THE RELATIONSHIP BETWEEN CORPORATE SOCIAL RESPONSIBILITY AND FINANCIAL PERFORMANCE: EMPIRICAL EVIDENCE FROM AN EMERGING COUNTRY

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Abstract

This study aims to investigate the impact of each component within corporate social responsibility (CSR) disclosure and CSR expenditure on the banks' financial performance. The research collected data from listed banks from 2013 to 2022 to apply the generalized least squares (GLS) regression analysis method. The findings indicate that environmental responsibility disclosure and government responsibility expenditure positively impact corporate finances. Meanwhile, community responsibility disclosure and expenditure reduce financial efficiency. Employee responsibility disclosure and expenditure do not affect the financial situation. The study emphasizes the importance of environmental responsibility disclosure and recommends that banks fully comply with tax obligations which is a government responsibility expenditure. Banks should also consider investing and disclosing information about community responsibility as a long-term obligation rather than a short-term financial strategy. Government agencies and state banks are advised to develop social responsibility standards based on international standards such as ISO 26000 by the International Organization for Standardization (ISO), Business Social Compliance Initiative (BSCI), and Worldwide Responsible Accredited Production (WRAP) for the banking industry.

Keywords: Listed Banks, Financial Performance, Corporate Social Responsibility, CSR

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1. INTRODUCTION

Corporate social responsibility (CSR) refers to the application of policy to make decisions as well as carry out activities related to corporate responsibility towards goals and values that are considered important by society (Bowen, 2013). In 2010, ISO 26000 by the International Organization for Standardization (ISO) guided CSR to support organizations in implementing social responsibility in the face of society's increasing needs. CSR includes activities that are both integrated into a business's operations and carried out ethically and transparently, aimed at fostering sustainable development, considering stakeholder interests, and adhering to legal requirements (ISO, n.d.). Businesses have realized that they should not only focus on generating profits for shareholders but also consider the general welfare of society and contribute ethically (Tiep et al., 2021). As awareness of CSR grows, its implementation becomes a crucial factor in a company's success because customers increasingly favor businesses that demonstrate economic and social responsibility (Chi & Hang, 2023).

In the context of integration and globalization, the banking industry holds a significant position in every country (Nguyen, Vu, et al., 2023). Many empirical studies have explored the effect of conducting social responsibility activities on banking industry efficiency (Latapí Agudelo et al., 2019). However, research results of this relationship still have many mixed opinions in both theory and empirical results. Researchers supporting the stakeholder theory of Bowen (2013) believe that businesses can gain positive effects from implementing social responsibility (Su et al., 2016).

After the 2000s, CSR developed in Vietnam (Nguyen, Bui, et al., 2022). The Ministry of Finance (2015) has guided businesses on disclosing information on the stock market, especially listed companies that must provide information related to social responsibility activities including content related to the environment, workers, and the community. The banking industry in Vietnam is growing strongly with many socially responsible activities in integration and sustainable development contexts (Le, 2022). In Vietnam, many awards have been given such as the Sustainable Development Report Award and the Vietnam Chamber of Commerce and Industry (VCCI) Top 100 Sustainable Enterprises Award to encourage and honor businesses that have contributed to social activities and report the results of social activities in the annual report (Le, 2022). However, research on CSR in Vietnam is still in its infancy (L. T. Nguyen & K. V. Nguyen, 2021).

The lack of empirical research evidence will make it difficult for businesses, especially banks in Vietnam, to consider and make decisions to invest in society. Therefore, examining how banks' financial success is influenced by their CSR activities is necessary. With the research objective of answering the question:

RQ: How do aspects of corporate social responsibility disclosure and expenditure affect financial performance?

This research paper will not only help businesses make easier decisions in investing in CSR but also contribute to providing important quantitative research results, as well as a valuable reference for businesses and subsequent research papers.

The rest of the paper is organized as follows. Section 2 reviews the relevant literature. Section 3 analyzes the methodology used to conduct the empirical study. Section 4 presents the results and Section 5 discusses the findings and makes recommendations. Finally, Section 6 provides the conclusion and describes the limitations of the research.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Theoretical framework

2.1.1. Stakeholders' theory

According to stakeholders' theory, a company can only exist when it has the ability to satisfy the needs of its stakeholders (Freeman, 2020), carrying out socially responsible activities not only helps businesses address social and stakeholder issues but also improves the working conditions of employees leading to increased trust and satisfaction of workers. Therefore, committing to socially responsible activities is not only humanitarian but also helps businesses build a good reputation and thus improve financial performance (Freeman & McVea, 2005). Many studies agree with the stakeholders' theory including Su et al. (2016) and M. C. Nguyen and H. L. Nguyen (2021).

2.1.2. Agency theory

Agency theory closely follows the tenets of neoclassical economics (Fama 1980; Fama & Jensen, 1983). Agency theory addresses the distinct goals between principals (shareholders) and agents (chief executive officers — CEOs). More specifically, CEOs may pursue socially responsible activities to enhance their reputation, while shareholders prioritize maximizing profits, often in the form of dividends (Atkinson & Galaskiewicz, 1988; Friedman, 1970). Therefore, if companies engage in CSR activities without obtaining the consent of shareholders, then CSR will create an agency problem leading to reduced profits. In short, agency theory holds that the company's goal is to increase shareholder wealth, while socially responsible activities can lead to costs and reduce the company's financial performance and shareholder wealth (Jensen, 2002). Several empirical studies support agency theory such as Ngoc (2018) and Nguyen, Nguyen, et al. (2023).

2.1.3. Shareholder theory

Shareholder theory holds that the primary goal of a company is to maximize its profits. Therefore, businesses only focus on their goals without paying attention to social responsibility (Friedman, 1970). Ullmann (1985) agreed with shareholder theory and found that CSR and financial performance operate independently of each other and the relationship between them was only random or did not exist because many variables were alternating between them. In the same opinion as shareholder theory, Gbadamosi (2016) also found that CSR disclosure has no impact on the business's financial situation.

