as corporate social responsibility and overlooked other non-financial and financial measures of market discipline.

Ref. [6] investigated nexus of voluntary disclosure and financial performance of quoted companies at Nairobi Securities Exchange (NSE), Kenya. The results of the study showed that, voluntary disclosure had a positive significant relationship with return on investment. However, the study by reference [6] concentrated on listed non-financial companies and excluded financial companies like commercial banks which may limit the use of results in the current context.

Reference [7] determined the impact of the disclosure of corporate governance practices on firm performance, bankruptcy risk and dividend policy. The study results reported that corporate governance practices disclosures had positive effect on firm performance, no significant effect on bankruptcy risk and dividend payouts. However, the study by Ref. [7] involved public listed non-financial companies and overlooked financial companies which may hinder the use of the findings in the current context. Besides that, the study operationalized market discipline by use of corporate governance and omitted other financial and non- financial proxies.

Reference [3] investigated financial reporting disclosures on financial performance of listed manufacturing companies in Nigeria. The financial reporting disclosures were represented by type of auditor's report, value added percentage retained for expansion, board size and timeliness but financial performance was represented by return on equity. All the measures of financial reporting disclosures showed significant positive relationship with financial performance except percentage of value added retained for expansion which showed statistically insignificant negative relationship with financial performance. However, Ref. [3] study used listed manufacturing companies and financial companies which may hinder generalization of the results to other sectors. Besides that, the study disregarded non-financial measures of market discipline and only used one financial measure, that is, financial reporting.

Ref. [5] investigated the effect of information disclosures on default risk and bank value using bank holding companies in United States. Information disclosure was measured using a self-constructed disclosure index of risk exposures, default risk was measured using enterprise risk and expected probability of default while bank value was measured using book market equity to book equity value, return on assets and Sharpe ratio. The findings of the study indicated that higher disclosure reduced the probability of default risk and increased the value of the bank. Likewise, the study noted that higher disclosure reduced information asymmetry among managers of the bank and investors thus banks practicing greater disclosure performed better [8]. However, the study by reference [5] conceptualized information disclosure as risk disclosure but the present study conceptualized it as both non-financial and financial information disclosures.

Reference [8] investigated the effect of central bank regulations on performance of microfinance institutions in Kenya. Capital adequacy, operational, statutory and financial reporting requirements proxied central bank regulations while return on assets, return on equity and profit after tax proxied performance. A positive significant effect of capital adequacy on all performance measures was reported while operational, statutory and financial reporting requirements reported significant negative effect on all measures of performance. However, the study by Ref. [8] concentrated on microfinance institutions and not commercial banks which may limit the applicability of the findings in the current context.

2.3. Conceptual Framework

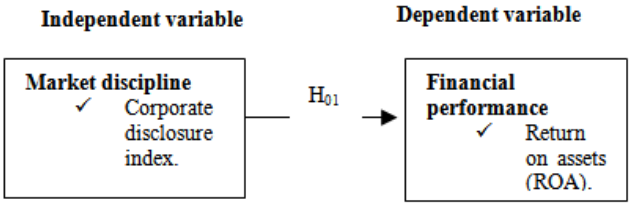

Figure 1. Conceptual Framework

2.4. Research Hypothesis

H01: Market discipline 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 relationship prevailing between market discipline and financial performance. According to reference [17] causal research design is used to assess what effect a specific change will have on prevailing norms and assumptions. Thus, market discipline as a regressor variable was varied to establish the change in the criterion variable, financial performance.

3.2. Empirical Model

$$ROA_{it} = \beta_0 + \beta_3 MD_{it} + \varepsilon_{it}$$

Where;
ROA_{it}= Financial performance of commercial banks.
β_0= Constant.
MD_{it}= Market discipline.
β_3=Coefficient of market discipline.
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	Market Discipline	Financial and non-financial information disclosures.	Corporate disclosure index (CDI)	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 [18]. The data for all the study variables were extracted from published financial reports of all commercial banks and banking supervisory reports 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, mean and inferential statistics including; correlation analysis, panel regression analysis. Descriptive statistics were used to explain the patterns of market discipline and performance of commercial banks in Kenya while the existence of the relationship between market discipline and financial performance measures were tested using correlation analysis, 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. Research Findings and Discussion

4.1. Descriptive Statistics

Table 1 shows descriptive statistics for data used in the analysis.

Table 2. Descriptive Statistics

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Financial Performance	284	.03	.04	-.20	.49
Market Discipline	276	.70	.30	0	.93

The descriptive statistics in Table 2 show that financial performance had a mean of 0.03 with a minimum of zero and a maximum of 0.49. The negative minimum value of financial performance indicates that over the period of study (2013-2020) some banks were making losses on their assets. Market discipline had a mean of 0.7 with a minimum of zero and a maximum of 0.9. A positive value of corporate disclosure index indicates that commercial banks are disclosing relevant information that contribute to key decision makers making the right decisions.

