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ORIGINAL

Factors affecting the disclosure of ESG information: an experimental study at Vietnamese commercial banks

Factores que afectan la divulgación de información ESG: un estudio experimental en bancos comerciales vietnamitas

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ABSTRACT

The disclosure of information and the enforcement of ESG policies have become a trend in responsible investment not only for non-financial companies but also for financial institutions - commercial banks. However, in emerging countries like Vietnam, the level of ESG information disclosure is still in its infancy. Therefore, this research aims to identify the influence of factors on the level of ESG information disclosure of Vietnamese commercial banks. The article uses the GMM regression model to assess the impact of factors on the level of ESG information disclosure of 21 Vietnamese commercial banks in the period from 2018 to 2022. In which, the dependent variable is the level of information disclosure of Vietnamese commercial banks measured according to the International Fair Finance Guidelines Method. The results show that the disclosure level of Vietnamese commercial banks is greatly influenced by factors related to the characteristics of the banks. Among these, bank size, financial efficiency, and the level of competition among banks are factors driving banks to disclose ESG information. Conversely, banks with higher leverage tend to restrict ESG information disclosure. Additionally, among environmental factors such as corruption control, legal compliance, economic and social development, only corruption control and legal compliance have an impact on the level of ESG information disclosure by banks.

Keywords: Environmental; Social; Commercial Banks; Bank-Specific Factors; Environmental Factors.

RESUMEN

La divulgación de información y la aplicación de políticas ESG se han convertido en una tendencia en la inversión responsable no solo para las empresas no financieras sino también para las instituciones financieras: los bancos comerciales. Sin embargo, en países emergentes como Vietnam, el nivel de divulgación de información ESG aún está en pañales. Por lo tanto, esta investigación tiene como objetivo identificar la influencia de los factores en el nivel de divulgación de información ESG de los bancos comerciales vietnamitas. El artículo utiliza el modelo de regresión GMM para evaluar el impacto de los factores en el nivel de divulgación de información ESG de 21 bancos comerciales vietnamitas en el período de 2018 a 2022. En el que, la variable dependiente es el nivel de divulgación de información de los bancos comerciales vietnamitas medido de acuerdo con el Método de Directrices Internacionales de Finanzas Justas. Los resultados muestran que el nivel de divulgación de los bancos comerciales vietnamitas está muy influenciado por factores relacionados con las características de los bancos. Entre estos, el tamaño del banco, la eficiencia financiera y el nivel de competencia entre los bancos son factores que impulsan a los bancos a divulgar información ESG. Por el contrario, los bancos con mayor apalancamiento tienden a restringir la divulgación de información ESG. Además, entre los factores ambientales como el control de la corrupción, el cumplimiento legal y el desarrollo económico y social, solo el control de la corrupción y el cumplimiento legal tienen un impacto en el nivel de divulgación de información ESG por parte de los bancos.

Palabras clave: Divulgación Ambiental; Social; Bancos Comerciales; Factores Específicos del Banco; Factores Ambientales.

INTRODUCTION

Commercial banks (CBs) are financial institutions with the primary function of financial intermediation, engaging mainly in deposit-taking, lending, and investment activities. Through responsible lending and investment practices that consider Environmental, Social, and Governance (ESG) factors, commercial banks contribute to sustainable development by actively contributing to environmental and social causes, fostering economic growth, and minimizing negative impacts through both direct and indirect business activities. Research by Ye et al. (2021) has highlighted the importance of developing,[1] disclosing, and implementing ESG commitments to meet stakeholder expectations and mitigate reputation risk. ESG commitments and enforcement build trust in a brand among customers, foster brand loyalty, enhance customer perception of quality and satisfaction, and improve banks' market competitiveness, leading to better financial performance.

In Vietnam, in recent years, some policy documents have been issued to orient, encourage, shape policy frameworks, and pursue sustainable development goals in general and ESG in particular. Regulations on ESG policies are increasingly embedded in legal provisions rather than merely encouraged or guided as before. Vietnamese commercial banks have begun to pay attention to and gradually strategize towards ESG in their business activities. They are also moving closer to international standards and best practices, such as adopting international initiatives on information transparency like the Global Reporting Initiative (GRI), Task Force on Climate-related Financial Disclosures (TCFD), or applying the International Finance Corporation's (IFC) Environmental and Social Performance Standards in certain credit programs.

