Moderating Effect of Managerial Efficiency on the Association between Corporate Social Responsibility and Market Value of Nigerian Banks

Safiya Auwal Suleiman[1], Ahmadu Abubakar, PhD[2] & Nura Shitu Abdullahi[3]
[1, 2 &3]Department of Business Management, Federal University Dutsin-Ma-Nigeria
Corresponding Author's Email: ahmedabubakartamed@yahoo.com,
aabubakar@fudutsinma.edu.ng

Abstract

This research paper investigates the moderating effect of managerial efficiency (ME) on the association between corporate social responsibility (CSR) and market value of Nigerian banks, incorporating four control variables. The paper utilized a panel data of eight Nigerian listed banks over the study period 2010- 2021. Static panel techniques such as Pooled Ordinary Least Squares (POLS) and the Fixed Effects Model (FEM) in conjunction with the Weighted Least Squares (WLS) were considered in the model estimation However, the Restricted F-test rated the POLS over the FEM, which was later dropped for WLS due to heteroskedasticity problem. The main findings reveal that CSR has a significant positive effect on the market value; ME has a positive and significant effect on the market value and ME significantly and negatively moderates the link that binds CSR and the market value. The research concludes that the role of ME matters when it comes to understanding the CSR and the market value nexus. Expenditure on CSR activities should be multiplied by banks, as doing so will create good image, loyalty and reputations for the banks, and consequently improve their market value.

Keywords: Managerial efficiency, corporate social responsibility, market value, Nigerian banks

1. Introduction

Corporate social responsibility (CSR) has its origin in the 20s with Oliver Sheldon who in 1970 was documented to have been the first among so many persons to be associated with the usage of the term CSR (He, 2018). CSR has been linked by one of its originator Oliver Sheldon to moral obligation that managers or leaders of companies to fulfil the needs of the business under their stewardship.

In the contemporary world, CSR has been traced to Howard Rothmann Bowen where in a publication in 1953, based his argument from the view point of corporate ethics, discussed the possibilities or otherwise of the entrepreneurs or corporates to take on social responsibilities (He, 2018; Yang, 2005).

Comprehending the concept of CSR has been trailed with controversies and differences of opinions arising or emanating from divergent disciplines and dimensions. Scholars from the Western world broke down CSR into tripartite parts: the responsible subject being the corporates; the executors are the entrepreneurs and the voluntary responsibility has been

attached to the corporates. Legal, economic, ethic and charity responsibilities are the four levels model of the positions of CSR (He, 2018).

There has been growing interest on the subject of CSR and its effects on the firm value among academics globally. The idea of CSR as pointed out by Witkowska (2008) implies that firms have a responsibility voluntarily to cater for the wellbeing of the critical stakeholders (workers, consumers, suppliers, and immediate societies) regarding social and environmental aspects of their economic activities.

There are varied postulations on the expected relationship between CSR and the firm market value. Authors have argued that firms that are involved in the CSR activities are likely to experience increase in the market value because CSR will improve the respect accorded to the business in the eyes of the society, increase customer retention and loyalty. The proponents of the positive sign between CSR and the market value also argued that it is the increase in the market value or financial performance that drive, propel or enhance CSR activities. Conversely, some other authors have also argued that investment in the CSR activities implies that firms will incur cost, and this can triggered a negative link between CSR and the market value, while some of the contenders opine that CSR has no impact on the market value because benefits arising from the involvements in the CSR activities will be off-set by the cost associated with it.

Empirical evidence as well as the theoretical predictions has not address the conflicting results reported on the association between CSR and the market value of the firms. For example, it has been established that CSR impacts positively on the market value of firms (Cheung et al., 2013; Cho et al., 2019; Hu et al., 2018). Conversely, some studies (for instance, Agburuga, 2018; Bing and Li, 2019; Elouidani and Zoubir, 2015) found a negative relationship between CSR and firm market value, while other authors such as Fayiz et al. (2016), Han et al. (2016) and Li (n.d.) did not unveil any significant association between CSR and the firm market value.

In view of the inconsistencies in the reported empirical results, a moderator is eminent in explaining and understanding the association. In support of this assertion, Baron and Kenny (1986) suggested the introduction of a moderator when an undesired or inconsistent relationship has been observed between the predictor and outcome variables. This study aims to bridge the knowledge gap by investigating whether managerial efficiency can explain the inconsistencies in the results of CSR and the firm market value nexus. Specifically, this study investigates the moderating effect of managerial efficiency on the link between CSR and the market value of the Nigerian banks, covering the period 2010 -2021.

We propose that managerial efficiency i.e. the minimization of cost and the maximization of income which most prior studies failed to consider is a vital variable in explaining the association between CSR and the firm market value.

