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Corporate Social Responsibility and Financial Performance: An Empirical Study on Vietnam Commercial Banks

Nguyen Van Thich[1], Bui Thi Thu Hang[2]

[1]Ho Chi Minh University of Banking

[2]Tay Nguyen University

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Corresponding Author:
Nguyen Van Thich

ABSTRACT

This paper examines corporate social responsibility (CSR) information disclosure and the one-way impact of CSR on financial performance described by the net interest margin (NIM) of the Vietnamese commercial banks between 2012 and 2019. The sample was selected in 29 commercial banks with 232 observations. The generalized method of moments (GMM) was used in this research. The finding shows that the employee responsibility index has the highest disclosure rate, while the environmental responsibility is the lowest. Comparing the level of CSR disclosure among the groups in the sample, the finding also shows that the State group has a higher disclosure rate than the non-State group. Furthermore, the GMM estimation results positively impact NIM's total CSR and environmental responsibility indexes.

KEYWORDS: CSR, financial performance, NIM, GMM, commercial banking

JEL codes: M10, M14, M21

1. INTRODUCTION

Commercial banks play an essential role in providing capital to the economy in developing countries, connecting businesses to the market. Thus, the bank's CSR issue is more attention because the bank's lack of social responsibility can cause severe and long-term consequences for the economy, society, and the country's sustainable development (Scholtens, 2009).

Research on the relationship between CSR and the financial performance of banks raised the issue of how to measure the bank's financial performance? To answer this question, some scholars have used accounting measures like return on assets (ROA) and return on equity (ROE). However, those accounting measures are not accurate in determining CSR and the financial performance of banks. Some researchers such as Gonenc & Scholtens (2019), Hafez (2015), and Matuszaka & Różańskaa (2019) has been used NIM as the dependent variable to measure financial performance in many studies on CSR and the financial performance of the banking industry. However, in Vietnam, using NIM to assess the financial performance of commercial banks has not been found. Therefore, this article aims to determine the level of CSR disclosure and examine the impact of CSR on the financial performance of Vietnamese commercial banks by using NIM as the dependent variable to describe financial performance in selected Vietnamese commercial banks. The generalized method of moments (GMM) is used to draw reliable conclusions about the impact of the total CSR index and the component CSR indexes on the NIM of Vietnam commercial banks.

2. LITERATURE REVIEW

- ***Theoretical basis***

There are many definitions of CSR, but according to Hang (2021), the CSR definition of ISO (2010) is considered the most comprehensive. Many scholars have approved this definition to develop the CSR measurement research framework because it shows what business activities are considered CSR.

Like the definition, various theories have been used by scholars to explain CSR implementation and disclosure behavior. The most popular are the Shareholder Theory, Stakeholder Theory, Legitimacy Theory, and Carroll Theory. Shareholder theory is often used to explain the inverse relationship between CSR and financial performance. Meanwhile, Stakeholder Theory, Legitimate Theory and Carroll Theory support the viewpoint of practicing and disclosing CSR information that benefits businesses, from increasing reputation and brand to financial efficiency (Hang, 2021).

There is a range of international standards and practices for CSR practices and disclosure, the most common of which

are ISO 26000 and GRI. Vietnam is no exception. Based on ISO 26000, Vietnam developed a national standard for social responsibility. For the GRI, the newest version of the document is applied in Vietnamese. In addition, Vietnamese businesses make their CSR reports under GRI guidelines to comply with legal provisions on CSR practices and sustainable development. Vietnam also issued many guidelines for companies to implement and disclose CSR information, such as the Corporate Governance Code or CSI (Hang, 2021)

- ***Empirical evidence on the impact of CSR on NIM***

Many researchers have conducted empirical studies on the relationship between CSR and NIM. Typically, Gonenc and Scholtens (2019) conclude that the relationship between CSR and NIM is not statistically significant. Several other studies by Hafez (2015) and Taşkın (2015) conclude that banks with higher CSR scores tend to calculate higher NIMs from their customers. In contrast, Mrvlja (2017) study results concluded that CSR did not significantly affect financial performance measured by NIM. Different research methods have also been applied to study the relationship between CSR and NIM, such as linear and non-linear approaches to test the impact of component CSR indices on NIM. Matuszaka and Różańskaa (2019) applied in their studies. The results show no unique relationship between the CSR and component NIM indices.

From the empirical evidence above, this study examines the impact of CSR implementation and disclosure on the financial performance of the Vietnamese commercial banks presented by NIM. The assumption is that commercial banks announce all CSR activities in their annual reports.