Moreover, assessing the level of disclosure and enforcement of ESG policies by commercial banks in Vietnam has also gained attention and been carried out. In 2018, Fair Finance Vietnam conducted the first assessment of the level of ESG policy commitments for Vietnamese commercial banks using the Fair Finance Global Methodology (FFGM), developed by Oxfam and Fair Finance alliances of civil society organizations in 15 countries worldwide. FFGM is used to evaluate policy commitments regarding ESG criteria of financial institutions (FIs) in line with international standards such as the UN human rights conventions, OECD guidelines, IFC Environmental and Social Performance Standards, Equator Principles, and Responsible Investment Principles.[10] FFGM focuses solely on publicly disclosed information by financial institutions (sustainability reports, annual reports, and official documents of commercial banks). It consists of three ESG pillar standards with 23 themes, each built from 12 to 26 criteria. The eight mandatory ESG themes include Nature and Climate Change under the environmental pillar; Gender Equality, Human Rights, Labor Rights under the social pillar; and Anti-corruption, Tax Compliance, Transparency, and Accountability under the governance pillar. The criteria for measuring ESG are based on UN conventions and international standards such as IFC's Environmental and Social Performance Standards. The results indicate that Vietnamese commercial banks have made public disclosures regarding ESG. However, their ESG policy commitments are still in the early stages, primarily focusing on the S and G pillars, while disclosure of policies related to the E pillar remains limited.

Wu and Shen (2013) studied the relationship between Corporate Social Responsibility (CSR) and Financial Performance (FP) and the motives driving banks to engage in CSR.[2] The results showed that the three driving motives for bank social responsibility are strategic choice, ethics, and greenwashing. Among them, strategic choice is the primary motivation for banks to engage in CSR. Other studies have also indicated that if investment managers engage in ESG activities out of ethical motives, competition will reduce investment in ESG activities. Conversely, if managers view ESG activities as a profit maximization strategy, they will invest more in ESG as competition increases.[17]

Additionally, some studies have shown that the disclosure of ESG policy commitments by commercial banks is influenced by factors such as operational efficiency, bank size, competition among banks, and the characteristics of the country where the bank operates.[19,21,22] However, research on this topic is still relatively scarce, and there is no consensus among developed and emerging economies. Particularly in Vietnam, the disclosure of ESG policy commitments by commercial banks is still in its infancy. There has been no experimental research conducted on the factors influencing the level of ESG information disclosure by Vietnamese commercial banks. Therefore, this research aims to answer the question: Do factors related to bank characteristics, bank competition, or environmental factors drive banks to increase the disclosure of ESG information?

The remaining sections of the article are organized as follows: Overview of studies on factors influencing ESG information disclosure by businesses in general and banks in particular; development of hypotheses related to factors influencing ESG disclosure; research methodology, sample description, and variables, research model; research results and discussion, significance of research results.

Literature Review and Theoretical Framework

The Environmental, Social, and Governance (ESG) rating has been increasingly attracting the attention of researchers, managers, and policymakers. Crespi & Migliavacca (2020) examined the influence of company characteristics size, risk level, market capitalization, return on equity (ROE) and country characteristics (legal framework; economic development (GDP growth rate);[21] social development (urban population ratio) on the ESG scores of financial companies. The results showed that the ESG scores of financial companies increased linearly over time and were enhanced by the size and profitability of the companies, along with the economic and social development of the countries where the companies operated. Overall improvement in ESG policies was mainly driven by large financial companies, while small companies struggled to keep up with this increasing trend. The risk level of financial companies, measured by the debt-to-asset ratio, seemed to have no significant impact on overall ESG scores and pillars. Specific country characteristics had certain impacts on the ESG scores of financial companies. In countries with stringent legal frameworks, financial companies were more inclined to follow current trends towards more sustainable business activities and voluntary disclosure of their ESG policies. Additionally, social development also had a positive and consistent impact on overall ESG scores and individual pillars. However, GDP growth, representing economic development, did not play a significant role in explaining financial companies' ESG scores and had a mixed impact on ESG pillars (positively impacting the Governance (G) pillar but negatively impacting the Environmental (E) and Social (S) pillars and not affecting the overall ESG.

