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Article

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FINANCIAL ECONOMICS | RESEARCH ARTICLE

The impacts of corporate social responsibility to corporate financial performance: A case study of Vietnamese commercial banks

Thich Van Nguyen^{1*}, Hang T.T. Bui² and Chi H.D. Le¹

Abstract: This study aims to investigate the relationship between corporate social responsibility (CSR) and corporate financial performance (CFP). A multi-method approach has been applied to measure CSR. Net interest margin (NIM), return on assets (ROA), and return on equity (ROE) are selected to represent the financial performance of the bank. Using a sample of Vietnamese commercial banks from 2012 to 2019 to perform regressions in the dynamic panel models with the two-step system generalized method of moments (GMM) estimator, the results show a positive effect of both *corporate social responsibility expenditure* (CSRE) and *corporate social responsibility disclosure* (CSRSD) on the financial performance of the bank. The results also show the impact of the component CSRs on the bank's financial performance, particularly finding a positive effect of Environmental responsibility and Employee responsibility. In contrast, the influence of Community responsibility is not evident.

Subjects: Finance; Corporate Finance; Banking; Business, Management and Accounting

Keywords: commercial banks; *corporate financial performance*; *corporate social responsibility*; disclosure; expenditure

JEL codes: M10; M14; M21

1. Introduction

Corporate social responsibility (CSR) is not a new term. The origins of CSR have emerged since the 1930s (Agudelo et al., 2019). The first definition of CSR is found in Bowen's study (Agudelo et al.,

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2019). CSR is “the obligations of business to pursue those policies, to make those decisions or to follow those lines of action which are desirable in terms of the objectives and values of our society” (Bowen, 1953, p. 6). There have been many CSR concepts; however, the most popular is defined by International Organization for Standardization (ISO). In particular, ISO issued the guidelines on social responsibility (known as ISO 26000), under which CSR is defined as the responsibility of an organization for the impacts of its decisions and activities on society and the environment, through transparent and ethical behavior that: contributes to sustainable development, including health and the welfare of society; takes into account the expectations of stakeholders; is in compliance with applicable law and consistent with international norms of behavior; and is integrated throughout the organization and practiced in its relationships (ISO, 2010).

Not only implementing CSR actions, but businesses also promote information disclosure to stakeholders (including shareholders, customers, staff, suppliers, banks, lawmakers, the environment, and society; Salehi, Mahmoudabadi et al., 2020). CSR disclosure is the process of communicating an organization’s business activities that affect the environment and society to individuals in the community and society (Gray et al., 1996). Also, according to Salehi, Mahmoudabadi et al. (2020), CSR and its related disclosures are two essential factors for company consistency. Therefore, a business is often encouraged to adopt CSR activities because of the benefits of both macro and micro activities. According to Bui and Huynh (2020), CSR brings various benefits to society, including improving the quality of life; being able to consume quality products at low prices; improving health and education for the community; protecting the natural environment; developing technology; enhancing infrastructure; creating more jobs for workers; making better the status and image of the country. CSR also benefits companies by attracting new talent and retaining good employees; increasing opportunities to access new markets; improving loyalty and dealing with risk; attracting new investors and customers; improving labor productivity; preventing legal violations; enhancing the quality of products and services; improving brand value and corporate reputation, and improve CFP (Bui & Huynh, 2020). Of the benefits listed, all are intangible benefits except for CFP. Therefore, finding empirical evidence for the link between CSR and CFP has attracted scholars’ attention worldwide.

Banking is always considered an important industry of any country, especially in integration, globalization, and industrial revolution 4.0. The past ten years have witnessed the “bloom” of publications related to CSR and the bank’s financial performance, proving this topic’s great attraction to scholars. However, according to Wu et al. (2017, p. 29), high CSR is associated with improved bank financial performance, which is “the old yet debatable idea”. The evidence is that the results of experimental studies of published works vary widely. They may be a positive, negative, or no statistically significant relationship between CSR and CFP. In addition, some studies also show mixed results; for instance, CSR has a positive effect on one CFP indicator but negative or no statistical significance with the other CFP indicator. This CSR component positively affects CFP, but the other CSR component has a negative effect or is not statistically significant. By reviewing studies of CSR and the financial performance in the banking industry, the authors found a considerable difference between published studies, specifically as follows:

First, the researchers used different methods to measure CSR. Bui and Huynh (2020) reviewed 37 studies on CSR and the financial performance of banks. The results showed that scholars had used all four methods to measure CSR, including ranking index data sets (one-way or multi-dimensional), content analysis of publications, questionnaire-based surveys, and the use of financial data. However, the interesting point is that the method of measuring CSR by questionnaire was not found in the English documents. Meanwhile, two case studies on CSR and the financial performance of Vietnamese commercial banks by Tran (2016) and P. H. Le (2020) used this method.

Second, various metrics have been used to represent a bank’s financial performance. They can be accounting-based financial measures (e.g., ROA, ROE, NIM, profit after tax (PAT), etc.), market-based financial performance measures (dividend per share (DPS), Tobin’s Q (TBQ), etc.), or

a combination of both. Some researchers employ technical performance measures based on Data Envelopment Analysis (DEA) models (Belasri et al., 2020; Zhu et al., 2017).

Third, the researchers have developed a variety of research models and have chosen to use different estimation methods to provide empirical evidence as a conclusive basis for the impact of CSR on the financial performance of banks, specifically:

Using a univariate linear regression model, in which the dependent variable Y is the representative indicator of the bank's financial performance, the independent variable X is the bank's CSR (Bidhari et al., 2013; Bolanle et al., 2012; Soana, 2011).

Building a multivariable linear regression model, in which the independent variables X_n are the bank's component CSR indices (Ashraf et al., 2017; Tran, 2016). Another way, putting the control variables into the multiple regression model (Gangi et al., 2019; Gonenc & Scholtens, 2019; Hafez, 2015; Szegedi et al., 2020; Wu & Shen, 2013). The control variables are also extraordinarily diverse and divided into three categories characterized by the macroeconomy, the banking industry, and each particular bank.

Using a variety of estimation methods to conclude. Mozghovyi and Ratnykova (2011), Iqbal et al. (2014) just conduct statistical analysis. Paulík et al. (2015) show the relationship between the variables based on the results from the correlation coefficient matrix. The basic estimation methods with panel data are often used such as pooled regression model (Pooled OLS), random effect model (REM), fixed effect model (FEM). Pooled OLS can be used alone (Hafez, 2015; Moslemany & Etab, 2017; Senyigit & Shuaibu, 2017; Taşkın, 2015) or in combination with FEM and FEM (Khan et al., 2018; Matuszaka & Róžańska, 2017; Szegedi et al., 2020). Some scholars use FEM and REM (Buallay, 2019; Nwude et al., 2020; Oyewumi et al., 2018). Gonenc and Scholtens (2019) use the three-stage Least Square (3SLS) estimation method. Gangi et al. (2019) tested research hypotheses by using FEM and 2-stage Heckman model to resolve endogenous bias. Wu and Shen (2013) worded an extended version of Heckman's two-step regression. Matuszaka and Róžańska (2019) adopted linear and non-linear approaches to examine the impact of component CSR indices on CFP.