2. Literature Review
2.1 Concept of Corporate Social Responsibility

CSR refers to companies or firms taken into cognizance the concerns of a range of stakeholders thereby adopting the principles of social fairness and environmental sustainability into the business operating model (Alkababji, 2014). Abubakar (2018) posits that CSR is any activity or action carried out by an organization in order to improve directly or indirectly the well-being of the society and other stakeholders as well who either directly or indirectly influenced the business operations. In this study, we define CSR as the actions by an organization management towards enhancing and improving the wellbeing and the welfare of its stakeholders.

Elouidani and Zoubir (2015) document that in operationalizing the concept of CSR; empirical literatures have considered different methodology which includes scrutinizing the body of the annual reports. This approach according to (Elouidani and Zoubir, 2015) is to evaluate the terms that communicate societal information. The report of reputation by the credit rating agencies have been included in several empirical literatures to measure the degree to which firms engages in the CSR activities (Graves and Waddock, 1994). These indicators are prominent in the studies of CSR and financial performance nexus. However, according to (Allouche and Laroche, 2005), these indices cannot be traced to any known or established theory.

Other empirical studies have adopted measures from surveys by questionnaire which allows operationalization, by items of measurement, the three dimensions of CSR. With regards to this procedure, measures suggested by the Carroll (1979) model can be adopted. This study uses monetary value of all CSR activities reported in the annual report to measure CSR.

2.2 Concept of Managerial Efficiency

The concept of managerial efficiency according to Leverty and Grace (2012) is the ability of the manager to efficiently marshal the company's resources. Managerial efficiency is defined as the integrated skills of the entirety of the top level management (Hambrick and Mason, 1984; Jakada and Aliyu, 2015). Efficiency of management is the degree or the extent of management's ability to utilize both tangible and intangible resources in generating revenue (Cho and Lee, 2017).

Management efficiency usually measured as cost divided by income has found popularity in the financial services sector, and it is particularly useful in measuring the changes in cost in relation to changes in income (Rajkumar and Hanitha, 2015).

2.3 Concept of Market Value

The market value of a firm are measured using the stock market measures of performance. These measures include the ratio of Marris, the price earnings ratio (Elouidani and Zoubir, 2015), Tobin's Q; market returns (Combs et al., 2005; Fayiz et al., 2016; Hoskisson *et al.,* 1999; Hult et al., 2008; Hu et al., 2018; Machmuddah and Utomo, 2020; Zhang et al., 2020), EPS (Khan and Tariq, 2017; Resmi et al., 2018); Total Q (Festus et al., 2019) and the total return to shareholders (Alexander and Buchholdz, 1998).

The stock market measures have the merit of been less prone or susceptible to the managerial discretion, nevertheless they provide subjective assessment of investors, particularly as they do not highlight faithful manner, the economic reality of the firm (Allouche and Laroche, 2005). This study used EPS as a measure of the market value partly because of the ease and availability of the ratio in the financial statement of the banks, and partly because the ratio has been ignored by most prior empirical studies. The adoption of the ratio addresses an important variable gap.

2.4 Review of Empirical Studies

Machmuddah et al. (2020) found that CSR has a positive and significant effect on firm value, and profitability moderates the CSR and firm value relation. Zhang et al. (2020) evaluate the impact of CSR on stock returns with Hexun's CSR rating for first time from 2010 to 2017, using threshold regression and multiple regressions. Findings reveal a quadratic relationship between CSR and stock returns. The authors also establish that external legal environment moderates the relationship between CSR and stock return.

Tsang et al. (2020) reveal a positive relation between CSR and firm value, and also discover that the link between CSR and firm value was moderated by corporate governance practices. Bing and Li (2019) results of Chinese firms confirm that CSR is significantly and negatively related to the firm value. Cho and Lee (2019) discover that firms with efficient managers tend to record high performance with increasing CSR activities. Cho et al. (2019) study of Korean firms and Hu et al. (2018) study of Chinese firms all discover a statistical and positive relation between CSR and firm value.

Abubakar (2018), Han et al. (2016), Madichie et al. (2018); Resmi et al. (2018) and Sulaiman et al. (2018) unravel positive association between CSR and ROE. Conversely, Resmi et al. (2018) found that the effect of CSR on the ROA and EPS was not significant. Abdullahi and Okoh (2017) did not find any significant relation between CSR and, ROA and profit after tax margin. The outcome of empirical works by Amadi and Ndu (2017); Maqbool and Zameer (2017), and Sandaruwan and Ajward (2017), documents a positive relation between CSR and financial performance in Nigeria, India and Sri Lanka respectively.