3. RESEARCH METHODS

Research sample

The research subjects are all Vietnamese commercial banks. The list includes 35 banks (this list does not include Joint Venture Banks and Banks with 100% foreign capital). Annual reports and financial statements of banks are searched and downloaded. Therefore, the final study sample is 29 banks, and the number of observations is 232.

Dependent variable - NIM

The NIM is one of the primary metrics of bank profitability (Matuszaka & Różańskaa, 2019). In this study, NIM is collected from the "Report on business performance," Profit-bearing assets of the bank are collected from the "Accounting balance sheet." It is the sum of items such as Deposits with the State Bank of Vietnam, Deposits or loans to other credit institutions, Trading securities, Loans to customers, and Investment securities.

Independent variable - CSR

The bank's CSR index (in this study is called the total CSR index denoted as CSR_sum) is made up of three component CSR indices, namely Environmental Responsibility (CSR_env), Employee Responsibility (CSR_emp), Community Responsibility (CSR_com). The component CSR is calculated by the average score of all indicators in that component (formula 1). The total CSR of each bank will be the average score of 3 component CSR indicators (formula 2).

$$\text{The component CSR index}_{ij} = \frac{\sum_{i=1}^{n} CSR_{ij}}{n_{ij}} \quad (1)$$

$$\text{The total CSR index}_{ij} = \frac{\sum_{i=1}^{3} \text{The component CSR index}_{ij}}{3} \quad (2)$$

Control variables

Refer to previous studies, the authors introduce the following control variables to the model:

Bank size (SIZE) has been chosen as a control variable in this study.

The loan-to-deposit ratio (LDR) evaluates a bank's liquidity and also measures a bank's ability to finance loans through deposits raised from deposits.

Management quality (CIR) is selected as a control variable in the regression model to examine the impact of CSR on a bank's financial performance.

Asset quality (AQ) is used as a control or independent variable in the research model of factors affecting the NIM of the Vietnamese commercial banks.

Herfindahl-Hirschman Index (HHI) is used as a control variable in the study of the impact of CSR on banking and financial performance.

In addition, this research model also selects control variables belonging to the macroeconomy, including the growth rate of gross domestic product (GDP) and the generation rate (INF).

Research model and regression method

Panel data is used to examine the influence of CSR (including the total CSR index in model 1 and 3 component CSR indices in model 2) on the NIM of the Vietnamese commercial banks.

$$\mathbf{NIM_{it} = \alpha + \beta\ x\ CSR\_sum_{it} + \delta\ x\ Control\ Variables + \varepsilon\ (Model\ 1)}$$

$$\mathbf{NIM_{it} = \alpha + \beta\ x\ CSR\_env_{it} + \gamma\ x\ CSR\_emp_{it} + \theta\ x\ CSR\_com_{it} + \delta\ x\ Control\ Variables + \varepsilon\ (Model\ 2)}$$

Where:

- NIM_{it}: The net interest margin of bank *i* at time *t*.
- CSR_sum_{it}: The total CSR index of bank *i* at time *t*.
- CSR_env_{it}: The environmental responsibility index of bank *i* at time *t*
- CSR_empl_{it}: The employee responsibility index of bank *i* at time *t*
- CSR_com_{it}: The community responsibility index of bank *i* at time *t*
- Control Variables$_{it}$: Control variables include:

+ $SIZE_{it}$: The size of bank *i* at time *t*.
+ CAP_{it}: The equity-to-asset ratio of bank *i* at time *t*.
+ LDR_{it}: The loan-to-deposit ratio of bank *i* at time *t*.
+ CIR_{it}: Management quality of bank *i* at time *t*.
+ AQ_{it}: Asset quality of bank *i* at time *t*.
+ HHI_t: Herfindahl-Hirschman Index of the banking industry for the t-year
+ GDP_t: Vietnam's GDP growth rate for the t-year
+ INF_t: Vietnam's inflation rate for the t-year

- α is the constant. β, γ, θ, δ are the coefficients. ε is the error term.