Vietnam is also a developing country but has different characteristics from other countries, especially political institutions. After a long time of war, this country has opened up and integrated the economy. Many new management methods and strategies are adopted as an essential part of the complex and competitive environment, CSR is prominent in new management strategies. CSR was introduced and developed in Vietnam after the 2000s by multinational companies. It was not until 2013 that Vietnam issued the National Standards for Guidelines on Social Responsibility. Until 2015, Vietnam had the first legal document regulating CSR information disclosure for companies listed on the stock market (Circular 155/2015/TT-BTC). In that context, the studies on the CSR-CFP relationship of Vietnamese commercial banks are pretty meager (P. H. Le, 2020; B. N. Nguyen, 2018; Nguyen & Tang, 2022; Tran, 2016; Tran et al., 2021). Vietnamese scholars' research is quite simple on CSR measurement methods, CFP representative indicators, or estimation methods compared with similar studies on this topic in the published academic literature.

This paper aims to reexamine the relationship between CSR and CFP using a panel dataset in 8 years of Vietnam commercial banks. There are four reasons for this time range to be selected. Firstly, 2012 is the beginning of the process of restructuring the banking system in Vietnam according to Decision 254/QĐ-TTg dated 1 March 2012. Second, the research period is long enough to assess the spending and disclosure of CSR information of commercial banks before and after the mandatory provisions of the law on CSR information disclosure, starting from 2016. Third, regression by the GMM method requires a large enough number of observations, while the number of commercial banks that meet the data requirements for analysis is only 29 to increase the number of observations. It is necessary to increase the period of data collection. Fourth, the time to collect

research data only stops in 2019 without updating data for 2020 and 2021 because the period 2012–2019 has similar macroeconomic characteristics. In the period 2020–2021, the Covid 19 epidemic occurred with unprecedented socio-economic developments, leading to changes in the business situation of commercial banks. We use a multi-methodological approach to measure the CSR of banks. NIM, ROA, ROE are used as dependent variables representing CFP. To solve endogenous variables and other defects that the model may encounter, the authors use the GMM estimation method to draw reliable conclusions about the impact of the total CSR index, component CSR indicators on the bank's financial performance. So, it provides significant contributions to the material. First, provide empirical evidence for the debate about the link CSR-CFP, mainly focusing on the context of Vietnam (a developing country) and the banking sector (an industry with distinct characteristics from other professions). Most previous studies have been conducted in developed countries. However, in-depth analysis on this topic in the Vietnamese context is almost nonexistent. Therefore, this study is of considerable importance to examine theories that explain the CSR-CFP relationship and provide further evidence of this alignment in emerging economies.

2. Literature review and hypothesis development

Many studies have investigated the possible relationship between CSR and CFP, both theoretically and experimentally. From the theoretical point of view, two conflicting hypotheses about the link CSR-CFP have been proposed: the social impact hypothesis and the trade-off hypothesis (Matuszaka & Róžańska, 2019). The social impact hypothesis suggests a positive association between CSR and CFP. Stakeholder theory and Legitimacy theory provide arguments in support of the social impact hypothesis. The stakeholder theory holds that business activities satisfying stakeholders will help enterprises create competitive advantages and improve financial performance (Freeman & Evan, 1990). Meanwhile, the legitimacy theory suggests that companies see CSR activities as a tool to gain and maintain legitimacy (Fernando & Lawrence, 2014).

Conducting a study with a sample of 121 Iranian and 37 Iraqi companies, Mahdi Salehi, Mahmoudabadi et al. (2020) concluded that socially responsible companies win consumer loyalty and investor preference. Therefore, these companies will experience more minor fluctuations in demand, leading to reduced risk, tending to maintain high profits. Nirino et al., (2020) studied the effect of CSR results on the FP of 190 enterprises in the food and beverage sector and showed mixed results. On the one hand, social responsibility positively affects a company's financial performance (ROA, ROE, Return On Sales—ROS); on the other hand, environmental responsibilities show negligible or non-positive effects depending on different FP measurements. Using data for 113 publicly listed US companies in the software industry from 2000 to 2005, Kim et al. (2018) found that socially responsible activities (positive CSR) enhance a company's financial performance when the company's level of competition is high while socially irresponsible actions (negative CSR) improves a company's financial performance when competition is low.

Many studies that investigated the impact of CSR on bank CFP have been carried out in recent years with conflicting results. Many studies have demonstrated the positive effect of CSRE (Adewale & Rahmon, 2014; Bani-Khaled et al., 2021; Iqbal et al., 2014) or CSRD (Bidhari et al., 2013; Mallin et al., 2014) on the financial performance of banks. Others show mixed results, in which at least one indicator representing CFP has a positive relationship with CSR. The experimental results of Wu and Shen (2013) showed that CSR has a positive relationship with ROA, ROE, net interest income, and non-interest income. However, CSR is negatively associated with non-performing loans. Taşkın (2015) indicated that CSRD has a positive and statistically significant coefficient with NIM of Turkish banks while reducing ROA and ROE but not statistically. Senyigit and Shuaibu (2017) conducted a study in two different countries, and the results showed that CSRD has a positive impact on the financial performance of banks in Nigeria. However, there was no statistically significant relationship with banks in Turkey. Matuszaka and Róžańska (2017) found a positive relationship between CSR by banks and profitability measured by ROA and ROE. However, the relationship between CSR disclosure and NIM was negative. Szegedi et al. (2020) argue that fair disclosure improved CFP based on accounting measures (ROA, ROE). However, CSR

had no effect on CFP based on Pakistani banks' market measures (earnings per share—EPS, TBQ). The findings of Nwude et al. (2020) showed that CSRE has a strong positive impact on ROA but has a weak positive effect on EPS, market price per share (MPPS), and a soft negative effect on ROE.