2.2. Hypotheses development

2.2.1. Environmental responsibility disclosure and financial performance

The environment plays a fundamental role in the sustainable socio-economic development of each country (Nguyen & Tran, 2023). Environmental degradation negatively impacts human life and causes economic damage. Focusing on green banking and sustainable development, activities related to the environment not only increase the reputation and trust of shareholders and investors but also open up new opportunities in attracting investment capital, achieving financial efficiency, and creating sustainable value in the long term (Pham & Pham, 2024). Liu et al. (2021) evaluated A-listed companies from 2008 to 2017 in China, the results show that implementing environmental responsibility takes on a pivotal role in improving economic performance. Rehman et al. (2020) also discovered a positive relationship between environmental dimensions and performance. Meanwhile, Makridou et al. (2024) studied 85 European companies to explore the impact of environmental, social, and governance components on the financial performance of companies. The results showed that environmental responsibility has a significant negative impact on financial performance. Fayad et al. (2017) researched seven Lebanese banks and established that environmental initiatives do not have a significant effect on economic outcomes. We developed the first hypothesis below:

H1: Environmental responsibility disclosure positively affects financial performance in the listed bank.

2.2.2. Employee responsibility disclosure and financial performance

Corporate social responsibility is crucial in attracting competent and skilled labor to enhance productivity and financial outcomes for companies (Ha, 2019). Especially in the banking industry, employees are integral to earning customers' trust, which ultimately determines the success or failure of a bank in its sales function (Chi & Hang, 2023). Investigating Lebanese banks from 2012 to 2015, Fayad et al. (2017) discovered that human resource development had a significant beneficial result on return on assets (ROA). CSR helped banks improve financial efficiency, reduce costs, and bolster reputation, thereby enhancing employee recruitment and retention. Gbadamosi (2016) and Siueia et al. (2019) also agreed that human capital beneficial affected the fiscal, with CSR practices significantly enhancing bank performance. However, Chi and Hang (2023) found that employee responsibility harmed the fiscal achievement of commercial banks in Vietnam.

Therefore, the following hypothesis is proposed as follows:

H2: Employee responsibility disclosure positively affects financial performance in the listed bank.

2.2.3. Community responsibility disclosure and financial performance

Fayad et al. (2017) stated that banks operating effectively in Lebanon will apply volunteer activities to promote socially responsible activities, especially the authors found that community responsibility significantly positively impacted financial performance. Chi and Hang (2023) showed that socially responsible spending with the community positively impacted the financial performance of 28 banks in Vietnam. Liao (2020) used data from listed Chinese companies and showed that donating to charity helps businesses bring about a good reputation, enhance customer recognition, and enhance employee loyalty, leading to increased financial success. However, in the long run, businesses spend a lot of labor and material costs to organize many volunteer projects, leading to negative impacts on the production activities of the business. Gbadamosi (2016) found a negative relationship between community spending and accounting profits. However, El Moslemany and Etab (2017) indicated that CSR initiatives focused on the community did not affect the key financial performance metrics of the bank. Therefore, this study develops another testing hypothesis as follows:

H3: Community responsibility disclosure positively affects financial performance in the listed bank.

2.2.4. Community responsibility expenditure and financial performance

Businesses are deeply embedded within the communities and societies in which they are located. Therefore, changes in the community will certainly affect business operations positively or negatively (Etim et al., 2022). Supporting charity programs will help companies build a positive image, strengthen relationships with customers, and create opportunities for businesses to reach out to local authorities where they operate. Besides, an important benefit of social activities is that businesses will receive tax reductions when conducting charity activities according to legal regulations, leading to improved financial efficiency (Binh, 2016). Chi and Hang (2023) and Nguyen, Bui, et al. (2022) found that CSR spending for the favorable community contributed to fiscal achievement. Moreover, Ashraf et al. (2017) investigated banks in Asian countries from 2010 to 2015 and showed that CSR activities have a beneficial influence on the fiscal success of banks, especially ROA and earnings per share, but have harmful consequences on return on equity (ROE). Raihan et al. (2015) studied Islami Bank Bangladesh PLC (IBBPLC) for five years, the results found that community spending had a detrimental result on ROE but a beneficial impact on deposits per employee. The following hypothesis is proposed:

H4: Community responsibility expenditure positively affects financial performance in the listed bank.

2.2.5. Employee responsibility expenditure and financial performance

The implementation of CSR has a close relationship with a business's ability to retain talented people because they tend to want to work in good places in society and feel proud. Besides, CSR enhances a company's image in the labor market, creating intangible benefits that help retain employees. This cooperative environment leads to greater job satisfaction and strengthens the bond between employees over time. Moreover, they also build a sense of loyalty and commitment to their company, which is working towards the betterment of the public (Menezes, 2019). Investing in CSR helps businesses attract suitable, highly qualified workers to improve the productivity and financial performance of businesses (Ha, 2019). Researching all Vietnamese commercial banks excluding joint venture and fully foreign-owned banks, Nguyen, Bui, et al. (2022) have proven that employee investment is a key determinant of a company's success. Based on data from IBBPLC from 2008 to 2012, Raihan et al. (2015) showed that employee spending harmed ROE but positively on deposit per employee. Chi and Hang (2023) have studied the influence of each component of CSR expenditure on the fiscal health of Vietnamese listed and non-listed banks, the results have shown that employee expenses generally have a detrimental result on banks' economic outcomes, although this negative effect is less pronounced in the case of listed banks. Therefore, another testing hypothesis is developed as follows:

H5: Employee responsibility expenditure positively affects financial performance in the listed bank.

2.2.6. Government responsibility expenditure and financial performance

Stakeholder theory recognizes the government as an important stakeholder in business operations (Chi & Hang, 2023). Taxes paid to the government are not only an expense but also a contribution to society and a responsibility to the state. Complying with tax regulations not only helps businesses avoid legal consequences but also improves financial performance. Because government responsibility spending helps reduce legal risks and increase stakeholder trust (Fitri et al., 2023). Zhou et al. (2021) analyzed data from publicly traded banks in China between the years 2008 and 2018. The research concludes that the government is a decisive stakeholder in a business' endurance and expansion. Nguyen, Bui, et al. (2022) believed that the role of government as a stakeholder is important in determining a company's survival and development. Chi and Hang (2023) investigated the ties between CSR spending and the fiscal success of both listed and unlisted banks. The research concluded that listed banks have more responsibility towards the government than unlisted banks as evidenced by the higher taxes paid to the state budget. The following hypothesis is proposed:

H6: Government responsibility expenditure positively affects financial performance in the listed bank.

2.2.7. Other factors and financial performance

Firm size is significant in influencing financial performance because larger banks can achieve efficiency and public visibility leading to improved financial and social outcomes compared to smaller banks (Gonenc & Scholtens, 2019). In contrast, firm size negatively affects a company's fiscal performance because large companies have fewer growth opportunities (Gaio & Raposo, 2011).