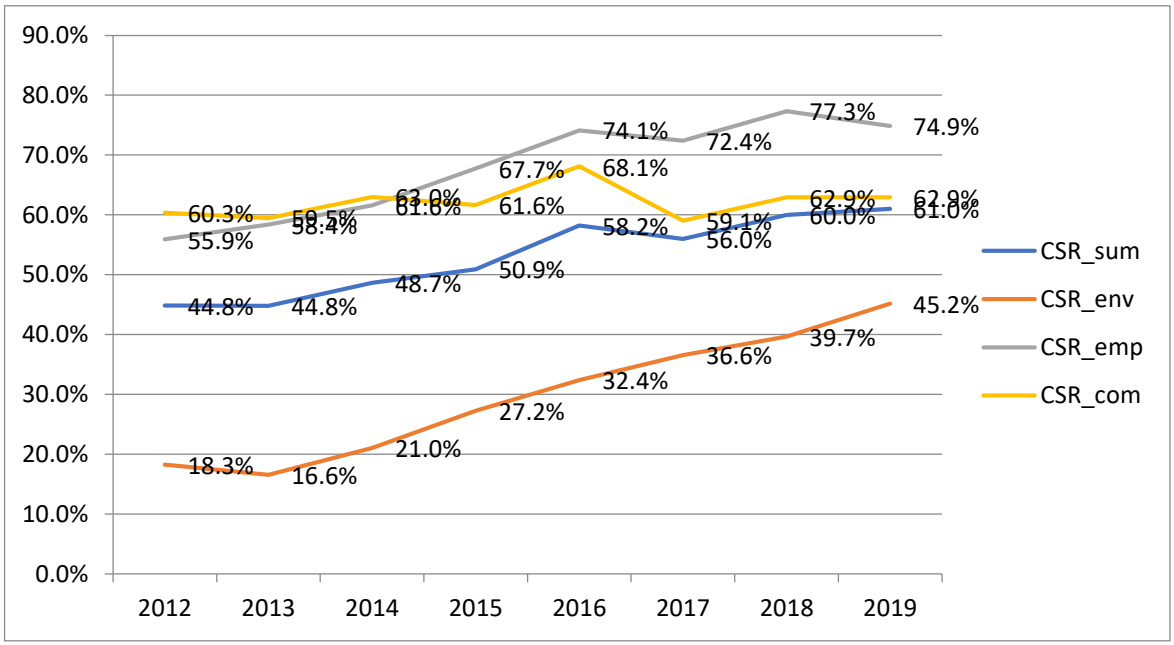
The OLS, FEM, or REM aggregate method to measure the causal relationship between SRC and NIM is prone to bias, especially with short data (Liu, Shao, De Sisto, & Li, 2021; Tran & Trang, 2018). Therefore, this study uses the GMM method to measure the causal relationship between CSR and NIM.

4. RESULTS AND DISCUSSION

The extent to which Vietnamese commercial banks are CSR disclosed

Figure 1 provides an overview of CSR information disclosure by the Vietnamese commercial banks over the period 2012-2019. This figure shows that CSR information disclosure fluctuated in an increasing trend. The employee responsibility index (CSR_emp) is at the highest score among the three-component CSR indicators. It can be explained that commercial banks have taken many actions to attract new employees, retain existing employees, and announce extensive information. This indicator is stable at 60-68% throughout the study period, followed by community accountability. The lowest is the index of environmental responsibility. This situation can be explained that banks are often considered low-emission and eco-friendly businesses (Thuy, Anh, & Dung, 2016; Kennedy, 1999). There has been a significant increase in the implementation and disclosure of environmental information since 2016 because the SBV issued many legal documents related to the environment in banking activities.

Figure 1: The total CSR and the component CSR indicators of Vietnamese commercial banks for the period 2012-2019



Source: *Authors*

To have a comprehensive view of the CSR disclosure level of Vietnamese banks, the authors classify the banks in the research sample, specifically as follows:

Based on ownership, banks are divided into two groups, State and Non-state. The State group includes commercial banks established with 100% state budget capital or joint-stock commercial banks in which the State holds a controlling stake (the State's capital contribution ratio is greater than 50%); this group includes Agribank, BID, CTG, and VCB. Non-state groups are commercial banks in joint-stock companies in which businesses, organizations, and individuals contribute capital. The non-state group includes twenty-five banks.

Based on the listed banks, the banks are divided into two groups: Listed and Unlisted. The listed group consists of seventeen banks, of which fifteen are listed on the Ho Chi Minh City Stock Exchange and two on the Hanoi Stock Exchange. The unlisted group includes 05 unlisted concentratedly on the Stock Exchange (BAB, BaovietBank, SCB, SSB, VietABank), and 06 public banks not listed on the

Stock Exchange (ABB, BVB, KLB, NAB, PGB, SGB), and a commercial bank with 100% state capital (Agribank).