When criticizing CSR activities with no or even adverse effects on CFP, the trade-off hypothesis is mentioned. This assumption is associated with Friedman's Shareholder theory. Using a panel of 137 leading companies from the CNX-500 over ten years (2008–2017), Sekhon and Kathuria (2019) investigated the impact of CSR on the financial performance of Indian companies. The study found that the effect of CSR on financial performance can be neutral (with ROA and Net Profit Margin) or negative (with ROE). The negative influence of CSR on the ROE of firms supports Friedman's (1970) theory that the sole responsibility of firms is to maximize returns for shareholders. Researching with a sample of 34 Egyptian banks in the period 2005–2013, Hafez (2015) proved the neutral relationship between CSRD and CFP. Gbadamosi (2016) conducted a study with a sample of 71 US banks in the period 2011–2014. The results showed that for accounting profit, there is no significant effect of CSR. With these conclusions, there is a basis for managers' skepticism that enterprises are unsuitable for carrying out CSR activities. Oyewumi et al. (2018) used panel data from 21 banks in Nigeria between 2010–2014 to examine the effects of CSRE and CSRD on ROA. Regression results indicated that revealing CSR activities has a significant and positive impact on ROA while investment in CSR harms ROA. That is to say, investing only in CSR does without a network to disclose those activities to stakeholders will not positively affect financial performance; instead, CSR activities will only drain financial resources. Tuhin (2014) also showed no significant impact of CSRE on the financial performance of Islamic banks in Bangladesh in the period 2007–2011. B. N. Nguyen (2018) examined the relationship between CSR disclosure and the financial performance of banks in Vietnam over the period 2011–2016. Using content analysis to approach CSR-related data and an ordinary least square estimator to analyze data, the finding indicated a significant negative relationship between CSR disclosure and ROA of commercial banks in Vietnam. Similarly, the research results of Tran et al. (2021) also showed the negative impact of CSRD on Vietnamese commercial banks' financial performance (ROA, ROE, and NIM).

From the above discussions, this paper seeks to provide empirical evidence from the perspective of a developing country to verify whether investing in CSR activities and disclosing such information to stakeholders has a positive impact on a bank's financial performance. Another reason is that the underlying theories to explain the positive impact of CSR on CFP, such as stakeholder theory (Berman et al., 1999; Inoue et al., 2011; Orlitzky et al., 2003; Ruf et al., 2001; Theodoulidis et al., 2017) come from developed countries. Therefore, this study is of considerable importance to test the relevance of stakeholder theory in an emerging economy like Vietnam in a specific industry such as the banking industry. Therefore, the first research hypothesis is as follows:

H1: CSR has a positive effect on the financial performance of Vietnamese commercial banks.

The studies also examined the impact of the component CSR indexes on the bank's financial performance. Conducting an empirical study with a group of 72 banks from 20 European countries over seven years (2009–2015), Gangi et al. (2018) concluded that internal CSR (towards employees) of banks has positively affected bank's citizenship performance, and this is a positive predictor of bank's financial performance. Gbadamosi (2016) concluded that Governance, Diversity, and Employees are positively related to accounting profitability while Product and Community are negatively correlated. Buallay (2019) demonstrated a significant positive impact of CSR on the financial performance of European banks. However, the conclusion is different if CSR is measured individually: Environmental responsibility positively affected ROA and TBQ, Social responsibility negatively influenced ROA, ROE, and TBQ, Corporate governance negatively impacted ROA, ROE, and positively affected TBQ. Gonenc and Scholtens (2019) investigated the impact of three specific CSR indicators, including Corporate Governance, Environmental and Social, on banks' NIM. The

results showed that the Corporate Governance index has a positive impact, the Social index has no statistically significant relationship, and the Environmental index harms NIM. Matuszaka and Róžańska (2019) adopted a linear and non-linear approach to testing the impact of component CSR indicators on NIM. The results showed that there is no unique relationship between component CSR and NIM indicators. However, further analysis of non-linear models shows U-shaped relationships between Human resources and NIM and an inverse U-shaped link between the Community and NIM. Moslemany and Etab (2017) found a negligible relationship between Environment, Community, Customer, Employee, and the Egyptian bank's financial performance.

Ashraf et al. (2017) studied the impact of CSR aspects (including Donation, Social Welfare, Education, Health, and Environment Protection) on the financial performance of Islamic and Conventional banks of Pakistan and Bangladesh. Empirical results show that CSR has a positive and significant impact on the financial performance of banks. Fayad et al. (2017) conducted a study with a sample of seven Lebanese banks in the period 2012–2015 to examine the effect of Economic Development, Community, Environment, and People Development on ROA, ROE. The results show that Economic, Community, and People Development has a significant positive impact on ROA. Meanwhile, with ROE, only Economic Development has a significant positive effect. Tran (2016) indicates the positive impact of all CSR components (Labor Practices, Community, Human Rights, Environment, Corporate Governance, Equity in Operations activities, Customers) on the financial performance of Vietnamese commercial banks. P. H. Le (2020) conducted interviews with two groups of subjects to conduct quantitative research on CSR, brand value, and financial performance of 29 Vietnamese commercial banks, and the conclusions drawn were significant differences. The results of empirical research on customer groups show that the community aspect and the customer aspect harm financial performance. In contrast, aspects of employees, shareholders, and legal ethics positively impact the bank's financial performance. The employee group empirical study results showed that the shareholder aspect of social responsibility negatively impacts financial performance; The remaining aspects of staff and customers positively impact the bank's financial performance. Nguyen and Tang (2022) studied the impact of CSR components on profitability (ROE) and enterprise value (Tobin's Q) of seventeen listed banks in Vietnam during 2015–2020. The results showed that CSR activities related to human resources (HR) harmed ROE, while CSR variables belonging to community activism group (PC), environmental activist group (ENV), and social service group (CI) had a similar but not statistically significant impact. Experimental results with enterprise value-dependent variables also showed that HR, ENV, and CI positively impact Tobin's Q.

Based on stakeholder theory, CSR is composed of many components; however, according to Vietnamese law, listed companies must provide non-financial information related to the environment, employees, and communities. This regulation indicates the social responsibility disclosure of commercial banks will be composed of three components: responsibility to the environment, responsibility to employees, and responsibility to the community. In contrast, when searching for monetary data related to the above components, the authors only collected data related to costs for workers and the community. The commercial bank of Vietnam does not disclose the amount spent on environmental activities. Therefore, in this study, the authors have developed and tested three research hypotheses related to Vietnamese banks' social responsibility, including environmental responsibility disclosure, expenditure and disclosure of responsibility information to employees, and expenses and disclosure of responsibility information to the community.