On the other hand, Al.Khoury et al. (2023) investigated the influence of bank characteristics (return on assets (ROA); bank size; risk level (debt-to-asset ratio) and country characteristics economic development (GDP growth rate); social development (urban population ratio);[19] Legal (measured by 2 legal indices (societal trust in social rules)/Corruption control); Regulatory framework (measuring the level of investor protection) on the level of ESG disclosure of 38 listed banks in 9 out of 21 MENA countries (emerging economies) during the period 2011-2019. The study found that: Bank financial performance significantly and negatively influenced ESG disclosure, mainly on the social pillar and large enterprises; larger banks demonstrated higher accountability and awareness, disclosing more ESG information; Country characteristics, supported by institutional theory, seemed to strongly influence the ESG of financial companies where they operate.[13] GDP growth did not play a significant role in explaining ESG when controlling for country and year fixed effects but had a negative impact on the Environmental pillar, while social development had a positive impact on the ESG and Governance pillars. Corruption was the only nationally ranked issue consistently affecting ESG scores. Banks operating in countries with high corruption rates were less likely to improve their ESG because they tended to engage in unethical activities.

Additionally, some studies have shown that the level of ESG disclosure is also influenced by competition among banks. Cicchiello et al. (2023) examined the relationship between competition (measured by the Lerner index) and disclosure of Environmental, Social, and Governance information by banks.[12] Using logistic regression analysis on a sample of European banks from 2010 to 2020, the study showed that banks responded to increasing competition pressures from consumers and competitors by avoiding involvement in controversial ESG activities, which could undermine their reputation. Overall, these results emphasize that competition is an important factor driving sustainable banking activities to maintain their competitive advantage. However, Martins (2022) study on the impact of competition on environmental, social, and governance (ESG) activities of firms in 22 emerging markets, using a sample of 6,906 firm-year observations from 2011 to 2019, showed that firms adjusted ESG practices negatively after competitive shocks, contrary to previous results in developed economies.[9]

Thus, it can be seen that some studies have investigated the factors, motivations driving the disclosure of ESG policies of companies in general and banks in particular in developed and developing countries. However, research results are still scarce and inconclusive. Particularly in Vietnam, there has been no experimental research conducted on Vietnamese commercial banks. Therefore, our research aims to provide additional experimental evidence on this issue in the banking sector in Vietnam. Building on previous research findings, our study examines the impact of bank characteristics (Bank size; Leverage ratio; Financial performance; Bank competition) and country characteristics (Economic development; Social development; Corruption control and Legal compliance) on the level of ESG information disclosure of Vietnamese commercial banks.

Research Hypotheses

Legal Theory and Stakeholder Theory are considered foundational theories that help explain the demand for responsible business and investment, as well as the motivation behind sustainable development reporting. Based on this theoretical framework, some authors suggest that the participation in ESG can enhance the legitimacy of banks by demonstrating that profitability aligns with meeting the needs and expectations of stakeholders, even though socially responsible activities can sometimes be controversial due to the related costs.[6] Most studies affirm the significant role of company size and financial performance in disclosing ESG information.

Company Size: Legal theory is often used by researchers in the field of social environment because it explains why business managers publish commitments related to responsible business and investment decisions as part of their business strategy. Suchman (1995) defines legitimacy as a generalized perception or assumption that the actions of an organization are desirable, proper, or appropriate within a socially constructed system of norms, values, and beliefs.[4] Accordingly, each organization is accountable to society for how it operates and what it does, as these organizations are involved in utilizing natural resources and hiring labor in their operations.[20] Large companies are often under close scrutiny from regulators and the public, thus facing pressure to disclose ESG information. Most studies indicate that size is a crucial factor driving companies to disclose ESG information.[19,21] Additionally, the scale advantage allows large companies to disclose ESG information at a lower cost. This explains why larger companies tend to disclose more ESG information compared to smaller ones.[19] The hypothesis posited is:

H1: The size of a bank positively influences the extent of ESG information disclosure.

Financial Performance: Alongside size, financial performance also affects a company's ESG information disclosure. This relationship can be positive, mixed, independent, or negative. However, there is a notable consensus on the positive relationship in this subject. Friede et al. (2015) found that up to 90 % of the 2,200 documents published before 2015 reported a positive relationship between ESG and the financial performance of businesses in general.[15] Specifically, companies that perform well on ESG criteria tend to have better financial results. This relationship is consistently affirmed over time by the authors. This finding is supported by legitimacy theory, which suggests that companies must consider the public's rights alongside shareholder interests. Failure to meet societal expectations can result in penalties imposed by society in the form of restrictions on the company's operations and demand for its products.[23] Thus, integrating ESG can increase corporate value by minimizing risks and costs associated with ESG issues. This theoretical framework posits that investors and consumers will appreciate companies with better ESG performance. Hence, the hypothesis is:

H2: Financial performance positively influences the extent of ESG information disclosure.