Based on the value of total assets, the research sample is divided into two groups: large scale and small scale. Banks with more than 10 billion USD assets will be classified as large-scale (e.g., BID, Agribank, CTG, VCB, SCB, STB, MBB, TCB, ACB, VPB, and SHB). The large-scale group accounts for nearly 80% of the total asset value of Vietnamese commercial banks. The remaining 18 commercial banks have a small scale (total assets under 10 billion USD). The bank with the lowest total asset value of less than 1 billion USD.

Table 1: CSR disclosure level of Vietnamese commercial banks in detail by the group

Unit: %

Bank type	2012	2013	2014	2015	2016	2017	2018	2019
CSR_sum								
State Group	58.5	54.8	60.8	71.3	76.1	76.5	81.3	86.9
Non-State Group	42.7	43.2	46.7	47.7	55.4	52.7	56.6	56.8
Listed group	49.7	48.8	52.7	56.7	63.8	58.0	61.9	64.0
Unlisted group	37.9	39.1	43.0	42.8	50.3	53.1	57.2	56.7
Large-scale group	55.4	58.8	61.8	63.8	69.4	71.3	73.8	75.3
Small-scale group	38.4	36.2	40.6	43.1	51.4	46.6	51.6	52.2
CSR_env								
State Group	22.5	10.0	22.5	45.0	52.5	57.5	62.5	80.0
Non-State Group	17.6	17.6	20.8	24.4	29.2	33.2	36.0	39.6
Listed group	22.9	21.8	25.9	33.5	40.6	45.3	45.3	51.2
Unlisted group	11.7	9.2	14.2	18.3	20.8	24.2	31.7	36.7
Large-scale group	25.5	24.5	30.0	38.2	46.4	54.5	54.5	64.5
Small-scale group	13.9	11.7	15.6	20.6	23.9	25.6	30.6	33.3
CSR_emp								
State Group	62.5	60.7	66.1	75.0	82.1	75.0	87.5	83.9
Non-State Group	54.9	58.0	60.9	66.6	72.9	72.0	75.7	73.4
Listed group	63.0	62.2	66.0	73.9	77.3	77.3	80.3	79.8
Unlisted group	45.8	53.0	55.4	58.9	69.6	65.5	73.2	67.9
Large-scale group	66.9	70.1	71.4	74.7	79.9	79.9	83.8	81.8
Small-scale group	49.2	51.2	55.6	63.5	70.6	67.9	73.4	70.6
CSR_com								
State Group	90.6	93.8	93.8	82.6	93.8	96.9	93.8	96.9
Non-State Group	55.5	54.0	58.1	58.3	64.0	53.0	58.0	57.5
Listed group	63.2	62.5	66.2	66.4	73.5	51.5	60.3	61.0
Unlisted group	56.3	55.2	58.5	54.9	60.4	69.8	66.7	65.6
Large-scale group	73.9	81.8	84.1	77.9	81.8	79.5	83.0	79.5
Small-scale group	52.1	45.8	50.1	51.7	59.7	46.5	50.7	52.8

Source: *Authors*

The level of CSR disclosure of the State group is higher than that of the non-State group in all indicators, from total CSR to component CSRs. A higher disclosure rate was also seen in all years of the study period except 2013. The CSR_env index of the State group in 2013 was only 10%, a decrease of 12.5% compared to 2012. This is because VCB's CSR_env dropped sharply while Agribank and CTG's CSR_env scores remained unchanged, and BID's increased slightly from 10% to 20%. In 2012, VCB announced 6/10 targets related to the environment, such as saving electricity and stationery, reducing the use of polluting emissions and waste, investing and developing friendly products with the environment, implementing green credit policies, and communicating about the environment to customers and the community. However, the 2013 annual report did not publish any

information related to the environment, causing the CSR_env index to plummet from 60% to 0%.

There is no significant difference in the level of disclosure of responsibility to employees between State and non-State groups. This result shows that regardless of the type of ownership, responsibility for employees is always focused. According to (Carroll, 2016), charitable activities within the community are at the highest level in the CSR pyramid and express society's desire. This can be explained that the State group has always been the leading bank in responsible activities to the community, and annually they spend a sizable budget on community support (see Table 2).