The empirical literature has recorded inconsistent results on the impact of responsibility to the environment, responsibility to employees, and responsibility to the community on the bank's financial performance. However, most conclusions support the social impact hypothesis, including those found in developing financial markets like Vietnam. Tran (2016) concluded that environmental responsibility positively impacts the financial performance of Vietnamese commercial banks. Similarly, the conclusion about the positive impact of employee responsibility on the financial performance of Vietnamese banks has been pointed out by Tran (2016) and P. H. Le

(2020). Empirical results on the impact of responsibility to the community on bank profitability were inconsistent, with Tran (2016) finding a positive effect and P. H. Le (2020) finding the opposite. This study, different from previous research conducted with the research sample of Vietnamese commercial banks in terms of CSR measurement method, CFP representative variables, research model, and estimation method, was carried out to re-verify the impact of CSR components on the financial performance of banks. Therefore, the study develops the following test hypothesis as follows:

H2: Environmental responsibility disclosure has a positive impact on the financial performance of Vietnamese commercial banks.

H3: Spending and responsibility disclosure to employees positively impacts the financial performance of Vietnamese commercial banks.

H4: Responsible spending and disclosure to the community impact the financial performance of Vietnamese commercial banks.

3. Research methods

3.1. Research sample

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. As a result, there are 29 fully publicized banks in the period 2012–2019. Therefore, the final study sample is 29 banks, the number of observations is 232.

3.2. Variables

3.2.1. Dependent variable

Because it is not possible to collect enough data on the market measure (TBQ) of Vietnamese commercial banks, in this study, we used the accounting-based measures of NIM, ROE, and ROA as dependent variables (Dalwai & Salehi, 2021; Hafez, 2015; Matuszaka & Róžańska, 2017; Taşkın, 2015).

3.2.2. Independent variable

This study uses two approaches to establish two separate measures of CSR, qualitative and quantitative. The first approach is the content analysis method to extract a bank's CSR published in its annual reports, financial statements, or website. The CSRD identification process consists of three steps. First, the information items are designed based on Circular 155/2015/TT-BTC (Ministry of Finance, 2015), GRI Standards (Globalreporting), Sustainability Enterprise Index (VBCSD, 2020), and previous studies (Matuszaka & Róžańska, 2019; Szegedi et al., 2020). We designed thirty-two items to measure the level of CSR information disclosure. The 32 items assign into three parts, namely Environmental Responsibility (ENVD), Employee Responsibility (EMPD), Community Responsibility (COMD). Next, we score each item according to the following convention: "0" when no relevant information is disclosed; "1" when the index is proof. The proofs are words, phrases, sentences, paragraphs, figures, images related to the criterion. Quite a few previous studies have performed scoring in this way (Bidhari et al., 2013; Hafez, 2015; Harun et al., 2020). Finally, each CSRD component is calculated by the average score of all items in that component. The total CSRD index of each bank will be the average score of 3 component CSR indicators.

In addition, to overcome the content analysis method's limitations, we also use the financial approach to compute CSRE. Because of the restriction of data in annual reports and financial statements of commercial banks, we have selected three indicators, including expenditure on

employees (SALARY), expenditure on community (CHARITY), and amount of corporate income tax paid during the year (TAX) to represent the CSRE aspects of the bank. Another reason for the choice is that employees, communities, and governments are important stakeholders who determine the survival and growth of the company. After collecting data on each aspect of CSR, the bank's total CSR expenditure is calculated as the total amount spent on all three dimensions. Finally, CSRE is calculated by taking the logarithm of total CSR expenditure.

EMPD, together with SALARY, forms a set of qualitative and quantitative indicators to examine whether the responsibility to employees affects the bank's financial performance. Similarly, to explore the impact of community responsibility on CFP, we are interested in the regression coefficients of CMD along with CHARITY. Since there are no data on environmental expenditures, we only consider the impact of the ecological responsibility disclosure index (ENVD) on the environmental aspect.

3.2.3. Control variables

The control variables of this study include three types, reflecting the characteristics of each bank (5 variables), banking industry (1 variable), and macroeconomics (2 variables). The selection of specific control variables is based on existing research literature on factors affecting the bank's profitability, mainly referring to studies on the impact of CSR on the financial performance of banks (Wu & Shen, 2013; Wu et al., 2017). The variables are described in detail as follows:

Bank size was important because larger banks can have higher financial and social performance than small ones since they can create efficiency and draw public attention (Gonenc & Scholtens, 2019). According to Taşkın (2015), banks with larger asset sizes tend to be more profitable and better in CSR scores. In this study, the logarithm of total assets is used to measure bank size (Faysal et al., 2020, 2021; Salehi, Lari Dashtbayaz et al., 2021; Salehi, Sadegh et al., 2021).

The capital adequacy of a bank is measured by the Equity to Asset ratio (CAP). CAP reflects the ability of the bank to withstand losses or financial risk. A bank with a high CAP has a solid ability to withstand the financial risk, lower the need for external funding, and subsequently result in higher profit (San & Heng, 2013).

The loan-to-deposit ratio (LDR) is determined by the total loan balance divided by the total deposit. Previous studies (Belasri et al., 2020; Gangi et al., 2018, 2019; Gonenc & Scholtens, 2019; Hafez, 2015; Wu et al., 2017) used this variable to assess the liquidity of the bank and to measure the bank's ability to finance loans through deposit-raised funds (Belasri et al., 2020). The loan-to-deposit ratio indicates that banks can better access funds to pursue responsibilities (Gonenc & Scholtens, 2019).

Management quality (CIR) is measured by operating expenses over the bank's total operating income. Management quality measures a bank's capability to convert resources into income and demonstrates the effectiveness of its operational management (DeYoung & Roland, 2001). The selection of this indicator to consider CSR's impact on the bank's financial performance is consistent with the study of Wu and Shen (2013), and Wu et al. (2017).

Asset quality (AQ) is measured by the cost of provisioning for credit losses as the total loan balance (Hafez, 2015). Credit is an important activity of commercial banks, contributing to the primary source of income for banks. Therefore, the top goal of banks is credit growth. However, credit growth too fast will not control credit quality, leading to a high non-performing loan ratio. Therefore, provisioning for credit risk is a way that banks use to offset losses caused by credit risk. The higher the cost of providing credit risks, the lower the profit before the bank's tax (Singh et al., 2021).

Herfindahl-Hirschman Index (HHI) is a standard measure of market concentration and is used to determine market competitiveness (usually before and after purchases, merger—M&A; Akomea & Adusei, 2013). HHI is an industry-specific variable. It is a decisive factor in the same direction,

which is significantly related to NIM. Because banks have a larger market share of structural market size, thereby creating opportunities to calculate higher lending interest rates and deposit rates that may be lower (Pham et al., 2017).

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). GDP has been found in research models on CSR and the financial performance of the banking industry (Belasri et al., 2020; Gangi et al., 2019; Wu & Shen, 2013; Wu et al., 2017). The same goes for INF (Belasri et al., 2020).