Financial Leverage: Previous studies often consider leverage as an indicator of a company's risk level. According to [19] to reduce agency costs due to creditor supervision, highly leveraged companies tend to disclose more ESG information. This aligns well with the signaling theory proposed by Spence (1978), which explains the use of leverage and corporate performance based on asymmetric information through signaling functions to the market. Signaling theory suggests that investment decisions can be made through financial performance analysis.[5] However, public awareness of the environmental and social impacts of economic activities is increasing, prompting governments and businesses to pay attention to non-profit goals such as environmental protection and social development commitments. ESG is an important factor for investors' decision-making and is a crucial component of the Principles for Responsible Investment. Therefore, the hypothesis is:

H3: Financial leverage positively influences the extent of ESG information disclosure.

Bank Competitiveness: According to Porter (1998), a business is considered competitive if it can sustain and continuously enhance its competitiveness. To compete successfully, businesses must gain competitive advantage either through lower production costs or by differentiating products to achieve above-average prices.[7] To maintain competitive advantage, businesses need to achieve more sophisticated competitive advantages, thus providing higher quality goods or services or producing with higher efficiency. Therefore, disclosing ESG information is also a way for banks to differentiate and enhance their competitiveness compared to other rivals. The hypothesis posited is:

H4: Competitiveness positively influences the extent of ESG information disclosure.

Country Characteristics: According to institutional theory, institutions form the legal framework and guide entities to behave rationally. The specific characteristics of a country strongly influence the orientation of companies in transparently conveying messages about their non-financial activities. Unique national characteristics regarding institutions, culture, and politics motivate ESG disclosure. Therefore, similar to previous studies.[19,21] country-specific factors are also considered to affect the level of ESG disclosure by banks, with the hypotheses being:

H5: The level of legal compliance in a country positively influences the extent of ESG information disclosure.

H6: The level of corruption control in a country positively influences the extent of ESG information disclosure.

H7: The economic development of a country positively influences the extent of ESG information disclosure.

H8: The social development of a country positively influences the extent of ESG information disclosure.

METHOD

Research Sample

The sample consists of 21 commercial banks (NHTM), with the research period from 2018 to 2022. The

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commercial banks considered in the research include 4 state-owned commercial banks, which are banks 100 % owned by the State or where the State holds a controlling stake, and 17 domestic joint-stock commercial banks. The sample does not include branches of foreign commercial banks in Vietnam and joint-venture banks due to insufficient data for research. The total assets of the 21 commercial banks in the sample account for over 70 % of the total assets of the banking system, ensuring the sample's representativeness.

Data Sources

National characteristic variables are gathered from the World Bank's website. Bank characteristic variables are collected from financial reports published on the websites of the commercial banks.

For the dependent variables: Scores for the level of disclosure of Environmental – Social – Governance (ESG) policy commitments, both aggregate and for each pillar of ESG, are calculated based on the evaluation criteria according to the Fair Finance Guide Method (FFGM).

Research Model

To analyze the factors affecting the level of ESG information disclosure, four econometric models are proposed below according to previous studies:[9,19,21,22]

$ESG_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 LER_{it} + \beta_3 LEV_{it} + \beta_5 ROA_{it} + \beta_5 COR_{it} + \beta_6 LAW_t + \beta_7 URB_t + \beta_8 GDP_t + \varepsilon_{it}$ (1)

$E_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 LER_{it} + \beta_3 LEV_{it} + \beta_5 ROA_{it} + \beta_5 COR_{it} + \beta_6 LAW_t + \beta_7 URB_t + \beta_8 GDP_t + \varepsilon_{it}$ (2)

$S_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 LER_{it} + \beta_3 LEV_{it} + \beta_5 ROA_{it} + \beta_5 COR_{it} + \beta_6 LAW_t + \beta_7 URB_t + \beta_8 GDP_t + \varepsilon_{it}$ (3)

$G_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 LER_{it} + \beta_3 LEV_{it} + \beta_5 ROA_{it} + \beta_5 COR_{it} + \beta_6 LAW_t + \beta_7 URB_t + \beta_8 GDP_t + \varepsilon_{it}$ (4)

Where: β_0 is constant; βj is the regression coefficients corresponding to the independent variables; ε_{it} is the random error.