Table 2: Amount spent on community activities by banks in the State group

Unit: Billion VND

Name bank	2012	2013	2014	2015	2016	2017	2018	2019
Agribank	333	400	269	350	346	298	350	350
BID	273	327	416	308	300	285	201	176
CTG	1.5	1.4	880	537	783	806	574	370
VCB	253	231	239	225	234	133	171	197

Source: *Authors*

The Listed bank group has a greater level of CSR disclosure than the Unlisted group because disclosure of CSR information for unlisted banks is entirely voluntary; this is also why the unlisted banks' group has a lower CSR disclosure rate than the listed group. However, this difference is not too significant, showing that unlisted banks are also very interested in carrying out socially responsible activities and widely publishing this information on the Internet.

We finally see differences in CSR disclosure for banks of different sizes. The large group has a higher level of exposure than the small group. This can be explained by high business efficiency (see Table 3), so they have the financial potential to carry out operations responsible for the environment, employees, or the community.

Table 3: Financial performance of banks by size

Unit: %

Group	2012	2013	2014	2015	2016	2017	2018	2019
NIM								
Large-scale	3.5	3.1	3.1	3.3	3.1	3.3	3.4	3.6
Small-scale	3.6	2.9	2.5	2.7	2.7	2.7	2.7	2.7
ROA								
Large-scale	0.8	0.8	0.7	0.7	0.8	1.0	1.2	1.3
Small-scale	0.9	0.6	0.5	0.3	0.4	0.5	0.7	0.9
ROE								
Large-scale	10.7	9.8	9.8	9.8	11.0	13.8	15.4	16.4
Small-scale	6.1	4.2	4.5	3.7	4.7	7.1	9.5	11.0

Source: *Authors*

Descriptive statistics of research samples

Table 4 describes the statistics based on a sample of 232 observations. The average value of NIM is 2.996%. The bank with the highest NIM of 9.325% was VPBank in 2019, while the lowest was 0.549% of HDBank in 2013. With the three-component CSR indices (CSR_emp, CSR_com, CSR_env), the lowest score is 0; the highest is 1; this means that some banks do not publish any information related to the environment, workers, or the community, while some other banks provide all the information

Table 4: Statistics of variables used in the research model

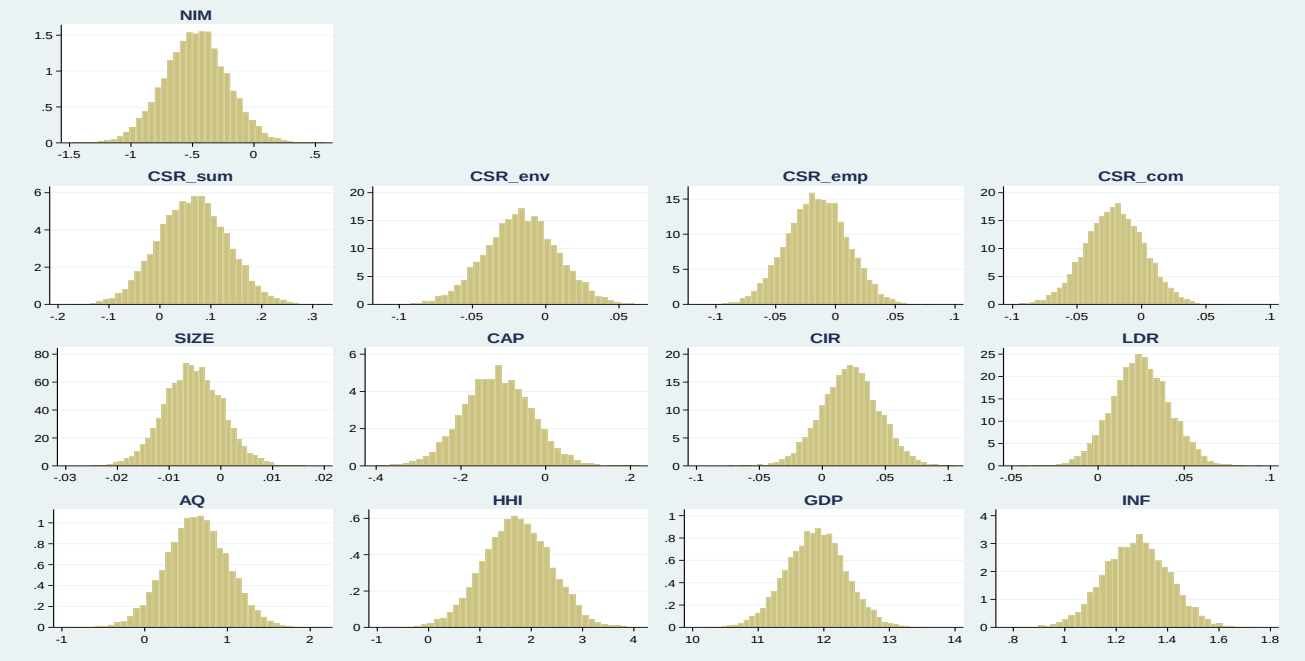
Variable	Obs	Mean	Std. Dev.	Min	Max
NIM	232	.0299642	.0128389	.0054901	.0932541
CSR_sum	232	.5305111	.204417	0	.9666667
CSR_env	232	.2961207	.2580858	0	1
CSR_emp	232	.6779557	.1870429	0	1
CSR_com	232	.6218442	.3015428	0	1
SIZE	232	5.077887	.5039691	4.123296	6.173174
CAP	232	.089068	.0388859	.0293143	.2384065
CIR	232	.5557931	.1292182	.2874449	.9279279
LDR	232	.7877615	.1149692	.4269522	1.125306
AQ	232	.009788	.0077878	-.0065091	.0493649
HHI	232	.0544766	.0043215	.0482133	.0597378
GDP	232	.0632875	.0069103	.0525	.072
INF	232	.0383125	.0192396	.0063	.0681