3.2.4. Research model

To test the hypotheses, the author use the following formulas in turn:

$$CFP_{it} = \alpha + \beta CSR_{it} + \delta \text{Control Variables} + \varepsilon \quad (1)$$

$$CFP_{it} = \alpha + \beta CSRE_{it} + \delta \text{Control Variables} + \varepsilon \quad (2)$$

$$CFP_{it} = \alpha + \beta ENVD_{it} + \gamma EMPD_{it} + \theta COMD_{it} + \delta \text{Control Variables} + \varepsilon \quad (3)$$

$$CFP_{it} = \alpha + \beta TAX_{it} + \gamma SALARY_{it} + \theta CHARITY_{it} + \delta \text{Control Variables} + \varepsilon \quad (4)$$

3.2.5. Regression method

The basic estimation methods with panel data are often used including Pooled OLS, FEM, REM. However, if the model exists of deficiencies, the estimation results by basic regression will be biased (H. D. C. Le, 2016). Another disability is an endogenous problem. According to Javeed and Lefen (2019), the endogeneity problem often occurs during empirical analysis because the explanatory variables correlate with the error terms in the regression, leading to misleading and unreliable results. In addition, the model has an endogenous phenomenon when the model contains independent variables that have a causal relationship with the dependent variable (H. D. C. Le, 2016). Several studies have shown a two-way relationship between CFP and the CSR of banks. The experimental results of Taşkın (2015) show that when the CSR scores of banks increase, the NIM also increases significantly. Conversely, banks with higher NIM have higher CSR scores. Gonenc and Scholtens (2019) argue that CFP positively affects the CSR of banks, but not vice versa. Researching with a sample of the US banks in 2003–2011, Cornett et al. (2016) found evidence of the impact of profitability on CSR. On the other hand, CSR does not affect the financial performance of small and medium-sized banks with total assets that are less than 100 billion USD, but it positively affects the financial performance of large banks. Fijałkowska et al. (2018) confirm that banks in Central and Eastern Europe with better financial performance will have higher CSR performance.

This study uses the GMM estimation method proposed by Lars Peter Hansen in 1982. The use of GMM will allow overcoming the model's defects such as multicollinearity, autocorrelation, heteroscedasticity, and endogenous variables, so the estimated results will not be biased, stable, and most efficient (H. Q. Nguyen, 2021). The GMM method has two alternative estimators, differential GMM (D-GMM) and system GMM (S-GMM). In this study, we chose to use S-GMM because it has been improved based on the D-GMM version to give a better estimate (Dalwai et al., 2021). The two-step estimator was also selected because it is more efficient than the one-step version, especially for the S-GMM estimator (Huynh et al., 2021). Not stopping there, before discussing the estimation

results, the study was conducted to test the regression's suitability using the S-GMM method. F test to check the statistical significance of the estimated coefficients. If P-value < 1%, the estimated coefficients are statistically significant. Arellano-Bond (AR) test to determine whether there is a correlation in the model residuals. If the AR (2) test has a P-value > 10%, it means that the model has no quadratic autocorrelation. Sargan test to check the excessive constraints, the reasonableness of the representative variables. If P-value > 10%, the model is correct, the variables are reasonably representative. Hansen test to check the validity of the instrumental variable. If the P-value is greater than 10%, it is reasonable to indicate the selected variables as instrumental variables (Ngo et al., 2020). Finally, when the number of instruments is less than or equal to the number of groups, it is concluded that the instrument variables are not weak (Liu & Lee, 2010).

4. Results and discussion

4.1. Descriptive statistics of research samples

Table 1 & 2 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. The bank with the highest ROA is Techcombank, reaching 2,902% in 2019. The lowest ROA belonged to VietCapitalBank in 2016, only 0.009% while the sample means is 0.713%. The average ROE of Vietnamese banks is 8.537%. However, there is a considerable difference between the maximum and minimum values. The lowest ROE was only 0.062% belonging to National Joint Stock Commercial Bank in 2012. In contrast, the highest was Asian Joint Stock Commercial Bank in 2018 (27.73%).

The average CSRE of commercial banks is 6.04542 (equivalent to 2,472 billion VND). The lowest CSRE was only 5.08658 (122 billion VND), belonging to Baovietbank in 2012. Meanwhile, the bank with the largest CSRE was Agribank in 2018, up to 16,405 billion VND. Agribank is also the bank with the highest staff cost as they have the highest number of employees in the Vietnamese commercial banking system (36,388 as of 31 December 2018). CSR information disclosure rate of Vietnamese commercial banks reached 53.03%. This ratio is only average, similar to the research results of Ho (2018) with a sample of listed companies in the period 2012–2016. The results of three-component CSRD indexes, the lowest score is 0, the highest is 1. This shows that banks do not publish any information related to the environment, workers, or the community. On the contrary, some banks do and provide all the information.

With control variables, first, in terms of size, the commercial bank having the most significant total assets is Joint Stock Commercial Bank for Investment and Development of Vietnam in 2019, the lowest is Baovietbank in 2012. Second, the ratio of loans to deposits of banks in Vietnam is nearly 79%, of which banks having the lowest rate is almost 43%, and the highest is 112%. In terms of market concentration, the average industry HHI of 0.05 indicates the high level of competition in the banking industry.

5. Regression analysis

Table 3 presents the regression model results of the impact of CSRE and CSRD on the financial performance of Vietnamese commercial banks. The results show that F-test in models has p-value < 1%, indicating the model's suitability. The AR (2) test has p-value > 10%, which means that the model has no second-order correlation. The Sargan test results show that the model is determined to be correct, the variables are reasonably represented. The p-value of the Hansen test of all three models is greater than 10%, indicating that the variables selected as instrumental variables are reasonable. Finally, in all three 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.