Dependent variables

ESGi,t : Scores on the level of disclosure of environmental-social-governance policy commitments in commercial banks i in year t;

E_ESGi,t ; S_ESGi,t ; $G\_ESG_{i,\,t:}$ Score of the level of disclosure of policy commitments according to each pillar of Environment, Social and Governance of commercial banks i in year t.

Independent variables

Table 1. List of Independent Variables in the Research Model

Variable	Variable Name	Definition	Expected Sign
LERi,t	Competitiveness	Measured by the Lerner index (1995)	-
SIZEi,t	Bank Size	Logarithm of total assets of commercial bank i in year t	+
LEVi,t	Leverage Ratio	Ratio of total debt to equity of commercial bank i in year t	+
ROAi,t	Financial Efficiency	Measured by after-tax profit over the average total assets of commercial bank i in year t	+
CORt	Corruption Control	Degree to which public power is exercised for private gain (including all forms of corruption)	+
LAWt	Rule of Law	Perception of the extent to which agents have confidence in and abide by society's rules	+
URBt	Social Development	Percentage of population living in urban areas	+
GDPt	Economic Development	GDP growth rate	+

Source: Compiled by the author from previous research

For variables related to bank characteristics, calculations are based on information from the bank's financial statements and according to the formulas in table 1.

For variables related to national characteristics (COR and LAW), data is taken from the measurement results of each country's institutional quality through the Worldwide Governance Indicators (WGI) by the World Bank. Each component score ranges from -2,5 (weak) to 2,5 (strong). Higher scores indicate better institutional quality. The WGI is used to compare the level of institutional development between countries and serves as a basis for each government to identify areas of weakness that need improvement. Additionally, within each country, this set of indicators can be used to evaluate institutions in narrower fields such as economics, finance, and banking.

For the competitiveness variable, it is measured according to the Lerner index (1995):[3,8,11,12,15,18]

$$\mathrm{LERNER} = \frac{P - MC}{P}$$

In which, P is the selling price and MC is the marginal cost. The Lerner index ranges from 0 to 1. When perfect competition exists, the selling price equals the marginal cost, thus this index will be 0. When the price is greater than the marginal cost, the Lerner index will be greater than 0 and between 0 and 1. The smaller the Lerner index (close to 0), the higher the level of competition. Conversely, the larger the Lerner index (close to 1), the greater the monopoly power.[12]

Data Analysis Method

To ensure the regression model results are reliable, it is necessary to choose an appropriate estimation method that overcomes the model's shortcomings. First, the author checks for autocorrelation, heteroscedasticity, multicollinearity, and endogeneity. The results show that the research model has issues with autocorrelation, heteroscedasticity, and endogeneity. Specifically, the endogeneity check shows that the variables LER and ROA are endogenous in the research model. Therefore, to address these shortcomings, especially endogeneity, the author uses the GMM regression model to evaluate the factors affecting the ESG disclosure level of Vietnamese commercial banks. GMM is a method that can overcome the model's shortcomings such as autocorrelation, multicollinearity, and is superior in addressing endogeneity, ensuring reliable research results.

RESULTS

Descriptive statistics in table 2 show that the observed variables collected have stable fluctuations, most of the standard deviation values of the research sample are smaller than the average value, suitable for performing statistical tests and regression.

Based on the descriptive statistics table, the ESG disclosure level of Vietnamese commercial banks (measured on a scale of 10) ranges from 0,5083 to 3,3500, with an average value of 1,0936 and a standard deviation of 0,5125. Thus, it can be seen that all Vietnamese commercial banks in the research sample have disclosed ESG information in accordance with international standards, although this is just the beginning. Additionally, the component ESG scores show that the ESG policies of Vietnamese commercial banks mainly focus on the S and G pillars. The S pillar score ranges from 0,5960 to 3,9200, with an average score of 1,2190 and a standard deviation of 0,7002. The G pillar score ranges from 0,5050 to 2,8000, with an average score of 1,5653 and a standard deviation of 0,4682. However, the E pillar score is lower and shows a relative disparity between banks; most of the environmental policy information disclosed by Vietnamese commercial banks does not meet international standards. Therefore, the E pillar score ranges from 0,0000 to 3,1567, with an average score of 0,2556 and a standard deviation of 0,5084.