Hafez (2016) used 33 Egyptian companies from 2007- 2014 to analyze the effect of CSR on the firm value measured by ROA and ROE. Results of the regression technique reveal that CSR has a positive effect on both ROA and ROE. The results also reveal that control variables (size and leverage) did not have any effect on the ROA, while industry type is positively connected to ROA. However, the adoption of ROE to proxy firm value produces a different results; size and industry type became significantly and negatively related to firm value, whereas leverage became positively related with firm value.

Elouidani and Zoubir (2015) used a panel data of 20 Casablanca companies between 2007 and 2010 to analyze the influence of CSR on the financial performance measured by Tobin's Q, the ratio of Marris, ROA and ROE. The authors found evidence supporting a negative relation between CSR and all the measures of the financial performance.

Evidence from the above reviewed empirical results shows that most of the prior studies have adopted the accounting measures of the financial performance such as ROA, ROE, ROCE, ROS and NPM, while the few studies that used the market performance measures utilized Tobin's Q, ratio of Marris, stock values and market-to-book ratio. Additionally, it was also observed that the results of the empirical studies are mixed and inconclusive. The review also uncovers that most prior researches were conducted outside Nigeria and the most recent data covers the year 2017. This present study addresses these notable gaps.

2.5 Development of Hypotheses

As a consequence of the empirical review, the following hypotheses stated in the null form are tested:

$H_0 1$: CSR has no significant effect on the market value.

$H_0 2$: Managerial efficiency has no significant effect on the market value.

$H_0 3$: Managerial efficiency does not significantly moderate the association between CSR and the market value.

2.6 Theoretical Framework

The stakeholder theory was popularized by Freeman (1984). According to Freeman, the managers of firms should not abandon the stakeholders who are the users of the firms' products or services. The firm could benefits the organization and satisfy the needs of its stakeholder's

through the CSR activities. Performance may be affected negatively if managers decided to abandon the stakeholders' needs, as they may seize the support they provides the organization (Hafez, 2016).

The slack resource theory states that having good financial position is a pre-requisite or precondition for carrying out CSR activities (Hafez, 2016). Firms that engage in CSR activities tend to command respect and become reputable in the hearts of the stakeholders (Waddock and Graves, 1997).

Both the stakeholder and the resource based theories state that CSR creates value (Arsoy et al., 2012). Nuryaman (2013) argues that in the long run, CSR generates some costs savings that occurred as a result of violating regulations or government legislation regarding CSR. This reduction in costs will cause value of the firm to improve. Providing CSR by firms gives the stakeholders a sense of belonging and the assurance that the firm holds dear their plight concerns for excellence.

3. **Methodology**

Expost factor and longitudinal research designs are utilized. Expost factor design was adopted as data required for analysis are secondary in nature, while the hybrid of the cross sectional and time series data favours the choice of the longitudinal research design. The study utilizes eight listed DMBs over a time series period of 2010- 2021.

The population of the study comprises the 10 DMBs listed on financial services sector of the NSE for the period ending 31st December, 2021. The names of the banks and the year listed on the NSE are presented in table I.

Table I: Population of the Listed DMBs in Nigeria

S/No	Bank	Date listed
1.	Access bank Plc.	November 18, 1998
2.	Ecobank transnational incorporated	September 11, 2006
3.	Fidelity bank Plc.	May 17, 2005
4.	Jaiz bank Plc.	2016
5.	Sterling bank Plc.	1992
6.	United bank for Africa Plc.	1970
7.	Unity bank Plc.	December 22, 2005
8.	Union bank Nigeria Plc.	1971
9.	Wema bank Plc.	January 1, 1990
10.	Zenith bank Plc.	October 21, 2004

Source: NSE (2021)

For any DMB to make the sample, the following selection procedure must be fulfilled. *Firstly,* the bank must have a listing status with the NSE as at the year-end of 2010, and must retain the listing status as at December 31, 2021. *Secondly,* the annual report and financial statements of the bank for the period December 31, 2010 to December 31, 2021 must be available online and must contain data relevant for computing all the variables of the study. In other words, any bank with missing data was removed from the study. *Thirdly and finally*, the bank must not be a wholly non-interest bank because of the differences in the balance sheet structure and product offerings with other DMBs in Nigeria.

From the 10 listed DMBs in Nigeria as at December 31, 2021 (see table I) Ecobank transnational incorporated and Jaiz bank Plc did not make the sample. The bank before the second was removed because it fails to fulfil the second selection criteria, while the latter was dropped because it fails to satisfy all the criteria for the sample selection. Hence, the remaining eight banks selected through the convenience sampling selection technique include; Access bank Plc; Fidelity bank Plc; Sterling bank Plc; United bank for Africa; Unity bank Plc, Union bank Nigeria Plc; Wema bank Plc and Zenith bank.