4.2. Diagnostic Test Results

The study conducted the following diagnostic tests; panel unit root, heteroscedasticity, autocorrelation and Hausman specification test.

4.2.1. Panel Unit Root Test

The study utilized Fisher-type tests of panel unit root because this method does not require strongly balanced data, and the individual series can have gaps. The null hypothesis is that at least one panel contain unit root.

Table 3. Panel Unit Root Test

		Level		First difference	
Variable	Tests	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
Market Discipline	Inverse Chi-Squared	30.8335	1.0000		
	Inverse Normal	-1.6971	0.0448		
	Inverse Logit	-3.2744	0.0016		
	Modified Inv. Chi-Squared	-3.4305	0.9997		

The results in Table 3 show that financial performance was not stationary in levels but after obtaining the first difference it was stationary as shown by inverse chi-squared and modified inverse chi-squared logit p-values which were less than 0.05 while market discipline was stationary in levels as shown by inverse normal and inverse logit p-values which were less than 0.05. Hence implying that financial performance and market discipline were integrated in the order of one and zero respectively [18]. Hence in both cases the null hypothesis was rejected.

Table 4. Test for Heteroscedasticity

H0: Data is homoscedastic
Chi2 (37) = 3.2e+05
Prob>Chi2 = 0.0000

The study tested for heteroscedasticity using Modified Wald test. The test results in Table 4 show that the p-value was 0.000<0.05. This implied the rejection of the null hypothesis that the data was homoscedastic. The study used the robust standard errors option to correct heteroscedasticity problem.

Table 5. Test for Autocorrelation

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

The study tested for autocorrelation using Wooldridge test. The results in Table 5, show that F test value of 2.394 with a p-value of 0.1308>0.05. The study therefore accepted the null which stated that no first order autocorrelation in the data.

4.2.2. Hausman Specification Test

The researcher had to apply either fixed or random effects model hence the decision was made using Hausman specification test [19]. The chi square value was 12.35 with a p-value of 0.0063<0.05. The null hypothesis was that random effects model was appropriate while the alternative hypothesis stated that fixed effects model was

appropriate. The Hausman specification test showed that chi square value was statistically significant at 5% hence the null hypothesis that random effects model was appropriate was rejected. The study concluded that fixed effects model was appropriate. The study further tested for panel effects in the data using Breusch and Pagan Lagrangian multiplier test for panel effects as recommended by [18]. The null hypothesis was that ordinary least square model was preferred to fixed effect model. The Breusch and Pagan Lagrangian multiplier test reported a chi square of 0.0 with a p-value of 1.000. The p-value was greater than 0.05 thus leading to acceptance of null hypothesis that ordinary least square model was better.

4.2.3. Correlation Analysis

The study tested for correlation among variables using Pearson correlation [16].

Table 6. Correlation Analysis

	Financial Performance
Financial performance	1.0000
Market discipline	0.3834

From the output in Table 6, the study found that financial performance was positively related with market discipline (r=0.3834) This finding corroborated the Ref. [6] finding that there was a positive relationship between financial disclosure and performance.

4.3. Hypothesis Testing

The study tested the following hypothesis.

H_{03}: Market discipline has no significant effect on financial performance of commercial banks in Kenya.

Table 7. Effect of market discipline on financial performance

	Coefficient	Robust Std. Err.	t	P>t
Market Discipline	.004552	.0056074	0.81	0.418
Constant	.0044411	.0056281	0.79	0.31
Dependent variable= Financial performance (ROA)				

As shown in Table 7, the coefficient of market discipline (β=.004552, p=0.418>0.05) indicates that market discipline has an insignificant effect on financial performance (ROA) of commercial banks in Kenya. This implies that the null hypothesis that market discipline has no significant effect on financial performance of commercial banks in Kenya was accepted at 5% significance level. The result disagreed with those of [4,6,16] who found a significant association among disclosure and performance but agreed with that of Ref. [3] that found, the percentage of value added retained for expansion as a measure of disclosure showed statistically insignificant effect on financial performance.

5. Conclusion and Recommendations

The present study reported that market discipline had insignificant effect on financial performance of commercial banks in Kenya and that market discipline and performance were positively correlated. Thus, the study concludes that market discipline correlated with performance (ROA). Further, market discipline insignificantly influenced performance based on return on assets of commercial banks in Kenya. The study consequently, recommends that the management of commercial banks should ensure that they disclose relevant information to the public to aid decision making. Further, the commercial banks should strictly adhere to the regulations on disclosure set by the central bank of Kenya in order to increase their financial performance in the long run although the effect was not significant.

5.1. Suggestion for Further Research

The scope of the current study was commercial banks licensed and operating in Kenya between the period 2013-2020. A similar study can be conducted to investigate the effect of market discipline on performance of other financial and non-financial institutions.

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