Table 2. Descriptive Statistics of Research Variables

Variable	Observations	Median	Standard Deviation	Minimum Value	Maximum Value
ESG	115	1,0936	0,5125	0,5083	3,3500
E	115	0,2556	0,5084	0,0000	3,1567
S	115	1,2190	0,7002	0,5960	3,9200
G	115	1,5653	0,4682	0,5050	2,8000
SIZE	115	5,4429	0,4744	4,3091	6,3265
LER	115	0,3005	0,1099	0,0935	0,5881
ROA	115	0,1440	0,0824	0,0037	0,3033
LEV	115	12,2087	4,3520	4,8916	23,0699
COR	115	-0,4053	0,1058	-0,5458	-0,2873
LAW	115	-0,1209	0,0650	-0,1887	-0,0353
URB	115	0,3734	0,0137	0,3590	0,3880
GDP	115	0,0552	0,0231	0,0258	0,0800

Source: Compiled by the author from research results

The correlation coefficient matrix (Table 3) indicates the two-way correlation between each pair of variables. A positive correlation coefficient indicates a direct relationship between the two variables, while a negative correlation coefficient indicates an inverse relationship. A larger correlation coefficient indicates a stronger relationship between the two variables. The correlation coefficients between the independent variables and the dependent variable are all low (the highest correlation coefficient is 0,3980), with a significant level of sig. Therefore, multicollinearity is not a serious issue in terms of controlling variables in multivariate analysis.

The correlation coefficient matrix between variables and the level of ESG disclosure, as well as with each pillar of ESG (E, S, G), shows that the variables SIZE, LER, ROA, COR, and URB have a positive correlation with ESG and each of its pillars. Meanwhile, LEV, LAW, and GDP have a negative correlation. The variables ROA and

SIZE show a positive correlation with the variables LERNER and have a negative correlation with the variables MP, NPL, CIR, LLR, LEV, and GDP. However, the direction of the impact of some variables, such as LEV, COR, and GDP, does not follow the hypotheses set out above.(12) The impact of GDP on the level of overall ESG disclosure and its pillars is not statistically significant. Therefore, the author will exclude the variable GDP from the regression model.

Table 3. Correlation coefficient matrix between research variables

Var	ESG	E_ESG	S_ESG	G_ESG	SIZE	LER	ROA	lev	Cor	Law	urb	gdp
ESG	1											
E_ESG	0,8928	1										
	0,0000											
S_ESG	0,9520	0,8285	1									
	0,0000	0,0000										
G_ESG	0,7767	0,5682	0,5818	1								
	0,0000	0,0000	0,0000									
SIZE	0,3279	0,2270	0,3707	0,1988	1							
	0,0003	0,0147	0,0000	0,0332								
LER	0,3316	0,3372	0,2475	0,3514	0,3658	1						
	0,0003	0,0002	0,0077	0,0001	0,0001							
ROA	0,1786	0,1647	0,1433	0,1845	0,5146	0,5537	1					
	0,0561	0,0786	0,1265	0,0483	0,0000	0,0000						
LEV	-0,1526	-0,2214	-0,0735	-0,1836	0,3837	-0,5190	0,0171	1				
	0,1034	0,0174	0,4353	0,0495	0,0000	0,0000	0,8564					
COR	0,3112	0,2089	0,2479	0,3883	0,1755	0,3826	0,1522	-0,1392	1			
	0,0007	0,0251	0,0076	0,0000	0,0606	0,0000	0,1045	0,1379				
LAW	-0,2491	-0,1709	-0,1977	-0,3092	-0,1530	-0,3013	-0,1101	0,1075	-0,8970	1		
	0,0073	0,0678	0,0342	0,0008	0,1026	0,0011	0,2413	0,2526	0,0000			
URB	0,3197	0,2089	0,2577	0,3980	0,1889	0,3988	0,1800	-0,1623	0,9235	-0,7975	1	
	0,0005	0,0251	0,0054	0,0000	0,0432	0,0000	0,0542	0,0831	0,0000	0,0000		
GDP	-0,0270	-0,0473	-0,0050	-0,0410	-0,0357	-0,0827	0,0093	-0,0178	-0,3744	0,6386	-0,1574	1
	0,7742	0,6158	0,9580	0,6635	0,7050	0,3795	0,9212	0,8506	0,0000	0,0000	0,0930	

Source: The author synthesized from research results.