Source: *Results from Stata software*

Testing for research model disabilities

In the analysis of continuous variables, most statistical audits are only possible with variables with the standard distribution. Therefore, it is essential to determine whether a variable is distributed standardly before conducting inspections. Figure 2 shows variables in the model with a normal distribution.

Figure 2: Histogram plots of variables in the research model



Source: *Results from Stata software*

The results show that the values of the variance inflation factor (VIF) in the Table 5 were below 10, so the conclusion of the multicollinearity was small and did not affect the regression results.

Table 5: Results of multicollinearity test using VIF

Model 1

Variable	VIF	1/VIF
GDP	4.33	0.230975
HHI	4.03	0.247877
SIZE	3.38	0.295747
CAP	2.98	0.335467
INF	2.75	0.363702
CIR	1.85	0.540568
CSR_sum	1.67	0.600259
AQ	1.61	0.620404
LDR	1.39	0.717019
Mean VIF	2.67	

Model 2

Variable	VIF	1/VIF
GDP	4.61	0.217009
HHI	4.12	0.242889
SIZE	3.38	0.295626
CAP	3.00	0.333065
INF	2.83	0.353758
CSR_emp	1.97	0.507836
CSR_com	1.89	0.528214
CIR	1.87	0.533831
CSR_env	1.76	0.568723
AQ	1.61	0.620508
LDR	1.52	0.656745
Mean VIF	2.60	

Source: *Results from Stata software*

With the Prob < 0.05 value of the Wooldridge test in Table 6, we conclude that the research model has an autocorrelation phenomenon.

Table 6: Autocorrelation test results

	Model 1	**Model 2**
F (1,28)	37.637	36.525
Prob>F	0.0000	0.0000

Source: *Synthesis of Authors from Stata Software*

Table 7 shows that the test has Prob <0.05, concluding that all estimation methods (Pooled OLS, FEM, REM) encounter heteroscedasticity.

Table 7: Heteroscedasticity test results

Estimation methods	**Type of test**	**Model 1**		**Model 2**	
		Chi (χ^2)	**Prob**	**Chi (χ^2)**	**Prob**
Pooled OLS	Breusch-Pagan	47.357	0.0000	42.14	0.0000
FEM	Wald	2283.22	0.0000	1465.13	0.0000
REM	Breusch and Pagan Lagrangian	253.96	0.0000	251.57	0.0000

Source: *Synthesis of Authors from Stata Software*

The model with an independent variable is an endogenous variable, so it is called an endogenous model. The endogenous phenomenon makes estimates obtained by the classic linear regression (Pooled OLS) that is no longer inconsistent estimates. To detect, we use the Durbin - Wu - Hausman test to check whether the independent variable of the model is endogenous or not. The results from Table 8 show that with model 1, studying the impact of total CSR on NIM of the Vietnamese commercial banks, there will be three endogenous variables. 2 variables are endogenous with the remainder of the model SIZE, LDR. CSR_sum is also endogenous because it has a two-way relationship with the dependent variable NIM (as shown in Section 3.5). Model 2, which studies the impact of the component CSR indicators on the NIM of Vietnamese commercial banks, has three endogenous variables. All three endogenous variables in the remainder of the model are CSR_com, SIZE, and LDR.