Data required was obtained from the annual report and financial statements of the selected banks, the NSE daily official list (equities) and the NSE fact books for the period 2010- 2021. Specifically, the CSR, operating results, statement of profit or loss and other comprehensive income and the statement of the financial position sections of the financial statement were utilized for the data collection. The documents required for data collection was sourced from the NSE library; websites of the sampled banks, www.nse.com and www.africanfinancials.com.

The independent variable is CSR, the moderating variable is managerial efficiency (ME) and the dependent variable is EPS. However, consistent with the prior studies such as Abubakar (2020), Afrifa and Tauringana (2015), Fayiz et al. (2016); Hafez (2016), Hu et al. (2018) and Siddik et al. (2017), age, size, growth and leverage were adopted as the control variables. Table II provides the measurement of variables.

Table II: Variables and Measurements

Variable	Acronym	Type	Measurement	Source
Corporate social responsibility	CSR	Independent variable	Logarithm of total charitable donations made by the banks each year.	Abubakar (2018), Sulaiman et al. (2018)
Managerial efficiency	ME	Moderating variable	Operating cost divided by operating income.	Rajkumar and Hanitha (2015), Abubakar et al. (2019)
Earnings per share	EPS	Dependent variable	Profit after tax divided by the number of shares outstanding.	Abu-Rub (2012), Siddik et al. (2017)
Age	AGE	Control variable	Natural logarithm of the number of years of a bank since incorporation.	Abubakar (2020); Afrifa and Tauringana (2015); Ahangar and Shah (2017); Mohammed (2010)
Size	SIZ	Control variable	Natural logarithm of total asset.	Bing and Li (2019);Hafez (2016); Hu et al. (2018); Siddik et al., (2017)

Growth	GRT	Control variable	Percentage change in total asset.	Kinde (2013)
Leverage	LEV	Control variable	Total debt divided total shareholder's equity.	InunJariya (2015); Liaqat et al. (2021)

Source: Compiled from the literature

Descriptive statistics and dynamic panel technique were used as the main methods of data analysis. Descriptive statistics targeting mean, minimum, maximum, standard deviation, skewness and kurtosis were used in data presentation, while the panel weighted least square (WLS) method was used to investigate the moderating effect of managerial efficiency on the association between CSR and market value of the Nigerian banks, taking account the control variables. Panel data technique has a lot of merits such as ability to control for unobservable heterogeneity (Hsiao, 2003) and; more so, panel data technique can produce unbiased estimates and obtaining more degree of freedom.

A functional relationship between the independent variable (CSR), moderator (ME), control variables (AGE, SIZ, GRT, LEV) and the dependent variable (EPS) is expressed in the following equation.

EPS = f (CSR, ME, CSR*ME, AGE, SIZ, GRT, LEV) -- - - - I

Where:
EPS = Earnings per share
f = Function
CSR = Corporate social responsibility
ME = Managerial efficiency
AGE = Age
SIZ = Size
GRT = Growth
LEV = Leverage

Equation I can be re-written in implicit form as shown below:

$$EPS_{it} = f(\ CSR_{it}\ ME_{it}\ CSR * ME_{it}\ AGE_{it},\ SIZ_{it}, GRT_{it}\ LEV_{it},\ \mu_{it},\ V_{it}) - \quad -- \quad -II$$

Where:
$i = 1, 2, 3, \ldots, \ldots, \ldots, \ldots, \ldots, N$
$t = 1, 2, 3, \ldots, \ldots, \ldots, \ldots, \ldots, T$
U_{it} & V_{it} = Error terms
Hence:
$U_{it} \cong ii\ d\ N\ (0, \delta^2 U)$
$V_{it} \cong ii\ d\ N\ (0, \delta^2 V)$

Hence, the panel data model tested is thus:
Setting $y_{it} = EPS_{it}$ and $X_{it} = \ AGE_{it}, SIZ_{it}, LEV_{it}, GRT_{it}, ME_{it}$

Then $y_{it} = \alpha_1 + \beta_{ij}x_{it} + \beta_{2ij}x_{2it} + \beta_{3ij}x_{3it} + \mu_{it} - \quad - \quad - \quad - \quad -III$

Where:
y_{it} = Vector of dependent variable (EPS)
x_{it} = Vector of independent variable, such that x_{it} = (CSR)
x_{2it} = Vector of the moderating variable, such that x_{2it} = (ME)
x_{3it} = Vector of control variables, such that x_{3it} = (AGE, SIZ, GRT, LEV)
$i = 1, 2, 3, \ldots, \ldots, \ldots, \ldots, \ldots, \ldots,\ 8$
$j = 1, 2, 3, \ldots, \ldots, \ldots, \ldots, \ldots, \ldots,\ 12$

$t = 2010, \ 2009, \ 2010, \dots, \ 2021$

The vector of the dependent variable (y_{it}) is the firms' financial performance indicator, (x_{it}) is the vector of the independent variable i.e. corporate social responsibility, (x_{2it}) is the vector of the moderating variable i.e. managerial efficiency and (x_{3it}) is the vector of the control variables. The parameter (β_{ij}) is the coefficient of the independent variable; (β_{2ij}) is the coefficient of the moderating variable and (β_{2ij}) are the various coefficients of the control variables obtained when the model is fitted into the data. The constant term (α_i) represents the intercept of the equations while (μ_{it}) are the error terms that account for omitted variables from the model and expected to be identically distributed with zero mean and constant variance.