Based on the correlation matrix between variables, independent variables are found to be correlated with the dependent variable. Therefore, these independent variables will be included in the model to explain the dependent variable. Additionally, some independent variables have correlations with each other (sig < 5 %), so multicollinearity needs to be considered when analyzing regression. To check for multicollinearity, the author conducted OLS regression, determined the VIF coefficient, and the results showed VIF < 10. Thus, multicollinearity is not a serious issue and does not affect the regression results. Furthermore, the author also tested for endogeneity issues in the research model. The results show that LER and ROA are endogenous variables in the research model. Therefore, the author performed GMM regression on the research data to address endogeneity and model deficiencies. The regression results are presented in Table 4.

The GMM regression results show that the Hansen test statistic has Prob > chi2 > 0,05, meaning the model has successfully addressed the endogeneity issue. The AR(2) statistic has Pr > z > 0,05, indicating the model does not have second-order autocorrelation. The regression model has addressed the deficiencies of the research model, ensuring the reliability of the research results.

Table 4. *Summary of regression results of the research model*

Variable	ESG	E	S	G
SIZE	0,4442***	0,3113***	0,8102***	-0,3071***
	(0,1390)	(0,0902)	(0,2009)	(0,1311)
LER	-1,6619***	-0,8508***	-3,7917***	0,1835
	(0,6398)	(0,2790)	(0,9438)	(0,3265)
ROA	2,1573***	0,7270**	3,9943***	1,7453**
	(0,2856)	(0,4081)	(0,8140)	(0,8709)
LEV	-0,0645***	-0,0406***	-0,1210***	-0,0495**
	(0,0212)	(0,0149)	(0,0265)	(0,0209)

COR	1,9004*** (0,3485)	0,9446*** (0,1741)	2,5020*** (0,3770)	1,5952*** (0,1672)
LAW	1,4584*** (0,6861)	0,3176 (0,2080)	1,9280*** (0,4601)	-0,7012* (0,3588)
URB	0,4485 (2,8962)	-3,0721** (1,4875)	-3,5641 (3,5461)	2,3403 (3,3550)
Constant	0,4276 (1,4106)	0,7139 (0,9276)	1,4286 (1,5812)	3,4389** (1,5874)

Source: The author synthesized from research results.

Table 5 below describes the results of hypothesis testing:

Table 5. Hypothesis Testing Results of the Research

Variable	Research Hypothesis	ESG	E	S	G
SIZE	H1	Accept hypothesis	Accept hypothesis	Accept hypothesis	Reject hypothesis
LER	H2	Accept hypothesis	Accept hypothesis	Accept hypothesis	Reject hypothesis
ROA	H3	Accept hypothesis	Accept hypothesis	Accept hypothesis	Accept hypothesis
LEV	H4	Reject hypothesis	Reject hypothesis	Reject hypothesis	Reject hypothesis
COR	H5	Accept hypothesis	Accept hypothesis	Accept hypothesis	Accept hypothesis
LAW	H6	Accept hypothesis	Reject hypothesis	Accept hypothesis	Reject hypothesis
URB	H7	Reject hypothesis	Reject hypothesis	Reject hypothesis	Reject hypothesis
GDP	H8	Reject hypothesis	Reject hypothesis	Reject hypothesis	Reject hypothesis

Source: The author synthesized from research results.

Based on the research results, bank size (SIZE) is correlated with the level of ESG disclosure both in overall ESG and each pillar of ESG at a significance level of 1 %. However, consistency in the direction of impact only occurs for overall ESG score, Environmental (E) pillar, and Social (S) pillar. Specifically, bank size positively impacts overall ESG score, Environmental (E) pillar, Social (S) pillar, which is consistent with previous studies such as.(19) Conversely, bank size negatively impacts the Governance (G) pillar. Thus, Hypothesis 1 is accepted for the overall ESG score and E and S pillars.

In addition to bank characteristics, financial performance measured by the return on assets (ROA) also positively and consistently influences the level of ESG disclosure, both overall and for each pillar, at a significance level of 5 %. Thus, Hypothesis 2 is accepted.

The Lerner Index - banks' competitiveness (LER) is negatively correlated with the level of ESG disclosure by commercial banks in terms of overall ESG and the E and S pillars at a significance level of 1 %.(12) This result is consistent with Cicchiello et al. (2023).(22) Hypothesis 4 is accepted.