The estimated results in columns 2, 4, 6 in Table 3 indicate a significant positive impact of CSRE on all variables that represent bank financial performance (NIM, ROA, ROE). Meanwhile, CSRD also

Table 1. Description of variables and symbols in the models

Symbol	Describe	Determination formula	Data Source
Dependent variables (CFP)			
NIM	The net interest margin	$NIM = \frac{\text{Net interest income}}{\text{Average interest earning asset}}$	CB
ROA	Return on total assets	$ROA = \frac{\text{Profit after tax}}{\text{Average total assets}}$	CB
ROE	Return on equity	$ROE = \frac{\text{Profit after tax}}{\text{Average equity}}$	CB
Independent variables			
CSRD	The total CSRD index	$CSRD = \frac{\sum_{i=1}^3 \text{The component CSR index}_{ij}}{3}$	Authors
ENV D	The environmental responsibility index	$ENV D = \frac{\sum_{i=1}^{10} Env_{ij}}{10}$	Authors
EMP D	The employee responsibility index	$EMP D = \frac{\sum_{i=1}^{14} Emp_{ij}}{14}$	Authors
COM D	The community responsibility index	$COM D = \frac{\sum_{i=1}^8 Com_{ij}}{8}$	Authors
CSRE	The total CSR expenditure	Total CSR expenditure = The amount of corporate income tax paid + Spending on employees + Spending on the community CSRE = Logarithm (Total CSR expenditure)	CB
TAX	The amount of corporate income tax paid in the year	TAX = Logarithm (The amount of corporate income tax paid)	CB
SALARY	Amount spent on employees	SALARY = Logarithm (Amount spent on employees)	CB
CHARITY	Amount spent on the community	CHARITY = Logarithm (Amount spent on the community)	CB
Control Variables			
SIZE	The size of bank	SIZE = Logarithm (Total assets)	CB
CAP	The equity-to-asset ratio	$CAP = \frac{\text{Equity}}{\text{Total assets}}$	CB
LDR	The loan-to-deposit ratio	$LDR = \frac{\text{Total outstanding loan}}{\text{Total deposit}}$	CB

(Continued)

Table 1. (Continued)				
Symbol	Describe	Determination formula		Data Source
CIR	Management quality	$CIR = \frac{\text{Operating expenses}}{\text{Total operating income}}$		CB
AQ	Asset quality	$AQ = \frac{\text{Cost of the credit risk provision}}{\text{Total outstanding loan}}$		CB
HHI	Herfindahl-Hirschman Index of the banking industry	$HHI = \sum_{i=1}^n (MS_{it}^{Asset})^2 MS_{it}^{Asset} = \frac{\text{Total assets of each bank}}{\text{Total assets of the banking sector}}$		CB, SBV
GDP	Vietnam's GDP growth rate			SBV
INF	Vietnam's inflation rate			SBV

i: Bank; t: Time; α : Constant; $\beta, \delta, \gamma, \theta$: The coefficients; ε : The error term;
CB: Commercial Bank; SBV: State Bank of Vietnam;

Source: Author's suggestion

Table 2. Statistics of variables used in research model

Variable	Obs	Mean	Std. Dev.	Min	Max
NIM	232	0.02996	0.01284	0.00549	0.09325
ROA	232	0.00713	0.00587	0.00009	0.02902
ROE	232	0.08537	0.06899	0.00062	0.27731
CSRE	232	6.04542	0.55755	5.08658	7.21497
TAX	232	5.03332	0.94716	1.32222	6.68371
SALRY	232	5.95822	0.54554	4.96177	7.16227
CHARITY	138	4.13658	1.02131	1.14613	5.94448
CSRD	232	0.53051	0.20442	0	0.96667
ENVD	232	0.29612	0.25809	0	1
EMPD	232	0.67796	0.18704	0	1
COMD	232	0.62184	0.30154	0	1
SIZE	232	5.07789	0.50397	4.12339	6.17317
CAP	232	0.08907	0.03889	0.02931	0.23841
CIR	232	0.55579	0.12922	0.28744	0.92793
LDR	232	0.78776	0.11497	0.42695	1.12531
AQ	232	0.00979	0.00779	0.00650	0.04936
HHI	232	0.05448	0.00432	0.04821	0.05974
GDP	232	0.06328	0.00691	0.05250	0.07200
INF	232	0.03831	0.01923	0.00630	0.06810

Source: Results from Stata software

has a positive effect on NIM and ROE. Several previous studies also found evidence of a positive impact of CSR on NIM (Hafez, 2015; Taşkın, 2015), ROE (Bidhari et al., 2013; Buallay, 2019; Hafez, 2015; Khan et al., 2018; Szegedi et al., 2020). Meanwhile, Hafez (2015), Matuszaka and Rózańska (2017), and Taşkın (2015) did not find a statistically significant association between CSR and ROA. Based on the above pieces of evidence, we accept hypothesis H1. These results suggest that CSR can support Vietnamese commercial banks to improve financial performance. Implementing and disclosing CSR is more of an investment than an expense. Our results support the conclusion of Bidhari et al. (2013), asserting that CSR improves the financial performance of banks in developing countries. Our findings also support the social impact hypothesis; commercial banks can simultaneously achieve CSR and financial performance.

Table 4 presents the results of the regression model of the impact of the component CSR indexes on the financial performance of Vietnamese commercial banks. The results of the tests show that the estimated coefficients are statistically significant, the model has no quadratic autocorrelation, the models are determined to be correct, the selected variables as instrumental variables are reasonable and not weak.

5.1. Environmental responsibility

The estimated results show a statistically significant relationship between ENVD and CFP represented by NIM and ROE (see columns 1 and 5 in Table 4). Many previous empirical studies have shown a positive effect of environmental responsibility on CFP (Angelia & Suryaningsih, 2015; Dimitropoulos, 2021; Lee et al., 2016; Li et al., 2017; Ong et al., 2014). In addition, Ashraf et al. (2017), Buallay (2019) also found a positive effect of environmental responsibility on ROE. While Gonenc and Scholtens (2019) claim that ecological responsibility significantly reduces NIM, in other words, better environmental performance reduces the efficiency of banks.