Capital ratio (CAP) reflects the bank's ability to withstand losses or financial risks. Banks with a high level of capital adequacy mean they can bear high financial risks, thereby reducing the need to mobilize capital from outside and bringing higher profits (San & Heng, 2013; Khalifaturofi'ah, 2023). Mir and Shah (2022) also found that CAP had a positive impact on banks' net interest margin (NIM) and ROA, respectively. On the contrary, according to the risk-return trade-off principle, the CAP has an unfavorable outcome on financial performance (Alnajjar & Othman, 2021).

Loan to deposit (LDR) is the ratio of outstanding credit to the bank's mobilized capital. High LDR shows that banks can use capital to fulfill their responsibilities better (Gonenc & Scholtens, 2019). Siddique et al. (2022) also found that LDR positively affects ROE and ROA and Nguyen (2023) concluded about the positive tie between LDR and NIM. On the contrary, Sathyamoorthi et al. (2020) proved that LDR negatively impacts bank financial health, and Nguyen and Le (2020) found that LDR harmed ROA.

Management quality reflects the efficiency in managing operations and the ability to convert resources into income by dividing operating costs by total operating income (DeYoung & Roland, 2001). The benefit ties between management quality and fiscal performance have been demonstrated (O'Neill et al., 2016).

Asset quality is quantified using the cost of credit risk provisions divided by total outstanding loans (Hafez, 2015). Credit plays an important role in generating income for banks. Therefore, credit risk provisions are prepared to compensate for losses caused by credit risks. The cost of providing credit risks is higher leading to a lower bank's profit before tax (Singh et al., 2021).

The Herfindahl-Hirschman index (HHI) is used to determine the level of market competitiveness concentration (Akomea & Adusei, 2013). Banks holding a larger portion of the market in terms of size are more likely to set higher lending rates and potentially offer lower interest rates on deposits (Pham et al., 2018). On the contrary, HHI has a strong detrimental result on the profits of the banking sector (Soeharjoto et al., 2023).

Gross domestic product (GDP) positively affects bank efficiency when GDP growth increases because it leads to increased customer demand for credit. On the contrary, a decrease in GDP growth leads to a decrease in credit demand and a decrease in bank profits (Matar et al., 2018).

The inflation rate significantly and negatively affects bank performance (Hong & Razak, 2015). However, Ali and Ibrahim (2018) found that the inflation rate positive impact on financial outcomes.

H7: Other factors positively affect financial performance in the listed bank.

2.3. The gaps in previous research

Previous studies were mainly conducted over one year or periods of 5–6 years which may have resulted in influenced results. This study will be carried out data from 2013 to 2022 which is an economic cycle that includes both recession and economic growth cycles, enabling a more comprehensive analysis of CSR's impact under varying economic conditions. This timeframe also allows for an examination of long-term trends and effects, recognizing that CSR investments may take time to yield clear results. Moreover, previous studies use only the content method to measure CSR by counting the number of published CSR activities may not accurately reflect the level of social contribution of businesses. Because there are businesses that publish little information about CSR, the amount of money they are willing to spend to contribute to social activities is a lot. This study uses a combination of two methods to provide more accurate and general results as well as research the impact of CSR expenditure on the bank's fiscal outcomes.

3. RESEARCH METHODOLOGY

3.1. Data and sample

The authors researched 20 listed banks on the Ho Chi Minh City Stock Exchange and Hanoi Stock Exchange in Vietnam by collecting data from financial statements and annual reports from 2013 to 2022. Because listed banks must strictly comply with financial information disclosure which is convenient and reliable data access. Moreover, collecting information about CSR from listed banks is also easier because listed companies must provide information related to the disclosure of social responsibility (Ministry of Finance, 2015). In addition, listed banks are often large banks that play an important role in shaping economic and social trends. Therefore, studying listed banks can help illuminate the challenges or opportunities presented by CSR.

3.2. Variables and measurement

3.2.1. Dependent variables

The most commonly used indices in CSR research are financial indicators and market value indicators (Le et al., 2018). The most common financial indicator is profitability (Le et al., 2018). The profitability ratio commonly used includes *ROA, ROE*, and *NIM* (San & Heng, 2013). There was much research using these profitability ratios including *ROA* (Sharma, 2023; Taskin, 2015), *ROE* (Faysal et al., 2020), and *NIM* (Taskin, 2015; Nguyen, Bui, et al., 2022; Gonenc & Scholtens, 2019). Meanwhile, it is impossible to collect sufficient data to calculate market value indicators for Vietnamese commercial banks (Nguyen, Bui, et al., 2022). Therefore, in this study, the authors chose financial indicators measures as dependent variables (financial performance) including *NIM*, *ROE*, and *ROA*.

3.2.2. Independent variables

This study uses two different approaches to measure CSR including content analysis to calculate components of CSR disclosure (*CSRD*) and a financial approach to calculate components of CSR expenditure (*CSRE*).

CSRD is derived from metrics grouped into three components, which were built concerning the Global Reporting Initiative (GRI) standard combined with the direction of the Ministry of Finance of Vietnam in Circular No. 96/2020 and Circular No. 155/2015 on guidelines on disclosure of information on the stock market and the document Guidelines for Making Sustainable Development Reports of the State Securities Commission in 2015 including environmental responsibility, employee responsibility, and community responsibility (Ministry of Finance, 2015; Huong et al., 2022). Each indicator consists of qualitative data, with no one indicator being superior to others and no hierarchical differentiation between them. The score for each item is calculated according to the following convention: The CSR item presented in the annual report will be scored 1 point and 0 otherwise. Performed scoring in this way was applied widely (Hafez, 2015; Harun et al., 2020). Finally, the score for each component of *CSRD* (environmental responsibility disclosure — *ENV,* employee responsibility disclosure — *EMP*, community responsibility disclosure — *COM*) will be determined by taking the average score across all items within the category. The total *CSRD* index of each bank will be then computed as the mean score of these three *CSRD* component indexes.

In terms of the financial approach, employees, communities, and governments are crucial stakeholders who influence a company's longevity and expansion (Huong et al., 2022). Therefore, *SALARY, CHARITY*, and *TAX* are used to represent the CSR expenditure aspects of the bank. These variables are collected by taking the amount of expenditure banks spend on employees, communities, and governments in their annual reports. In more detail, *SALARY* represents all employee expenses such as salaries and allowances, salary-based payments, benefits, and other employee expenses. *CHARITY* represents all spending on the community. *TAX* represents the amount of corporate income tax payable during the year.