Table 8: Results of endogenous testing with residues of variables in the models

Variable	Model 1		Variable	Model 2	
	F	**Prob**		**F**	**Prob**
			CSR_env	0.38	0.5380
CSR_sum	1.31	0.2545	CSR_emp	0.17	0.6805
			CSR_com	**2.77**	**0.0974**
SIZE	**10.55**	**0.0014**	**SIZE**	**10.31**	**0.0016**
CAP	1.36	0.2452	CAP	1.32	0.2515
CIR	0.23	0.6319	CIR	0.20	0.6539
LDR	**3.35**	**0.0688**	**LDR**	**2.80**	**0.0962**
AQ	2.19	0.1410	AQ	1.61	0.2056
HHI	0.01	0.9115	HHI	0.08	0.7746
GDP	0.00	0.9502	GDP	0.02	0.8893
INF	0.00	0.9545	INF	0.07	0.7968

Source: *Synthesis of Authors from Stata Software*

Verify the appropriateness of the estimation results

According to the GMM method, the model estimation results are presented in Table 9. The Model 1 column shows the results of the effect of total CSR on NIM. Model 2 column is the results of the impact of the component CSR indicators (including environmental responsibility, employee responsibility, and community responsibility) on the NIM. Regression conformity test results by the GMM method were evaluated through the F-test, Arellano-Bond (AR), Sargan, and Hansen tests. Specifically:

+ F-test checks the statistical significance of the estimated coefficients. The results show that the F-test in both models has P.value < 1%, indicating the model's suitability.

+ The AR test determines whether there is a correlation in the model residue. The results show that the AR (2) test in both columns in Table 6 has P.value > 10%, which means that the model has no second-order correlation.

+ Sargan test checks the representative variables' excessive constraints and reasonableness. The results in Table 6 have a P.value > 10%. Therefore, the model is correct; the variables are reasonably represented.

+ Test Hansen in columns in the table with a P.value greater than 10%, indicating that the variables selected as instrumental variables are reasonable.

+ At the same time, in the two models, the number of instruments is less than or equal to the number of groups, so we conclude that the instrumental variables are not weak.

Table 9: Estimation results of the effects of the total CSR index and its component CSR indexes on the NIM of Vietnamese commercial banks

	Model 1	Model 2
L.NIM	0.850***	1.028***
	(17.88)	(16.52)
CSR_sum	0.00557**	
	(2.63)	
SIZE	−0.00623**	−0.0040***
	(−2.71)	(−3.08)
CAP	−0.0527**	−0.0299**
	(−2.10)	(−2.10)
CIR	−0.0269***	−0.0167***
	(−3.21)	(−2.79)
LDR	0.0173**	−0.0229***
	(2.48)	(−2.87)
AQ	0.299***	0.1204*
	(3.03)	(1.74)
HHI	0.106	−0.0614
	(1.39)	(−0.35)
GDP	0.0332	0.2702**
	(0.36)	(2.37)
INF	−0.0494**	−0.0486
	(−2.56)	(−1.12)
CSR_env		0.00593*
		(1.80)
CSR_emp		0.00098
		(0.11)
CSR_com		0.00382
		(0.70)
_cons	0.0289*	0.0301*
	(1.91)	(1.90)
Number of obs	203	203
Number of instruments	29	25
Number of groups	29	29
F test – P.value	0.000	0.000
AR(1) test – P.value	0.008	0.015
AR(2) test – P.value	0.985	0.890
Sargan test – P.value	0.745	0.895
Hansen test – P.value	0.270	0.598

Note: t statistics in parentheses * p<0.10, ** p<0.05, *** p<0.01

Source: Synthesis of Authors from Stata Software

Discuss estimation results

The estimation results of GMM in the Model 1 column indicate a statistically significant relationship between the total CSR index and NIM. This conclusion matches with the studies of Hafez (2015), Taşkın (2015), Senyigit and Shuaibu (2017) with the sample in Nigeria. Our findings support the Stakeholder theory and Legality theory. Stakeholder Theory holds that doing business to satisfy stakeholders will assist companies in creating a competitive advantage and improving financial performance (Freeman & Evan, 1990). Meanwhile, Legitimacy theory holds that firms see CSR activities as a tool to achieve and maintain legality (Fernando & Lawrence, 2014).