Collinearity test, serial or autocorrelation test and heteroskedasticity test are the diagnostic tests conducted in this present study. Correlation technique and the variance inflation factor (VIF) serve as the main methods for detecting the presence or otherwise of collinearity problem. Durbin-Watson (D-W) statistic and White test for heteroskedasticity through the Lagrange Multiplier (LM) are used respectively for detecting autocorrelation and heteroskedasticity problems. Restricted F-test was used in deciding the best between POLS and FEM.

4. Results and Discussion
4.1 Descriptive Analysis

The descriptive account of the variables using mean, median, minimum and maximum values as the descriptive statistical tools is provided. The descriptive results of the sampled banks used in this study are presented in table III. The results reveal that the average annual expenditure on CSR activities stood at about ₦555 billion against the minimum annual expenditure of ₦ 177 billion and maximum annual expenditure of ₦ 4 trillion. These results portray that the banks during the period under review spent heavily on CSR activities despite the challenging business terrain. The differences between the minimum and maximum value is massive, confirming that some banks are more inclined to carrying out CSR activities than the others, which could be influenced by the size of their earnings. The huge difference between the maximum and the mean values also confirm this position.

Table III: Descriptive Statistics

Variable	Mean	Median	Minimum	Maximum
CSR	5.55005e+008	1.76716e+008	774000.	4.37200e+009
MEF	0.969763	0.820215	0.284560	3.41534
AGE	40.5000	37.5000	11.0000	76.0000
SIZE	1.81845e+009	1.07501e+009	1.29814e+006	9.66076e+009
GRT	26.2087	0.153674	-0.999134	1413.13
LEV	1.29471	0.776305	-1.11962	44.5951
EPS	1.05006	0.640000	-13.5700	8.74000

Source: GRETL's Output

In table III, result confirms that managerial efficiency (ME) has an average value of 0.9697, which is less than unity. This connotes that operating costs are lower than the operating income. The closeness of the ratio to unity suggests that the difference between the operating cost and operating income is little. This implication is that it cannot be safely concluded that banks are in the safety net when it comes to effective and efficient utilization of resources. This indicates that banks need to improve on the efficient management of resources.

The next variable is the age, and the result shows that average age of a bank since incorporation was approximately 41 years, while the least or lowest age was 11 years as against the oldest age of 76 years. The implication is that the sampled banks can be categorized as matured; even though, the maximum value suggests that some of the banks are not only matured but old.

Additionally, the descriptive results of size indicate that the average annual asset of the banks total about ₦1.9 trillion while the minimum value is about ₦1.3 billion. This implies that averagely, banks included in this study are very large by their size of asset. The implication is that the chosen banks can take the advantage of economies of scale to propel financial performance.

For growth (GRT) measured as the annual change in total asset, the results show that GRT has an average of approximately 26, implying that banks selected for the study recorded an annual growth of 26 per cent in total asset during the period 2010- 2021. This is quite commendable given the unprecedented economic challenges witnessed during the study period globally and particularly in Nigeria, the country of study.

In table III, it was revealed that leverage recorded a mean of 1.2941 which implies that the sampled banks utilized more debt than shareholder equity in the capital structure. This revelation did not come as a surprise owing that banks generally have high leverage ratios.

Similarly, the descriptive analysis of the EPS is also highlighted. The mean of the financial performance indicator i.e. the EPS is 1.05 against the minimum of -13.57 and maximum of 8.74. The average value suggests that for every one unit of the shares of banks acquired, about ₦1.05 is earned as a return for the equity holders. The results imply that the performance of shares of the DMBs in Nigeria is good during the period 2010- 2021.

4.2 Panel Regression Analysis

The financial performance i.e. the EPS was regressed against CSR, ME, the interaction of CSR and ME (CSR*ME); AGE, SIZ, GRT & LEV using POLS, FEM and WLS panel estimators. The random effects model could not be estimated due to insufficient degree of freedom. Table IV presents the regression results of the two static panel estimators i.e. POLS and FEM.