Table 3. Estimation results of the effects of the total CSR index on CFP

Variable	NIM		ROA		ROE	
	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
CSRD	0.0056**		0.0027		0.0215*	
	(-2.63)		(-1.52)		(-1.76)	
CSRE		0.0115**		0.0010***		0.0745***
		(-2.52)		(-2.87)		(-2.90)
SIZE	-0.0062**	-0.0158***	-0.0015**	-0.0116***	-0.014	-0.0997***
	(-2.71)	(-3.27)	(-2.06)	(-2.89)	(-1.67)	(-3.18)
CAP	-0.0527**	-0.0861***	-0.0091	-0.0257***	-0.4939***	-0.5120***
	(-2.10)	(-6.04)	(-1.58)	(-3.27)	(-4.43)	(-4.19)
CIR	-0.0269***	-0.0134*	-0.0133***	-0.0190***	-0.1974***	-0.2232***
	(-3.21)	(-1.76)	(-5.59)	(-8.18)	(-5.48)	(-5.00)
LDR	0.0173**	0.0068	-0.0084**	-0.0191***	0.0346	0.0516
	(-2.48)	(-1.68)	(-2.26)	(-3.60)	(-0.74)	(-1.35)
AQ	0.2993***	0.2642***	-0.0443*	-0.1456***	-1.0451	-0.6044
	(-3.03)	(-3.17)	(-1.75)	(-3.97)	(-1.60)	(-1.68)
HHI	0.1055	-0.1079*	0.1528**	0.1379**	1.4195***	1.2352***
	(-1.39)	(-1.78)	(-2.64)	(-2.27)	(-4.00)	(-2.93)
GDP	0.0332	0.0509	0.1061**	0.0897***	0.6775**	0.7363*
	(-0.36)	(-0.65)	(-2.70)	(-3.23)	(-2.37)	(-1.86)
INF	-0.0494**	-0.0494***	0.0564***	0.0469***	0.3648***	0.3205***
	(-2.56)	(-3.44)	(-4.30)	(-3.32)	(-5.75)	(-3.41)
L.NIM	0.8496***	0.5770***				
	(-17.88)	(-6.26)				
L.ROA			1.0018***	0.8982***		
			(-13.69)	(-15.24)		
L.ROE					0.7226***	0.5870***
					(-20.61)	(-12.59)
_cons	0.0289*	0.0343***	0.0043	0.0137**	0.0857	0.1026
	(-1.91)	(-3.63)	(-0.82)	(-2.21)	(-1.18)	(-1.39)
Observations	203	203	203	203	203	203
Instruments	29	29	25	25	29	29
Banks	29	29	29	29	29	29
F test	0.000	0.000	0.000	0.000	0.000	0.000
AR (2) test	0.985	0.440	0.819	0.865	0.146	0.154
Sargan test	0.745	0.451	0.266	0.624	0.107	0.105
Hansen test	0.270	0.463	0.686	0.858	0.585	0.326

*Note: The table reports the estimation results of the two-step system GMM dynamic panel models. NIM, ROA, and ROE are used as measures of the bank's financial performance. The independent variables are CSRD and CSRE. The figures in parentheses are standard errors. The GMM diagnostic tests are reported with p-values. ***, ** and * indicate the statistical significance at 1%, 5%, and 10%, respectively.*

Source: Synthesis of Authors from Stata Software

Our research supports the view that environmentally responsible implementation and disclosure will improve the banks' financial performance. The bank's environmental responsibility is reflected in its carbon reduction activities inside and outside the bank. Inside the bank, by performing online activities, using Automated Teller Machine system, mobile banking, cards, exchanging via email, etc., each bank minimizes activities related to papers, stationery, etc. Besides, by promoting the

Table 4. Estimation results of the effects of the component CSR indexes on CFP

Variable	NIM		ROA		ROE	
	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
ENVD	0.0059*		0.0007		0.0922***	
	(1.80)		(0.32)		(4.26)	
EMPD	0.0010		0.0047*		0.0020	
	(0.11)		(1.94)		(0.05)	
COMD	0.0038		−0.0020		−0.0580*	
	(0.70)		(−1.22)		(−1.84)	
TAX		−0.0097***		−0.0013		0.0018
		(−2.83)		(−1.08)		(0.10)
SALARY		0.0087		0.0064*		0.1700***
		(0.80)		(1.91)		(5.73)
CHARITY		0.0025*		−0.0003		−0.0019
		(1.82)		(−0.95)		(−0.67)
SIZE	−0.0040***	−0.0073	0.0002	−0.0041	−0.0124	−0.1961***
	(−3.08)	(−0.59)	(0.17)	(−1.42)	(−0.95)	(−7.06)
CAP	−0.0299**	−0.0043	0.0098	0.0125	−0.2865***	−0.6690***
	(−2.10)	(−0.10)	(1.15)	(0.70)	(−2.82)	(−6.57)
CIR	−0.0167***	−0.0333**	−0.0119***	−0.0166**	−0.1649***	−0.2338***
	(−2.79)	(−2.13)	(−4.05)	(−2.22)	(−5.74)	(−3.58)
LDR	−0.0229***	0.0401***	−0.0058**	−0.0095**	0.0275	−0.0725
	(−2.87)	(2.96)	(−2.57)	(−2.16)	(0.48)	(−0.99)
AQ	0.1204*	0.1956	−0.0605	−0.1080*	−0.5376**	−2.3606***
	(1.74)	(1.04)	(−1.69)	(−1.80)	(−2.49)	(−3.44)
HHI	−0.0614	−0.0132	0.0939*	0.1400*	0.4142	2.4149***
	(−0.35)	(−0.12)	(1.86)	(2.04)	(0.52)	(3.24)
GDP	0.2703**	0.0808	0.1009**	0.1022***	−0.7222	0.32508
	(2.37)	(0.76)	(2.47)	(3.83)	(−0.95)	(0.86)
INF	−0.0487	−0.0652*	0.0449***	0.0144	0.3286**	0.4344**
	(−1.12)	(−1.73)	(5.02)	(1.23)	(2.08)	(2.78)
L.NIM	1.0278***	0.8648***				
	(16.52)	(7.08)				
L.ROA			0.8376***	0.7967***		
			(10.26)	(7.17)		
L.ROE					0.7607***	0.8267***
					(6.43)	(7.21)
_cons	0.0301*		−0.0046		0.2070**	
	(1.90)		(−0.75)		(2.44)	
Observations	203	120	203	120	203	120
Instruments	25	23	26	26	25	26
Banks	29	27	29	27	29	27
F test	0.000	0.000	0.000	0.000	0.000	0.000
AR(2) test	0.890	0.545	0.542	0.343	0.377	0.250

(Continued)

Table 4. (Continued)

Variable	NIM		ROA		ROE	
	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Sargan test	0.985	0.242	0.218	0.278	0.452	0.162
Hansen test	0.598	0.266	0.285	0.446	0.673	0.496

*Note: The table reports the estimation results of the two-step system GMM dynamic panel models. NIM, ROA, and ROE are used as measures of the bank's financial performance. The independent variables are ENV, EMPD, COMD, TAX, SALARY CHARITY, and CHARITY. The figures in parentheses are standard errors. The GMM diagnostic tests are reported with p-values. ***, ** and * indicate the statistical significance at 1%, 5%, and 10%, respectively.*

Source: Synthesis of Authors from Stata Software

construction of an eco-friendly working environment such as using good air conditioners to limit heat loss to the outside, using appropriate lighting in the work area, turning off lights at unnecessary places, regularly checking water equipment to detect damage and replace, checking seriously electrical equipment at the end of the day. Not stopping there, banks have promoted the implementation of the 5S program (Screen—Arrange—Clean—Care—Be Ready), which has helped bank staff form a sense of saving and preserving the work environment. To reduce emissions outside the bank, banks promote green credit policies (financing for eco-friendly projects, reducing pollution emissions, and prioritizing industries that are not green) and environmental-social risk management in credit granting activities. In addition to environmental effects, these activities also help save costs, increase employee productivity, screen loans, limit risks, and improve the quality of credit activities. Therefore, banks with better environmental performance will have better financial performance.