3.2.3. Control variables

There are control variables that are also believed to have an impact on the fiscal outcomes of a business including bank/firm size (*SIZE*) (Ngoc, 2018; Gonenc & Scholtens, 2019), capital ratio (*CAP*) (Ngoc, 2018; San & Heng, 2013), loan to deposit ratio (*LDR*) (Gonenc & Scholtens, 2019), management quality (*MQ*) (DeYoung & Roland, 2001), asset quality (*AQ*) (Singh et al., 2021), Herfindahl-Hirschman index (*HHI*) (Pham et al., 2018), gross domestic product (*GDP*) (Nguyen, Bui, et al., 2022), and inflation rate (*INF*) (Ngoc, 2018; Chi & Hang, 2023). See the detailed description of the variables in Table A.1 of the Appendix.

3.3. Research model

Based on a review of empirical studies, the article has put forward hypotheses and variables, from which the regression equation is determined as follows:

$$FP_{it} = \alpha + \beta_1 ENV_{it} + \beta_2 EMP_{it} + \beta_3 COM_{it} + \beta_4 Control\ variables_{it} + \varepsilon \quad (1)$$

$$FP_{it} = \alpha + \beta_1 TAX_{it} + \beta_2 SALARY_{it} + \beta_3 CHARITY_{it} + \beta_4 Control\ variables_{it} + \varepsilon \quad (2)$$

where, α is the intercept, β_i–β_4 are the regression coefficients, ε is the error term, i represents the company, t represents the time series, and *FP* is the financial performance (*NIM, ROE, ROA*).

Control variables include: *SIZE, CAP, LDR, MQ, AQ, HHI, GDP*, and *INF*.

3.4. Methodology

The authors apply Stata 17 software to run ordinary least squares (OLS), the fixed effects model (FEM), the random effects model (REM), and the generalized least squares (GLS) model to evaluate the relationship between CSR and the financial performance of listed banks in Vietnam. Moreover, this study tests for multicollinearity and uses the White, Wooldridge, Hausman, Wald and Breusch, and Breusch-Pagan Lagrange multiplier (LM) tests to check the model defects and select the most suitable model. As a result, GLS is the most suitable model for evaluating the relationship between CSR and the financial performance of listed banks in Vietnam. In more detail, in regression for Model 1, the authors tested for multicollinearity by calculating the variance inflation factor (VIF) and found a mean VIF of 1.60, less than 5, indicating no multicollinearity. Next, the White test for heteroscedasticity and the Wooldridge test for autocorrelation were applied to the pooled OLS model. Both tests showed significant issues, with p-values of 0.0000 (below 5%) for *NIM, ROE*, and *ROA*, confirming the presence of heteroscedasticity and autocorrelation. Therefore, the authors used the Hausman test to choose between FEM and REM, and the results (Prob > Chi^2 = 0.0000) favor the FEM as the more appropriate model. However, further diagnostics using the Wald test for heteroscedasticity and the Wooldridge test for autocorrelation showed that the FEM also suffered from both issues, as indicated by p-values of 0.0000. As a result, the authors turned to the GLS model, which is better suited to handle the heteroscedasticity and autocorrelation present in the FEM. Regression for Model 2, The mean VIF is 1.60 (below 5) indicating no multicollinearity concerns. Next, the White test for heteroscedasticity and the Wooldridge test for autocorrelation were applied to the pooled OLS model. The p-values for *NIM, ROE*, and *ROA* were all less than 5%, confirming the presence of heteroscedasticity and autocorrelation. After that, the authors used the Hausman test to decide between the FEM and REM. The test results favor FEM for *ROE*, as its p-value is 0.0000, while REM is more suitable for *NIM* and *ROA*, with p-values of 0.1429 and 0.6030, respectively. Further diagnostics, including the Wald and LM tests, confirm heteroscedasticity in both FEM and REM models, and the Wooldridge test indicates autocorrelation in both models as well, with p-values all equal to 0.0000. As a result, the authors turned to the GLS model, which is better equipped to handle the heteroscedasticity and autocorrelation found in the models.

4. RESEARCH RESULTS

4.1. Descriptive statistics

Before delving into the main results of this study, we will first examine the key characteristics of the selected sample, as detailed in Table 1.

Table 1. Descriptive statistics results

Variable	*Obs.*	*Mean*	*Std. dev.*	*Min*	*Max*
NIM	200	0.033	0.0142	0.00009	0.0972
ROE	200	0.1306	0.079	0.000001	0.3318
ROA	200	0.0099	0.0071	0.0000	0.0323
ENV	200	0.315	0.3304	0	1
EMP	200	0.5353	0.2183	0	1
COM	200	0.4575	0.2668	0	1
CSRD	198	0.4403	0.2268	0.0476	0.9761
SALARY	198	6.4407	0.4296	5.5489	7.2974
CHARITY	75	4.7904	0.7552	3.3010	5.9444
TAX	197	5.4578	0.9723	1.3010	7.2333
CSRE	198	6.5149	0.4513	5.5507	7.4461
SIZE	200	6.7399	0.5254	4.5211	7.7487
CAP	200	0.081	0.0275	0.00001	0.1697
LDR	200	0.7941	0.1855	0.0915	1.4142
MQ	198	0.7818	5.3058	-23.6307	56.4685
AQ	200	-0.0132	0.0143	-0.1096	0.0064
HHI	200	0.05	0.0509	0.0071	0.1907
GDP	200	0.061	0.0179	0.026	0.08
INF	200	0.032	0.0147	0.006	0.066

4.1.1. Dependent variables

In Table 1, over the 200 observations, *NIM* has an average value of 0.033 indicating that the amount of money banks earn from interest on loans compared to the amount they are paying in interest on customer deposits is more than 3.3%. The standard deviation of *NIM* is 1.42%, which shows that the majority of *NIM* observations are not too far from the mean value.

The *ROE* variable has a minimum value of 0.000001 and a maximum of 0.3318. It shows that there are banks with high capital efficiency, while some other banks are almost not profitable from equity.

ROA has an average value of 0.0099, showing that for each unit of assets, banks generate 0.0099 units of profit. *ROA* shows a clear difference in the profitability of banks with fluctuations from the lowest level of 0.0000 to the highest level of 0.0323.