Table IV: Regression Results

Dependent Variable: EPS		
Independent Variable	**POLS**	**FEM**
Constant	-17.31 (-3.53)***	-18.01 (-2.19)**
L_CSR	1.86 (3.49)***	0.10 (0.14)
MEF	2.98 (1.15)	-0.68 (-0.23)
CSR*MEF	-0.47 (-1.42)	-0.02 (-0.05)
L_AGE	-0.26 (-0.62)	4.67 (2.16)**
L_SIZ	0.23 (1.33)	0.11 (0.61)
GRT	-0.00 (-1.03)	-0.00 (-0.47)

LEV	0.02 (0.41)	-0.00 (-0.03)
R-squared	0.31	0.40
Adjusted R-squared	0.25	0.30
F-statistic	5.60 (0.00)***	3.84 (0.00)***
Standard Error of Regression	1.93	1.87
Durbin-Watson statistic	2.06	2.28

Source: GRETL's Output

Note: t-ratios are in parenthesis for constant and variables, and p-value are in parentheses for F-statistics.

The F-statistic of the POLS and FEM are both significant at a 1 per cent level of significance, meaning that the two models are qualified for analysis and drawing inference. However, to decide the best model, the Restricted F-test is imminent. The result of the Restricted F-test is presented in table V. The null hypothesis is that the eight banks have a common intercept i.e. POLS is better than the FEM.

Table V: Results of the Restricted F- Test

Model Comparison	F-statistic	P-value	Remarks
POLS- FEM	1.75	0.11	POLS selected

Source: GRETL's Output

In table V above, the f-statistic of 1.75 is not significant, meaning that the null hypothesis of a common intercept cannot be rejected. Hence, this study fails to reject the null hypothesis and concludes that POLS is better than the FEM.

In ensuring that the basic assumptions of a regression model are not compromised, three diagnostic tests such as collinearity, autocorrelation and heteroskedasticity tests are carried out. Collinearity test is used to determine if the correlation coefficient between two independent variables is too high to cause a multicollinearity problem in a regression model. A correlation coefficient of 0.70 is high and may signal multicollinearity (Wooldridge, 2015).

There are two popular and widely used methods in the literature for detecting multicollinearity i.e. the correlation technique and the VIF. Correlation is used to determine the strength of relationship between two variables of interest. Table VI shows the correlation results of the independent and dependent variables adopted in this study.

Table VI: Correlation Results

L_CSR	ME	L_AGE	L_SIZ	GRT	LEV	EPS	
1	-0.11	-0.16	0.55***	0.14	-0.16	0.50***	LCSR
	1	0.17	0.06	-0.04	0.15	-0.20*	ME
		1	-0.09	-0.01	0.17*	-0.15	L_AGE
			1	0.09	-0.11	0.35***	L_SIZ
				1	0.01	-0.01	GRT
					1	-0.08	LEV
						1	EPS

'***' and '*' implies significant at 1% and 10% respectively
Source: GRETL's Output

It can be observed from the above correlation results that no correlation between two independent variables are significant, except for leverage and age which has 10 per cent level of significance as suggested by the single asterisk. In addition, none of the correlation coefficient is up to 0.70. This confirms the non-existence of multicollinearity.

The VIF is used to support and validate the correlation result because of the controversies surrounding the constituents of high correlation. Literature differs as to what is regarded as a high correlation. Table VII presents the VIF results of the relevant variables.

Table VII: Variance Inflation Factor

Variables	VIF
L_CSR	1.522
MEF	1.076
L_AGE	1.069
L_SIZ	1.469
GRT	1.022
LEV	1.069

Source: GRETL's Output

The VIF result reveals that the coefficient of each of the captured variables are highly below 10, which according to the assertions of Gujarati and Porter (2009), and Hair et al. (2014) indicate that multicollinearity is not an issue. This discovery from the VIF confirms and affirms the consistency of the correlation results which supports that the model does not suffer multicollinearity.

As part of the diagnostics we used correlation results in table VI to ensure that conditions for moderation are not violated. To moderate there must be an established connection between the outcome and predictor variables and the moderator variable must not be the cause and effect of the independent variable (Baron and Kenny, 1986). The results of the correlation show that correlation coefficient between the dependent variable (EPS) and the independent variable (L_CSR) is 0.50 which has 1 per cent level significance. This implies that significant relationship exists between the dependent and independent variables. Although, correlation may not imply causality but it is a necessary condition for cause and effect. Additionally, the correlation coefficient between the moderator (ME) and the independent variable (L_CSR) is -0.11, but not significant. These suggest that ME is not a cause and effect of L_CSR. This implies that the conditions for the application of moderation are fulfilled.

Furthermore, to ensure that the assumption of independence of errors in a regression model is not ignored, we conduct autocorrelation test using D-W statistic. The result for the POLS is 2.06 as contained in table IV. This value is very close to 2, which in the positions of Field (2009) and Swain (2008) suggests that there is no violation of autocorrelation in the model.

