



ESG performance, GHG disclosure and firm performance of listed companies in Vietnam

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ABSTRACT

The trend of global shifting toward sustainability increasingly recognizes the importance of environmental, social, and governance (ESG) factors, among which reducing and disclosing greenhouse gas (GHG) emissions is a critical component of responsible corporate behaviour. This study examines the impacts of various sustainability activities on firm performance, highlighting the growing significance of ESG practices in driving business success. Specifically, we investigate the influence of ESG activities and GHG disclosure on firm performance in Vietnam, a developing economy where sustainability practices are beginning to emerge and gain traction. As businesses in Vietnam increasingly face pressure from stakeholders to demonstrate their commitment to sustainability, understanding the dynamics between these factors becomes essential. We also explore the relationship between ESG activities and GHG disclosure, recognizing that effective communication of environmental impacts can enhance corporate accountability. Utilizing an ESG score dataset constructed based on the methodology by Kinder, Lydenberg, Domini (KLD index) and a GHG disclosure dataset for listed firms over the period from 2018 to 2022, which includes 136 listed firms on the Vietnam stock markets, we employ various regression models, including OLS, FEM, REM, and GLS, to derive empirical results. Our findings indicate that firms engaged in proactive ESG practices are significantly more likely to disclose GHG emissions, suggesting a correlation between responsible actions and motivation in disclosure and transparency on GHG emissions of firms.

We also find that both ESG performance and GHG disclosure positively correlate with overall firm performance. This reinforces the idea that sustainability is not just a compliance issue, as suggested by legitimacy theory, but also a strategic advantage that can lead to profitable outcomes. Additionally, our findings support stakeholder theory and signaling theory, indicating that engaging in ESG practices and disclosing GHG emissions allows stakeholders to better understand a firm's operations, thereby fostering support for its activities. However, the results do not align with agency theory, which posits a conflict between shareholders and managers regarding ESG initiatives. Our research highlights practical implications for corporate leaders that a commitment to ESG and GHG transparency can enhance corporate reputation, position firms as sustainability leaders, and drive long-term success and resilience in an evolving global landscape.

Key words: ESG, firm performance, GHG disclosure, GHG emission

INTRODUCTION

Research have shown that being responsible for the environment as one of the actions to achieve sustainability goal is not only an action of firms to show their responsibilities to the planet, but it also helps realize direct benefits to companies by improving reputation, winning customers' and investors' loyalty, which then leads to increases in sales, profitability, and market value¹⁻³. Protecting the planet by reducing GHG has recently been a big call on a global scale as one of ESG actions. Several previous studies have explored the idea that GHG disclosure and ESG activity disclosure are ways businesses communicate with stakeholders about the company's social responsibility.

Hardiyansah et al.⁴ show that businesses disclosing sustainable information will create a better reputa-

tion and approach more potential investors. Additionally, King and Lenox⁵ show that entrepreneurs with proactive environmental strategies generate high profits and firm value. As the image and reputation of the company are positively correlated with customer loyalty, it follows that a favourable image and reputation will serve to attract the attention of investors, thereby contributing to the enhancement of the firm's business performance.

The movement toward implementing ESG activities and disclosing those activities has not been only popular in developed countries. Recently, in Vietnam, the call to respond to climate change has steadily increased, especially since Prime Minister Pham Minh Chinh signed a commitment to net zero emissions by 2050 at the 26th United Nations Conference on Cli-

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mate Change (COP26)⁶. This commitment was further highlighted when the Circular 96/2020/TT-BTC was issued requiring all listed firms to disclose two aspects: (1) total direct and indirect GHG emissions; and (2) solutions and initiatives to reduce GHG emissions⁷. While ESG efforts are essential, GHG disclosure also play a vital role in signalling firms' efforts toward sustainability. Though it is encouraging, general beliefs indicate that in the long run, businesses prioritize sustainability only when they recognize that the related benefits outweigh the costs. So, whether ESG and GHG disclosure truly help firms reap the benefits of reputations is the question that this study aims to answer.