4.1.2. Independent variables

The maximum value of *ENV, EMP*, and *COM* is 1 and the smallest is 0. It means that there are banks that fully implement social responsibility activities while there are banks that do not disclose any information which is related to social responsibility. The average values of *ENV, EMP*, and *COM* are 0.315, 0.5353, and 0.4575, respectively, showing that banks focus more on employee responsibility disclosure than environmental and community responsibility

disclosure. The standard deviation of *ENV* is the highest (0.3304), showing that the environmental responsibility disclosure of banks has the largest difference.

SALARY has an average value and standard deviation of 6.4407 and 0.4296, respectively, showing that employee costs are quite uniform among banks. The minimum and maximum values of *SALARY* are higher than those of *CHARITY* and *TAX*, showing that banks spend the most on employees. The smallest and largest values of *TAX* are 1.3010 and 7.2333, respectively, showing a large difference between the actual tax amount paid by banks. Besides, *TAX* has the highest standard deviation of 0.9723 reflecting higher volatility compared to *SALARY* and *CHARITY*.

4.1.3. Control variables

The size of banks is diverse as shown by the *SIZE* variable ranging from 4.5211 to 7.7487, with an average size of 6.7399.

The *CAP* variable has an average value of 8.1%, ranging from a low of nearly 0% to a high of 16.97%, showing clear differences between banks in terms of financial stability.

The average value of *LDR* is 0.79412, reflecting that outstanding credit accounts for about 79% of the bank's mobilized capital. The lowest value of *LDR* is 0.0915 while the highest value is 1.4142. It means that there are banks with very high liquidity because they lend very little compared to the capital mobilized and vice versa.

MQ has the smallest value of -23.6307 and the largest value of 56.4685, showing a large difference in the ratio between operating expenses and the total operating income of banks. In other words, the management quality capabilities of banks have significant differences. Besides, the standard deviation of *MQ* is 5.3058 showing a large dispersion in the data.

AQ has an average value of -0.0132, ranging from -0.1096 to 0.0064, reflecting the large difference in credit risk provisions of banks.

HHI ranges from 0.0071 to 0.1907 with an average value of 0.05. It means that on average banks have a 5% market share of the banking sector.

GDP fluctuates from 2.6% to 8% over the years. Besides, *INF* has the lowest and highest values of 0.6% and 6.6%, respectively.

4.2. Correlation analysis

Table A.2 (see Appendix) shows the Pearson correlation matrix of all variables for the full sample. Variables that are positively correlated with *NIM* include *ENV*, *SALARY*, *TAX*, *CSRE*, *SIZE*, *CAP*, and *LDR*. This result preliminarily supports the prediction of a positive relationship between CSR and financial performance.

In contrast, *AQ* has a negative correlation with *NIM*. These variables are all correlated with *NIM* at the 10% significance level. Meanwhile, variables that have a positive impact on *ROE* include *ENV*, *EMP*, *CSRD*, *SALARY*, *TAX*, *CSRE*, *SIZE*, *LDR*, and *HHI* while there are no variables that have a negative impact at the 10% significance level. Besides, *ENV*, *EMP*, *CSRD*, *SALARY*, *TAX*, *CSRE*, *SIZE*, *CAP*, *LDR*, *SIZE*, *CAP*, and *LDR* have a positive correlation with the dependent variable *ROA*. Only *AQ* has a negative impact on *ROA*.

5. DISCUSSION

Table 2 presents the regression results of the GLS model for both Models 1 and 2.

Table 2. Regression results of the GLS models

Variables	*NIM*		*ROE*		*ROA*	
	Model 1	*Model 2*	*Model 1*	*Model 2*	*Model 1*	*Model 2*
ENV	-0.00201		0.0411***		0.00356***	
	(-1.08)		(2.70)		(3.29)	
EMP	0.00241		0.0273		0.00141	
	(0.97)		(1.25)		(0.95)	
COM	-0.0009		-0.0363***		-0.00268***	
	(-0.69)		(-2.72)		(-2.84)	
TAX		0.0047		0.134***		0.0092***
		(1.32)		(7.72)		(6.30)
SALARY		0.0034		-0.00279		0.0025
		(0.71)		(-0.12)		(1.32)
CHARITY		-0.0051**		-0.00289		0.0007
		(-2.44)		(-0.29)		(0.92)
SIZE	0.0181***	0.0143***	0.117***	0.0083	0.0099***	0.0008
	(13.78)	(5.46)	(9.31)	(0.76)	(11.06)	(0.95)
CAP	0.0930***	0.100***	-0.226	-0.624***	0.0814***	0.0612***
	(5.13)	(3.13)	(-1.48)	(-4.00)	(6.91)	(4.63)
LDR	0.0018	0.0176***	-0.0048	-0.0188	0.000009	-0.0039*
	(0.79)	(3.13)	(-0.22)	(-0.75)	(0.01)	(-1.93)
MQ	-0.00005	-0.0001	0.0001	0.0012*	0.000018	0.00007
	(-1.17)	(-0.78)	(0.36)	(1.66)	(0.65)	(1.23)
AQ	-0.0800**	-0.537***	0.228	-0.252	0.0151	0.0108
	(-1.98)	(-7.16)	(0.90)	(-0.70)	(0.70)	(0.35)
HHI	-0.120***	-0.105***	-0.652***	-0.744***	-0.0631***	-0.0766***
	(-8.80)	(-3.44)	(-5.83)	(-4.97)	(-8.48)	(-5.99)
GDP	0.0063	0.0395	0.0947	0.601***	0.00341	0.0355**
	(0.46)	(0.87)	(0.72)	(3.09)	(0.35)	(2.26)
INF	0.0301*	0.0550	0.332**	0.369	0.0364***	0.0461**
	(1.73)	(0.79)	(1.96)	(1.26)	(2.89)	(1.96)
_cons	-0.0950***	-0.119***	-0.624***	-0.603***	-0.0628***	-0.0690***
	(-11.37)	(-5.33)	(-8.12)	(-5.56)	(-11.42)	(-7.51)
N	198	70	198	70	198	70