Of the three-component CSR indicators, only a statistically meaningful relationship was found between the index of environmental responsibility and the NIM. This result contradicts Gonenc and Scholtens (2019) conclusion that argues that environmental responsibility reduces NIM significantly. In other words, better ecological performance reduces the efficiency of banks. Our results provide a different perspective on the relationship between the index of environmental responsibility and financial performance. Unlike the term "environmental responsibility of banks," which has not been popularized, "green banking" has been used widely for many years. However, the connotations of these two concepts are the same, showing banks' activities to improve and protect the environment. Unlike manufacturing enterprises that can directly pollute the natural environment by creating toxic chemicals or discharging pollutants into the air, soil, or water, banks cause indirect pollution by lending money to companies or projects that lead to significant damage to the environment (Zhang, Yang, & Bi, 2011). Therefore, the environmental responsibility of a bank is reflected in its activities to reduce carbon both inside and outside the bank (Millat, 2012). Specifically, the bank reduces its internal carbon footprint by doing online operations, like using ATMs, mobile banking, cards, exchanging via email, etc. Besides, promoting the construction of an environment-friendly working environment through practical actions, such as: Using proper

air conditioning, limiting heat loss to the outside; Using suitable lights in the work area, turning off lights in unnecessary places; Regularly checking water equipment to detect damage and replace, to avoid leakage causing loss and waste; Seriously test electrical equipment at the end of the day; Promoting the implementation of the 5S program (Screening - Sorting - Cleanliness - Care - Ready) helping bank employees form a sense of thrift and keep a green - clean - beautiful working environment, etc. To reduce off-bank emissions, banks implement a green credit policy (funding environmentally friendly projects, reducing pollution emissions, prioritizing green industries) and environmental and social risk management in credit operations. In addition to the environmental effects, these activities also assist in saving costs, increasing employee productivity, screening loans, limiting risks, and improving credit performance use. Therefore, a bank with better environmental performance will have better financial performance.

The conclusion of the neutral relationship between the employee responsibility index and the NIM is also indicated in the studies of Hafez (2015). Meanwhile, the estimated results show no statistically significant relationship between the accountability index to the community and the NIM, also found in the studies by Hafez (2015), and Gonenc and Scholtens (2019). This conclusion does not deny the policies and strategies that banks have implemented to demonstrate responsibility to employees or the community. Numerous studies have found that CSR_emp or CSR_com has no statistically significant relationship to the financial performance represented by NIM but has a statistically significant connection to other indicators. This is also a limitation of this research and can open up future research directions.

Regarding other factors affecting the NIM of the Vietnamese commercial banks, which are included in the model as control variables, the regression results show that the variables reflecting the bank's characteristics are statistically significant when analyzed. All three variables, including bank size, equity to total assets, and cost-to-income ratio, have opposite effects on the NIM. Previous studies have also found the conclusion that CIR harms NIM (Thu & Huyen, 2014; Tu & Nghia, 2018). Asset Quality has a significant and positive impact on NIM with a 1% significance level. This conclusion is consistent with the previous studies on the factors affecting the NIM of the Vietnamese commercial banks (An & Huong, 2013; Thu & Huyen, 2014; Tu & Nghia, 2018). With the banking sector characteristic variable HHI, the estimation results indicate a neutral relationship. Meanwhile, with two variables belonging to macroeconomics, economic growth (GDP) has a positive relationship with the NIM found in model 2. In contrast, the inverse relationship between inflation and NIM showed in model 1.

5. CONCLUSION

Seeking empirical evidence on the relationship between CSR and financial performance attracts many scholars worldwide. The Vietnamese researchers are also not out of that trend. Banking is a unique industry with characteristics differing from other industries, so it is often focused on research in separate studies. To assess the above relationship, many indicators have been selected to represent financial performance. However, no studies are using NIM to represent financial efficiency in Vietnam.

The CSR indicators are collected from the method of content analysis. The results show that, in the 2012-2019 research period, the CSR information disclosure of the Vietnamese commercial banks tends to increase.

Based on the type of ownership, research finding shows that the State group has a higher disclosure rate than the non-State one. The result also indicates that the group of listed banks has a higher level of CSR disclosure than the unlisted group in the same period. The small group of banks has a lower level of revelation than the large group.

As with any experimental study, this study encounters certain limitations. Firstly, as mentioned above, various variables are used to present banks' financial performance. It can be variations that show accounting returns (ROA, ROE, etc.) or market profits (Earning Per Share, Tobin's Q, etc.). Here, future studies can use different variables to examine the financial performance of Vietnamese commercial banks. The following limitation is on independent variables - the CSR index of banks. The total CSR comprises three component CSR indicators: environmental, employee, and community. However, in Stakeholder theory, besides the above, many other stakeholders exist, such as customers, shareholders, etc. Therefore future studies can supplement these components.

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