Prior research suggested that companies in mature markets can get benefits when they actively engage in ESG initiatives and GHG disclosure. This study indicated a positive relationship between ESG performance and firm value by using data on voluntary and compulsory disclosed carbon emissions^{8,9}. However, limited research has explored these dynamics in emerging economies, where sustainability practices are relatively new, and regulatory frameworks for ESG and GHG reporting still need to be developed. Furthermore, a few existing studies on ESG in Vietnam have explored the impact of GHG disclosure, mainly on firm performance. Several researches already examined the relationship between ESG and corporate social responsibilities and financial performance. Loan et al.¹⁰ showed positive effects of ESG disclosure, environment disclosure, and governance disclosure on bank financial performance. Specifically, environmental responsibility shows an apparent negative influence, while social responsibility demonstrates a preferable but weak impact on economic performance. The authors emphasized that the most burdensome category of CSR is the environment-related one, which calls for more attention. To address the above conflicting findings, this research aims to investigate the impact of ESG activities on the firm performance of listed companies in Vietnam. While prior studies have shown a positive relationship between GHG disclosure and firm value, it is meaningful to explore this in the context of Vietnam, where sustainability is still at the primary stage.

To explore the connection between ESG performance and firm performance, we rely on the ESG score of listed companies, developed from evaluating firm activities based on dimensions of the KLD scale. Being well used in academic research, MCSI adopts KLD as a metric of ESG activities being developed to evaluate

the effectiveness of a company's sustainability activities Minutolo et al.¹¹ based on criteria related to environment, society and governance aspects. We collect data from companies' annual and sustainability reports to examine GHG disclosure and carbon emission. The sample includes ESG data of 150 listed companies in the VNX-all shares index, representing the largest companies in the market. Due to missing ESG data due to limited disclosure, the original sample of 150 firms was reduced to the final sample of 136 firms. The findings of this study show that ESG performance and GHG disclosure positively affect firm performance.

This research contributes to the finance literature in two aspects. Firstly, it observes firms' efforts towards sustainable development in Vietnam. This research contributes evidence on GHG disclosure, a significant effort of firms to deal with complex climate movements. Secondly, from a practical view, this study provides managers with an observation of the benefits of implementing sustainable activities, thereby allowing them to develop appropriate strategies to integrate sustainable factors into their business strategies, contributing to the reduction of the company's GHG emissions.

The rest of the paper proceeds as follows. Section 2 discusses the relevant literature. Sample and empirical models are presented in Section 3. Section 4 shows empirical results and discussion, and Section 5 concludes.

LITERATURE REVIEW AND HYPOTHESES

Literature on corporate behaviours on social responsibilities

Financial literature discusses the four theories that explain firms' behaviours on social responsibilities, including legitimacy, stakeholders, signalling, and agency theories.

The legitimacy theory is a popular theory explaining the disclosure of environmental and social information¹². The theoretical foundation of this theory is that an organization can exist if it operates within the norms of society¹³. To maintain legitimacy in society, companies voluntarily disclose environmental and social information to legitimize their business operations and fulfill their social responsibilities well. Some previous studies have used legitimacy theory to explain the disclosure of environmental and social information, such as the studies by Deegan et al.¹² and Gray et al.¹³.

Michelon and Parbonetti¹⁴ proposed a theory of the firm based upon conflicts of interest between various contracting parties – namely shareholders, corporate managers and debt holders. Firms with corporate governance mechanisms are established to control the nature of these conflicts, by which they may be resolved, and the firms may revolute. Therefore, it is predicted that an organization managed by one person or a group of people is not the actual owners. Thus, there is a possibility that this representative group may not operate in the interest of the owners. Agency theory may question the motivation for ESG activities, whether for the benefit of shareholders or for that of the managers.