*Note: ***, **, and * are significant at 1%, 5%, and 10% levels, respectively.*

5.1. Environmental responsibility and financial performance

Environmental responsibility disclosure (*ENV*) brings strong benefits to corporate financial health, specifically *ROE* and *ROA*. This result means that when implementing and publicizing activities related to the environment such as providing conditions for granting credit capital, implementing environmental protection activities, and a friendly working environment increase, the bank's financial efficiency increases. The positive impact of environmental responsibility disclosure on fiscal outcomes is the opposite result of research by Fayad et al. (2017), and Gonenc and Scholtens (2019). Supporting this positive relationship, Rehman et al. (2020) and Liu et al. (2021) found that implementing environmental responsibility plays a role in key in improving economic efficiency. Banks' protection and reasonable and effective use of environmental resources help economic growth. Because the environment plays a fundamental role in the sustainable socio-economic development of every country (Nguyen & Tran, 2023). If the environment degrades, it will negatively impact human life, causing natural disasters and other social unrest as well as causing economic losses. Therefore, activities related to environmental responsibility are the first basis to ensure sustainable development in general and economic development in particular (Nguyen & Tran, 2023). Especially in the context of the government, customers, investors, and other bank stakeholders focusing on green banking and sustainable development, activities related to the environment not only increase the reputation and trust of shareholders and investors but also open up new opportunities in attracting investment capital, achieving financial efficiency and creating sustainable value in the long term (Pham & Pham, 2024).

5.2. Government responsibility and financial performance

This study found that actual corporate taxes paid to the state (*TAX*) positively affect the corporate financial situation which is expressed through *ROE* and *ROA* at the 1% significance level. This result encourages banks to enhance social responsibility through compliance with regulations and full tax payment. Taxes are not only a contribution to social development but also an expression of responsibility towards the state. Complying with tax regulations not only helps banks avoid legal troubles but also contributes to maintaining a healthy business environment. In addition, good tax compliance helps banks build a positive image among investors and partners, leading to improved capital access, business opportunities, and enhanced financial performance. The positive relationship between actual tax payments and banks' financial performance is consistent with stakeholder theory which recognizes the government as an important stakeholder in business activities (Chi & Hang, 2023). Similar to the opinion of Fitri et al. (2023), who argue that responsible government spending helps reduce legal risks, enhance stakeholder confidence, and improve fiscal performance. Besides, Zhou et al. (2021) and Nguyen, Bui, et al. (2022) also stated that the government is an important stakeholder in business development. However, this research result is contrary to the conclusion of Chi and Hang (2023).

5.3. Employee responsibility and financial performance

The variables representing employee responsibility include employee responsibility disclosure (*EMP*) in Model 1 and employee responsibility expenditure (*SALARY*) in Model 2 with consistent results shown in Table 2. The authors find that both *EMP* and *SALARY* do not affect the financial performance of the bank. This result is contrary to the conclusions of Nguyen, Bui, et al. (2022), Raihan et al. (2015), and Chi and Hang (2023). These studies suggest that investing in CSR helps businesses attract suitable, highly qualified workers to improve productivity and financial performance for businesses. In addition, CSR also plays a role in enhancing the image of businesses in the labor market, bringing intangible values that can contribute to retaining workers in the business, which is considered a key factor determining the success of the company. However, the authors believe that disclosing and investing in employee costs such as benefits, health, and training may only bring long-term benefits such as increased productivity and reduced turnover but not immediately affect short-term financial benefits.

5.4. Community responsibility and financial performance

Variables representing community responsibility including community responsibility disclosure (*COM*) in Model 1 and community responsibility expenditure (*CHARITY*) in Model 2, consistently show a negative relationship with the bank's financial outcomes. More specifically, *COM* negatively affects *ROE* and *ROA* while *CHARITY* negatively affects *NIM*. These results are supported by the studies of Raihan et al. (2015) and Gbadamosi (2016). Raihan et al. (2015) said that encouraging the implementation of CSR activities does not mean encouraging the disclosure of this information, especially charity to individuals and society. Because publicizing social security activities can hurt the self-esteem of individuals on the receiving end. Besides, publicizing charitable activities can compromise the true meaning of giving. However, these results are contrary to the results of Chi and Hang (2023), Nguyen, Bui, et al. (2022), and Ashraf et al. (2017). The negative relationship between community responsibility and fiscal outcomes can be explained by overinvestment in the community such as health and education. Without a clear plan or objectives can lead to high costs without bringing commensurate benefits to the bank. When banks allocate significant resources to the community without a clear connection to profitability, this may signal inefficiency to investors. It raises concerns about whether these expenditures are effectively driving shareholder value. In addition, if community disclosures become a focal point, rather than the outcomes of these activities, it could create skepticism among investors, who might perceive that the bank is not optimizing its financial resources to drive profitability. In this sense, excessive community investments could inadvertently affect profit expectations and

contribute to a decline in financial outcomes. This argument is consistent with agency theory that the company's goal is to increase shareholder wealth, while socially responsible activities can lead to costs and reduce the company's financial performance and shareholder wealth (Jensen, 2002).

5.5. Control variables and financial performance

Control variables all impact financial performance. Firstly, this study has proven that firm size (*SIZE*) has a positive impact on *NIM, ROE*, and *ROA* at the 1% significance level. The reason is that large banks are often rated higher than small banks because of their strong financial capacity and stable profitability. This allows large banks to borrow capital at lower interest rates and attract investment with more favorable conditions, helping to reduce financial costs and increase profitability. There have been other experimental results similar to this result such as Gonenc and Scholtens (2019). In contrast, Gaio and Raposo (2011) disagreed with that view and demonstrated a negative relationship between firm size and financial performance.

Secondly, this study has demonstrated that *CAP* impacts *NIM* and *ROA* in the same direction but opposite direction to *ROE*. A high *CAP* reflects high capital adequacy allowing banks to lend to customers without worrying about the risk of capital loss, which leads to increased profitability as well as improvements in *ROA* and *NIM*. There have been studies that agree with the positive relationship between *CAP* and *ROA* (Khalifaturofi'ah, 2023), and *CAP* and *NIM* (Mir & Shah, 2022; Khalifaturofi'ah, 2023). However, an increase in *CAP* means an increase in equity, leading to a decrease in the ability to generate profits per unit of equity, leading to a decrease in *ROE* and vice versa (Alnajjar & Othman, 2021).