5.2. Employee responsibility

In column 3 in Table 4, we find a statistically significant relationship between EMPD and ROA. Meanwhile, in columns 4 and 6, the regression results show a positive effect of SALARY on ROA and ROE at 1% and 10% significance levels, respectively. The conclusion about the neutral relationship between employee responsibility index and NIM is also shown in the studies of Hafez (2015), Matuszaka and Rózańska (2019). Similarly, Moslemany and Etab (2017) also did not find a statistically significant relationship between employee responsibility and ROA or ROE of Egyptian banks. However, from the empirical evidence, we conclude that employee responsibility positively impacts the financial performance of Vietnamese commercial banks. This conclusion coincides with Tran (2016) and P. H. Le (2020). When studying with a sample of 154 financial institutions in 22 countries, Esteban-Sanchez et al. (2017) also concluded that banks with better employee accountability are more effective better financial results. Explaining this positive relationship, Tran (2016) believes that treating and having many good policies with employees increases employee performance, leading to increased financial efficiency. According to the labor market trend, recruitment, capacity assessment, and career development guidelines are publicized and updated to motivate employees to work and dedicate themselves. High wages, bonuses, and benefits related to health care, tourism, and employee safety are decisive factors for employee engagement and motivation. Not only that, but employees are also trained every year to improve their professional skills. Relatives of employees are also the object of interest of Vietnamese commercial banks. Commercial banks also vigorously implement activities to build corporate culture, thereby creating a friendly, pleasant, and democratic working environment while encouraging employees to stick with and dedicate themselves to the company organization.

5.3. Social responsibility

The estimated results also show the impact of social responsibility on the financial performance of Vietnamese commercial banks, but the direction of influence is different between expenditure and information disclosure. Community expenditures positively affect NIM (column 2), while public accountability harms ROE (column 5). Previous studies have also shown inconsistent conclusions

about the impact of community responsibility on financial performance indicators. Gonenc and Scholtens (2019), Hafez (2015), and Matuszaka and Rózańska (2019) found a neutral relationship between social responsibility and NIM. Moslemany and Etab (2017) offer a similar conclusion for ROA. The research results of Ashraf et al. (2017), Buallay (2019) confirmed the negative relationship between corporate responsibility and ROE. In contrast, Tran (2016) found a positive impact of corporate social responsibility on both ROA and ROE of Vietnamese commercial banks.

Although the empirical results do not agree on the impact of spending on charitable activities and the disclosure of information of responsibility to the community on the financial performance of commercial banks, we support the argument that increasing community accountability will improve banking's economic performance. Explaining this difference, we believe that spending on socially responsible activities is the cost of advertising to carry out communication campaigns aiming to increase prestige and brand value. According to Ye et al. (2021), through CSR practice, a company can meet stakeholder expectations, achieve legitimacy and thus enhance the company's reputation. As the business's reputation is improved, it will reduce transaction costs, attracting investment from financial stakeholders. On the other hand, reputation and brand are valuable intangible resources, which can help businesses increase their competitiveness in the market, thus leading to better financial performance. In a different perspective, when considering the individual effect of COMD on CFP, it leads to adverse results; however, when combined with other components to create an overall index (CSRDI), it will make a positive relationship. The estimated results in Table 3 prove it.

6. Conclusion

This study examines the impact of CSR on the financial performance of banks. Using a sample of Vietnamese commercial banks in the period 2012–2019 and a two-step systematic GMM estimator in a dynamic table model, we present evidence that CSR positively impacts financial performance. This effect is robust, detected with CSR measures (quantitative—CSRE, qualitative—CSRDI) and three financial performance scales (ROA, ROE, NIM). Moreover, the study also investigates the impact of CSR components on the financial performance of banks. Empirical evidence has demonstrated the positive effect of environmental responsibility disclosure on the CFP of Vietnamese commercial banks. Similarly, responsibility to employees also has a statistically significant positive relationship with CFP. Especially, responsibility to employees was measured by both the qualitative method (EMPD) and quantitative method (SALARY). As for the responsibility to the community, the results are different between the approaches. COMD harms ROE while CHARITY positively affects NIM. Research results show that when commercial banks increase spending and disclose CSR information in general, responsibility to the environment, employees, and the community, in particular, improves CFP. In other words, banks can achieve the goal of profit maximization along with the goal of sustainable development.

Academically, the study has added to the existing literature on assessing the impact of CSR on the bank's financial performance from the perspective of a developing country with distinct characteristics of socio-economic development conditions such as Vietnam. Our findings are consistent with many of the previous studies done for different markets worldwide while simultaneously in line with the social impact hypothesis, which supports stakeholder theory and legitimacy theory. Through responsible activities with workers, the environment, the community, and other stakeholders, commercial banks are accepted by society and the community, ensuring the conditions for continued operations and achieving profit goals. In addition, in a developing country like Vietnam, with a long tradition of solidarity, commercial banks with many CSR activities are always trusted and supported by customers. Employees are loyal and dedicated to the development, thereby improving labor productivity and improved financial performance.

In terms of practice, the study also provides empirical evidence to answer the question of spending and disclosure of CSR information that has improved the CFP of Vietnamese commercial banks. Therefore, this is a convincing answer to stakeholders, especially the bank leadership team,

about the actual benefits measured, provided by models, numbers, and intangible values such as brand, trust, loyalty, etc., as other studies have mentioned. Recommendations that banking administrators can apply in operational practice to promote the implementation of CSR activities of Vietnamese commercial banks under international standards include (i) Raising CSR awareness; (2) Promoting the implementation and disclosure of information related to the environment, workers, and the community; (iii) Developing a CSR strategy in the long term. For policymakers, the results of the study help provide more empirical evidence to have the basis for setting regulations, and guidelines for the implementation and reporting of CSR, considering it as a general rule prevailing in business and the behavior of stakeholders.

As with any empirical study, this study suffers from certain limitations. First, there are many different variables used to represent the bank's financial performance. It can be a variable that represents accounting profit or market return. Therefore, future studies can use both market's returns to describe the financial performance of Vietnamese commercial banks. Another way is to use technical efficiencies to measure the financial performance of banks. Second, scholars explore the relationship between CSR and CFP and try to open the "black box" between them, which are moderators and mediators (Ye et al., 2021). Moderating effect reflects the influence of the third variable on the association between the two variables; the third variable is called the moderator. Thus, future research may explore moderating variables such as ownership structure, bank size, or regulatory regulation. Mediating effects refer to the transmission of the impact of the criterion on the predictor through one or more other variables, referred to as mediators. Therefore, future studies may consider the mediating role of reputation, corporate image, brand, or customer satisfaction.

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