To further ensure that the assumption that the error term has a constant variable i.e. homoskedasticity in a regression model is not violated, we conduct heteroskedasticity test using White test for heteroskedasticity which is based on LM statistic. The null hypothesis is that heteroskedasticity is absent. Table VIII presents the results of White test for heteroskedasticity.

Table VIII: Results of the Test for Heteroscedasticity

Model	Lagrange Multiplier	P-value
POLS	67.32	0.00

Source: GRETL's Output

The result of the White test in table VIII has a Lagrange Multiplier of 67.32 with associated probability value of 0.00 which has a 1 per cent significant level. Thus, this study rejects the null hypothesis and concludes that heteroskedasticity is present in the POLS model. To address the problem of heteroskedasticity, this study adopts the Weighted Least Squares (WLS) regression technique. Table IX presents the results of the WLS regression.

Table IX: WLS Regression Results

	Coefficient	t-ratio	p-value	
Constant	-13.70	-6.46	<0.00	***
L_CSR	1.42	5.60	<0.00	***
MEF	2.83	2.27	0.03	**
CSR*MEF	-0.3	-2.36	0.02	**
L_AGE	-0.31	-1.86	0.07	*
L_SIZE	0.21	3.30	0.00	***
GRT	-0.00	-1.99	0.050	*
LEV	0.01	0.34	0.74	

R-squared = 0.56
Adjusted R-squared = 0.53
F (7, 8) = 16.27
p-value (F) = 0.00

Source: GRETL's Output

Note: '*', '**' & '*' denote significant at 1%, 5% and 10% respectively.**

The WLS regression results in table IX shows that CSR measured as the natural logarithm of expenditure on CSR activities (L_CSR) has a positive significant effect on the market value surrogated by EPS. This submission is proven by the 1 per cent significant t-ratio of 5.60. The results also confirm that the moderating variable i.e. managerial efficiency (ME) has a positive and significant effect on the market value as shown by the t-ratio of 2.27 which has 5 per cent level of significance. Similarly, the interaction variable (CSR*ME) has a negative but significant effect on the market value measured by EPS. This position stemmed from the significant t-ratio of -2.36.

For the control variables, the WLS results indicate that age has a negative and significant effect on the market value as confirmed by the negative t-ratio of -1.86 which has 10 per cent level of significance. The results of the WLS also reveal that size (L_SIZ) has a positive and significant effect on the EPS, as indicated by the t-ratio of 3.30 which is positive and significant at a 1 per cent level of significance. In contrast, another control variable, growth (GRT) has a significant and negative effect on the EPS at a 10 per cent significant level. The WLS results also show that leverage (LEV) as a control variable has no statistical effect on the EPS, as the p-value of 0.74 exceeds the chosen level of significance.

Results of the WLS also reveal that the adjusted R-squared is 0.53 while the F-statistic of 16.27 has a p-value of 0.00, which suggests a 1 per cent significant level. This is a testimony that the study model is fit and valid for drawing conclusion and providing policy implications

4.3 Discussion of Research Findings

The results of the descriptive statistics, WLS regression results and the outcome of the hypotheses testing guided the discussion of the findings. As observed, CSR has a positive and significant effect on the market value measured by the EPS. The coefficient of CSR of 1.42 is an indication that a 1 per cent increase in the CSR expenditure will cause about a 1.42 per cent increase in the market value proxy by EPS. This finding suggests that the huge expenditure in CSR activities as reported in the descriptive results is enhancing bank market value through EPS. This finding is consistent with the stakeholder theory popularized by Freeman (1984). Accordingly, the theory contends that firm could satisfy its stakeholder's needs by applying CSR activities and this will benefits the organization. If the managers ignore the needs of the stakeholders, they may withdraw their support from the organization and this may have negative effects on the firms' financial performance (Hafez, 2016).

This finding also supports the slack resource theory which states good financial position is necessary condition for engaging in CSR activities. The descriptive results reveal that banks are generating a fair return for the shareholders through EPS. These positive earnings could be the driver of the huge expenditure in the CSR activities. When the stakeholders perceive the firm well they will be more attracted to the firm and this will improve the firm's market value. Nuryaman (2013) argues that in the long run, CSR reduces costs which can lead to increase in the firm value. This finding is consistent with the empirical studies by Hu et al. (2018), Cheung et al. (2013) and Cho et al. (2019), and contrary to those who found negative relationship (Agburuga, 2018; Bing and Li, 2019; Elouidani and Zoubir, 2015) and those that did not find any significant relationship (Fayiz et al., 2016; Han et al., 2016).

Findings also indicate that ME is positively related with the market value. The coefficient of ME is 2.83 which signify that a 1 per cent rise in the level of ME will result in about 2.83 per cent increase in the level of the banks' market value. The implication of this finding is that banks that are managerial efficient through the efficient utilization of resources are more likely to record high market value. Cutting down cost and operational expenses will improve operating income and so also, the market value.