Thirdly, the *LDR* is proven to have a positive impact at the 1% significance level on *NIM* but inverse direction with *ROA* at the 10% significance level. A high *LDR* indicates that the bank is using a large proportion of customer deposits for lending which helps generate higher interest income from loans. From there, when banks are able to generate higher profits from loans compared to deposit costs, net interest income and *NIM* increase (Nguyen, 2023). However, *LDR* harms *ROA* because when *LDR* increases, banks tend to spend more money on credit risk provisions, leading to an increase in profit after tax and a decrease in *ROA*. Nguyen and Le (2020) also concluded that there is a negative relationship between *LDR* and *ROA*, contrary to the conclusion of Siddique et al. (2022).

Fourthly, the authors find that *MQ* benefits the financial success of banks especially the *ROE* at the 10% significance level. It means that good management quality helps banks control and minimize unnecessary costs, leading to improved profits. When banks can reduce operating costs while still controlling total operating income, management quality will increase and improve financial performance. Besides, good control of operating expenses also helps banks increase opportunities to invest in other profitable projects such as market expansion, and product development, thereby improving total operating income. The benefit ties between management quality and fiscal performance have been demonstrated by O'Neill et al. (2016).

Fifthly, *AQ* was found to have a negative relationship with bank financial performance, especially *NIM*. This result implies that the more banks set aside credit risk provisions, the more their financial performance decreases. In other words, when banks have to use a larger amount of money to prevent the risk of loss from bad loans, it leads to a decrease in net profit from lending activities and a negative impact on *NIM*. This result is supported by research by Singh et al. (2021).

Sixthly, the *HHI* is proven to have a negative relationship with all mentioned profitability ratios including *NIM, ROE*, and *ROA* at the 1% significance level. When *HHI* is high, it shows that large banks dominate the market. These banks are in a less competitive environment, they may not have to make efforts to improve their operational efficiency or innovate their services because they already have a solid market advantage. This can lead to banks not optimizing costs, leading to reduced financial efficiency. *HHI* has a detrimental result on the profits of the banking sector Soeharjoto et al. (2023), and that result is contrary to the conclusion of Pham et al. (2018).

Seventhly, *GDP* has a positive relationship with banks' financial performance (*ROE* and *ROA*). In other words, when *GDP* increases, the financial situation of banks also increases and vice versa. Increased *GDP* means economic growth leading to the creation of more business and investment opportunities. Since then, the increase in *GDP* has boosted the need for loans from businesses to expand their projects and activities. With loans as a source of capital, banks will increase lending activities leading to improved interest income. This beneficial relationship has also been proven by research by other authors such as Matar et al. (2018).

Lastly, the *INF* affects *NIM, ROE*, and *ROA* in the same direction. The reason is that when the inflation rate increases, banks will increase deposit interest rates and lending rates to reduce the money supply and encourage citizens and businesses to deposit money. Increased lending interest rates lead to increased profits from lending and investment activities and improved financial performance. The positive relationship between *INF* and bank financial performance is also proven by Ali and Ibrahim (2018). However, this result is contrary to the conclusions of Hong and Razak (2015).

6. CONCLUSION

This research was conducted to find out the relationship between components of CSR disclosure, CSR expenditure, and financial performance, and give suggestions to improve financial performance based on CSR. With data collected from 2013 to 2022 from 20 listed banks in Vietnam, the authors used Stata 17 software to run Pooled OLS, FEM, REM, and GLS models and White, Wooldridge, Hausman, Wald, Breusch, and LM tests to check model defects and select the appropriate model.

The authors prove that components of CSR disclosure and CSRE expenditure affect financial outcomes in different ways. Firstly, environmental disclosure contributes to improving banks' ROE and ROA which is suitable with stakeholders' theory. Activities related to the environment not only

increase the reputation and trust of stakeholders but also create sustainable value in the long term. Banks should focus on publicizing environmental protection activities such as tightening lending for projects that are harmful to the environment, propagating and investing in environmental protection activities, and improving the green working environment. More specifically, banks should simultaneously build social and environmental risk management processes according to the guidance of the state bank to serve green credit activities. Secondly, the proxy for social responsibility to the community shows consistent negative results, community disclosure negatively affects ROE and ROA while community expenditure negatively affects NIM which supports agency theory. Charitable activities do not directly benefit businesses, but indirectly create a positive image and strengthen relationships with customers and local authorities where they operate. Therefore, banks should view community activities and social security as a long-term responsibility to society, not just a tool to achieve short-term financial benefits. Thirdly, the bank tax actually paid to the state affects the financial situation of the business in the same direction, specifically ROE and ROA. Strict compliance with tax laws helps mitigate legal risks and strengthens the bank's reputation with investors, customers, and stakeholders, ultimately contributing to financial success. Banks should prioritize effective cash flow management to ensure timely tax payments without disrupting operations. Finally, employee disclosure and employee expenditure are used to represent responsibilities to employees that do not affect the bank's fiscal performance. For government agencies and the State Bank of Vietnam, they should establish CSR evaluation standards for banks, aligned with international frameworks like ISO 26000, Business Social Compliance Initiative (BSCI), and Worldwide Responsible Accredited Production (WRAP). These standards would help banks clearly define their CSR goals and actions, provide a unified framework for reporting and evaluating CSR activities, and promote transparency and accountability. By using consistent criteria, banks can assess their CSR performance, banks with high ratings will try to maintain their rankings and improve their image to operate well, while banks with low ratings have a basis to review and adjust their strategies.

During the research, the authors tried to complete it in the best way possible, but this research still has some limitations. The limitation is that this study is limited in the number of observations (200 observations) because the authors only focus on the banking industry, specifically listed banks. Therefore, the research results may not be completely suitable for application to other industries because each industry has its characteristics. Analyzing and evaluating the impact of CSR on corporate financial performance in this study may not fully represent the overall picture for the entire banking industry, including unlisted banks. For future research, other authors should expand the sample size by including both listed and unlisted banks, as well as extending the study to other industries, which would provide a more comprehensive understanding of the impact of CSR on financial performance. Empirical research results help businesses devise strategies for disclosing and investing in community, human resources, and environmental activities, and paying taxes more appropriately to improve their financial situation.