Similarly, the leverage ratio (LEV) is negatively correlated with the level of ESG disclosure at a significance level of 5 %. The impact direction of the leverage ratio on overall ESG and each pillar is consistent. Thus, Hypothesis 3 is rejected.

Besides bank characteristics, national characteristics are also considered as motivators for ESG disclosure by banks. Research results show that among the four national characteristic variables, only the Corruption Control (COR) variable and the Legal Compliance (LAW) variable impact the level of ESG disclosure. The Corruption Control variable positively and consistently impacts overall ESG score and the E, S, and G pillars at a significance level of 1 %. Thus, Hypothesis 5 is accepted.

The Legal Compliance variable is positively correlated with the level of ESG disclosure and is statistically significant at a 5 % level for overall ESG score and the S pillar but not statistically significant for the E pillar and negatively correlated with the G pillar at a 10 % level of significance. Hypothesis H6 is accepted for total ESG score and S component.

The remaining two factors, Social Development (URB) and Economic Development (GDP), do not seem to have any correlation with the level of ESG disclosure by commercial banks. Rejecting hypotheses H7 and H8.

DISCUSSION

Implementing ESG policies requires costly investments, and larger banks often have advantages in reducing operational costs, product diversification, income sources. Moreover, larger banks are subject to closer scrutiny by stakeholders; hence, they are more motivated to implement higher ESG policy commitments than smaller banks. However, larger banks tend to disclose more information about the E and S pillars rather than the G pillar. This may be because Vietnamese commercial banks during the research period were influenced by government policies and regulations such as the Green Growth Strategy, Environmental Risk Management in Credit Operations, the Government's Net Zero by 2050 target, and the Comprehensive Financial Strategy. These policies directly relate to factors within the E and S pillars.

When banks have good profitability, they have the resources to implement ESG policies, which are considered costly. Additionally, implementing ESG commitments is a way for banks to meet stakeholders' expectations and reduce risks and costs related to ESG issues. This result appears contrary to [19] but is supported by legitimacy theory and other studies such as.[16]

The greater the competitive pressure, the more incentive banks have to disclose ESG policies. ESG policy disclosure is a way for banks to maintain a competitive edge.[7] However, the influence of competition on disclosing governance information by banks is not statistically significant. This may be due to the research context, where ESG disclosure of Vietnamese commercial banks during the study period was influenced by government policies and regulations, mainly targeting environmental, social, and specifically comprehensive financial factors.

According to El Khoury et al. (2023),[19] to reduce agency costs due to creditor monitoring, companies with high financial leverage tend to disclose more ESG information. However, in Vietnam, banks with high leverage are usually large and reputable, facing less pressure to disclose ESG information to signal reputation and operational performance and reduce agency costs due to creditor monitoring.

The relationship between corruption and the productivity of a region or country has been studied theoretically [24] and empirically, highlighting the negative impact of corruption on resource allocation, business operations, investment, and innovation. Especially, the entry of new companies becomes more difficult in conditions of high corruption, reducing market competition - an important incentive for economic development.[25] Therefore, controlling corruption is a motivator for banks to enhance operational efficiency and disclose ESG policy commitments.

Legal compliance reflects societal trust and adherence to rules, especially contract enforcement quality, property rights, law enforcement, and courts, as well as the likelihood of crime and violence. Legal compliance is closely related to economic variables. According to Haggard & Tiede (2011), stricter legal compliance ensures long-term economic benefits. Therefore, countries with higher legal compliance will promote banks to implement ESG policy commitments to ensure the interests of stakeholders.[14]

CONCLUSION

The results indicate that the level of ESG disclosure by Vietnamese commercial banks is in its early stages. ESG scores of banks improved during 2018-2022, both for state-owned and private commercial banks, though not significantly. There are notable differences in scores for the Environmental (E), Social (S), and Governance (G) pillars. Banks seem to focus more on corporate governance and social issues, paying less attention to environmental factors.

This study provides concrete evidence of factors driving ESG disclosure in emerging markets. Bank characteristics are the main drivers for ESG disclosure. Larger, more profitable banks have advantages in implementing ESG policies compared to smaller, less profitable banks. Increased ESG disclosure enhances banks' competitive advantage in the market, and higher competition levels further motivate banks to disclose ESG information. Additionally, national characteristics also influence banks' ESG disclosure, mainly through Corruption Control and Legal Compliance. Economic development and social development factors do not show statistical significance.

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CONFLICT OF INTEREST

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