The result also reveals that interaction variable (CSR*ME) has a negative and significant effect on the market value proxy by EPS. The coefficient of the product term of -0.37 connotes that a 1 per cent increase in the interaction variable will result in about 0.37 per cent decline in the market value. The introduction of the interaction variable has changed the direction of relationship between CSR and market value from positive to negative. This finding suggests that MEF significantly and negatively moderate the association between CSR and the market value. This finding confirms the role of MEF in understanding the link between CSR and the market value. This finding supports the assertion of Whisman and McClelland (2005) that a moderation variable can affect the strength of the association between independent variable and dependent variable as well change the direction of the relationship.

The discussion of findings also covers the control variables (age, size, growth and leverage). For age, findings show that bank age has a negative and significant effect on the market value surrogated by the EPS. The coefficient of age suggests that a 1 per cent increase in firm age is associated with about 4.85 per increase in the value of the market value. As banks grow older; their market value tends to deteriorate or diminish. This negative effect of age on the market value can be explained that as firms get older, bureaucratic bottleneck sets in.

Findings also reveal that size has a positive and significant effect on the market value proxy by EPS. The coefficient of the size is an indication that a 1 per cent increase in the size of the listed banks in Nigeria will trigger about 0.21 per cent increase in the market value proxy EPS. This finding suggests that as banks grow in size i.e. their total assets so will their market value improves. The descriptive results confirm the banks utilized in this study as large given the size of their total assets. The implication is that banks are leveraging economies of scale to improve their market value.

Another control variable considered in this study is growth (GRT). The results reveal that GRT measured by the annual change in total asset has a significant and negative effect on the market value measured by EPS. The coefficient of GRT suggests that a 1 per cent increase in the growth of total asset will diminish financial performance by approximately 0.00 per cent. This shows the rate of decline expected as banks grow in asset is immaterial in the short run. However, in the long run, the growth of total asset can be detrimental to the market value of the Nigerian banks. This negative association between growth and market value can be explained that as banks pursue growth, they tend to neglect their shareholders by retaining earnings in pursuant of growth instead of paying dividends in which low dividend pay-out ratio can send bad signal to both existing and prospective shareholders. Thus, this may cause decline in the earnings as a consequence of decline in the investment in the shares of the banks.

Moreover, the result of leverage does not reveal any significant association between leverage and firm value. Although not significant, the t-value is negative. The results suggest that in the short run changes in the leverage levels of banks will not alter its market value. But, in the long run the high leverage ratio in the capital structure may injure the market value. The result confirms the Modigliani and Miller (1958) position that leverage has no effect on the value of the firm. The results also suggest that banks are trading-off the cost of debt with the tax-shield benefits of debt to suppress the negative consequence of debt.

This study preferred model (WLS) has an adjusted R-squared of 0.53 meaning that about 53 per cent of the variation in the market value measured by EPS is jointly accounted for jointly by corporate social responsibility, managerial efficiency, the product term (CSR multiplied by ME), the control variables (age, size, growth and leverage), while the balance of 47 per cent are due to chance and other excluded variables.. The 1 per cent significant F-statistic is a strong indication of joint significance of the chosen variables on the market value of the Nigerian listed banks.

5. Conclusion and Recommendations

This study investigates the moderating effect of managerial efficiency on the association between CSR and market value of Nigerian banks, incorporating control variables such as firm age, firm size, growth and leverage. The study utilized a panel data of eight Nigerian listed banks over the study period 2010- 2021. Earnings per share (EPS) were utilized to proxy market value.

The main findings reveal that CSR has a significant and positive effect on the market value; ME has a positive and significant effect on the market value and ME significantly and negatively moderates the association between CSR and the market value of the Nigerian banks. The study concludes that role of managerial efficiency matters when it comes to understanding the association between CSR and the market value of the Nigerian banks. The effect of CSR on market value would depend on how banks manage their resources. The effect of CSR on

the market value is expected to be positive if banks manage their resources in an effective and efficient manner; the reverse should be anticipated if banks are inefficient in the management of its resources.

The following recommendations are provided for the management of banks and other stakeholders.

i.   Banks should continue to commit more resources to CSR activities, as doing so will create good image, loyalty and reputations for the banks, and consequently improve their market value.

ii.   For CSR to impact positively on the market value, banks must be effective and efficient in the management and utilization of its operational resources. They should cut-down cost through the reduction in the banking hours as already practised by some banks, utilize alternative energy sources such as solar energy among others to cushion the high cost of diesel. In addition, bonuses, award and recognition should be accorded to branches with outstanding performance in resources management.

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