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APPENDIX

Table A.1. Variables description

Variables	*Description*	*Measurement*	*Sources*	*Data source*
Dependent variables				
NIM	Net interest margin	$NIM = \frac{Net\ interest\ income}{Average\ interest\ earning\ asset}$	Nguyen, Bui, et al. (2022), Taskin (2015)	Bank's financial statement
ROA	Return on total assets	$ROA = \frac{Profit\ after\ tax}{Average\ total\ asset}$	Taskin (2015), Sharma (2023)	
ROE	Return on equity	$ROE = \frac{Profit\ after\ tax}{Average\ equity}$	Nguyen, Vu, et al. (2023), Taskin (2015)	
Independent variables				
ENV	Environment responsibility disclosure	$ENV = \frac{Total\ environment\ reponsibility\ disclosure}{7}$	Nguyen and Nguyen (2021)	Bank's annual report
EMP	Employee responsibility disclosure	$EMP = \frac{Total\ employee\ reponsibility\ disclosure}{14}$	M. C. Nguyen and H. L. Nguyen (2021)	
COM	Community responsibility disclosure	$COM = \frac{Total\ community\ reponsibility\ disclosure}{6}$	M. C. Nguyen and H. L. Nguyen (2021)	
CSRE	Total CSR expenditure	$CSRE = Log(Total\ spending\ on\ employees + Total\ spending\ on\ community + Tax\ paid\ in\ the\ year)$	Chi and Hang (2023), Nguyen, Bui, et al. (2022)	Bank's financial statement
SALARY	Total spending on employees	$SALARY = Log(Total\ spending\ on\ employees)$	Chi and Hang (2023), Nguyen, Bui, et al. (2022)	
CHARITY	Total spending on community	$CHARITY = Log(Total\ spending\ on\ community)$	Chi and Hang (2023), Nguyen, Bui, et al. (2022)	
TAX	Tax paid in the year	$TAX = Log(Tax\ paid\ in\ the\ year)$	Chi and Hang (2023), Nguyen, Bui, et al. (2022)	
Control variables				
SIZE	Firm size	$SIZE = Log(Total\ sassets)$	Nguyen, Bui, et al. (2022), Nguyen, Vu, et al. (2023), Ngoc (2018), M. C. Nguyen and H. L. Nguyen (2021)	Bank's financial statement
CAP	Capital ratio	$CAP = \frac{Equity}{Total\ assets}$	Nguyen, Vu, et al. (2023), Ngoc (2018)	
LDR	Loan-to-deposit ratio	$LDR = \frac{Total\ outstanding\ loan}{Total\ deposit}$	Nguyen, Bui, et al. (2022), Gonenc and Scholtens (2019)	
MQ	Management quality	$MQ = \frac{Operating\ expenses}{Total\ operating\ income}$	Nguyen, Bui, et al. (2022), DeYoung and Roland (2001)	
AQ	Asset quality	$AQ = \frac{Cost\ of\ the\ credit\ risk\ provision}{Total\ outstanding\ loan}$	Nguyen, Bui, et al. (2022)	
HHI	Herfindahl-Hirschman index of the banking industry	$HHI = \frac{Total\ assets\ of\ each\ bank}{Total\ assets\ of\ the\ banking\ sector}$	Nguyen, Bui, et al. (2022), Pham et al. (2018)	
GDP	Gross domestic product	GDP growth rate in Vietnam	Chi and Hang (2023), Nguyen, Bui, et al. (2022)	World Bank
INF	Inflation rate	Inflation rate in Vietnam	Chi and Hang (2023), Nguyen, Bui, et al. (2022)	

Table A.2. Correlation matrix

Variables	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*	*(17)*	*(18)*	*(19)*
(1) *NIM*	1.0000																		
(2) *ROE*	0.5400*	1.0000																	
(3) *ROA*	0.6752*	0.8561*	1.0000																
(4) *ENV*	0.1878*	0.4398*	0.3648*	1.0000															
(5) *EMP*	0.0921	0.3146*	0.2011*	0.6671*	1.0000														
(6) *COM*	0.0556	0.0701	0.0423	0.4810*	0.5711*	1.0000													
(7) *CSRD*	0.1178	0.3241*	0.2433*	0.8782*	0.8515*	0.7914*	1.0000												
(8) *SALARY*	0.4030*	0.5447*	0.4743*	0.5950*	0.4879*	0.4503*	0.6013*	1.0000											
(9) *CHARITY*	-0.1054	0.0040	-0.0004	0.2930*	0.2977*	0.0938	0.2989*	0.7069*	1.0000										
(10) *TAX*	0.4215*	0.6913*	0.6189*	0.5554*	0.4318*	0.3010*	0.5070*	0.7296*	0.5449*	1.0000									
(11) *CSRE*	0.4182*	0.5911*	0.5236*	0.6233*	0.5140*	0.4520*	0.6241*	0.9923*	0.6973*	0.7788*	1.0000								
(12) *SIZE*	0.4887*	0.6044*	0.5385*	0.6238*	0.5311*	0.4445*	0.6286*	0.8942*	0.5777*	0.7684*	0.9110*	1.0000							
(13) *CAP*	0.4175*	0.0670	0.4998*	-0.0573	-0.1899*	-0.0863	-0.1139	-0.0498	-0.1233	0.0541	-0.0246	-0.0033	1.0000						
(14) *LDR*	0.1962*	0.1778*	0.1947*	0.1965*	0.1655*	0.0812	0.1643*	0.3127*	0.2020	0.3342*	0.3203*	0.3048*	0.0681	1.0000					
(15) *MQ*	0.0495	0.0478	0.1072	0.0202	0.0081	-0.0017	0.0099	0.0946	0.0559	-0.0219	0.0948	0.0581	0.1192	0.0472	1.0000				
(16) *AQ*	-0.4027*	-0.1315	-0.2076*	-0.2061*	-0.0932	-0.0903	-0.1568*	-0.1970*	-0.1751	-0.1719*	-0.1955*	-0.2258*	-0.2813*	0.2687*	0.0503	1.0000			
(17) *HHI*	-0.0300	0.1749*	0.0141	0.4797*	0.4609*	0.3844*	0.5258*	0.7085*	0.7861*	0.4945*	0.7045*	0.6787*	-0.3177*	0.2081*	0.0062	0.0570	1.0000		
(18) *GDP*	0.0076	-0.0852	-0.1155	-0.1284	-0.0650	-0.1246	-0.1339	-0.0505	-0.2158	-0.1190	-0.0765	-0.0577	-0.0566	-0.0147	0.0202	0.0823	0.0000	1.0000	
(19) *INF*	-0.0525	-0.1293	-0.0785	-0.1835*	-0.1894*	-0.0366	-0.1385	-0.1963*	-0.0565	-0.1351	-0.1932*	-0.1839*	0.0748	-0.0419	0.0022	0.0539	0.0000	0.0369	1.0000

*Note: * Represents a significance level of 5%.*