The stakeholder theory explains that a company must be accountable to stakeholders, not just its shareholders¹⁵. Disclosure of information can be a means of communication between the company and its stakeholders, as the company will have the best understanding of its operations and can convey that information to the stakeholders who need it about the company.

signaling theory is widely used to explain voluntary disclosure of GHG emissions in annual or sustainability reports. The disclosed information related to environmental activities can be a positive signal for stakeholders because the company has voluntarily disclosed the necessary information for stakeholders.

The effect of ESG performance on GHG disclosure

Tsang et al.¹⁶ showed that companies that engage in more ESG activities are more likely to increase their voluntary GHG emissions disclosure. The recognition by stakeholders is more effective for companies with better ESG performance, and thereby, the role of ESG activities demonstrating social and environmental responsibility will be enhanced¹⁴. Companies that truly engage in high-quality ESG activities are the ones that are genuinely concerned about climate change and have integrated climate change into their business strategy. These companies are likelier to commit to long-term environmental protection activities across all their operational activities¹⁷. Therefore, it is proposed that:

H₁: ESG performance has positive effects on GHG disclosure

The impact of ESG performance on firm performance

Li et al.¹⁸ examined 350 listed companies in Germany about the relationship between ESG disclosure and

firm value. The research showed that ESG disclosure helps increase stakeholders' trust in improving firm value. The study also reported that CEO power positively contributes to ESG activities. In the US, the survey by Fatemi et al.¹⁹ also found that strong ESG performance will enhance firm value. The research by Minutolo et al.¹¹ investigated the ESG scores of 500 companies based on contract theory and stakeholder theory, and the authors found that improving the transparency of ESG activity reporting will help increase firm value and improve operational efficiency. Hence, the following hypothesis is:

H₂: ESG performance has positive effects on firm performance

The impact of GHG disclosure on firm performance

In general, investors will not know about the company's environmental protection activities if the company does not disclose the information. Investors assume that the company's survival is influenced by its high profitability and a balanced combination of economic performance, social justice focus, and corporate responsibility for environmental sustainability²⁰. According to legitimacy theory, the company's motivation to disclose carbon emissions is to gain legitimacy from stakeholders, reinforcing support for ongoing operations. From that, investors will be interested in investing in companies that care about the environment by revealing carbon emissions produced by the company.

Some previous studies have shown a positive relationship between a company's financial performance and environmental disclosure in annual reports²¹, in sustainability reports²² and on company websites²³. According to stakeholder theory, businesses do not operate solely for their benefit but also have the responsibility to serve various stakeholders, including investors, consumers, government, and the public. Murray et al.²⁴ found a positive relationship between the level of environmental disclosure and stable financial returns. Magness²⁵ research showed that investors pay more attention to companies that have previously disclosed ecological information. As GHG reduction is an essential response to climate change, it is believed that the disclosure of GHG significantly impacts firm performance. Therefore, it is hypothesized that:

H₃: GHG disclosure has positive effects on firm performance

SAMPLE AND METHODOLOGY

Sample and data

The data sources used in this research are both primary and secondary. The ESG performance of firms is assessed manually based on the information collected from sustainability reports or annual reports of listed companies from 2018 to 2022, within which new regulations on sustainability reporting have been issued and are effective on listed companies^a. GHG disclosure is collected from sustainability reports, annual reports or other reports. ESG score is developed from the manual assessment of ESG activities using 62 criteria of the KLD scale (MSCI Inc.^b) applied to 150 companies listed on the HOSE and HNX stock exchanges from 2018 to 2022. GHG emissions are collected from listed companies' sustainability reports or annual reports. The search for GHG emission produces a list of companies that disclosed their GHG emissions by Circular 96/2020/TT-BTC during the period 2021 – 2022 for the period that the Circular is in effect. Deleting firms lacking ESG information has yielded a final sample of 136 firms.

Empirical model

The study will use two indicators to measure the company's financial performance and market performance, with Return on Equity (ROE) and Return on Assets (ROA) measuring financial performance and Tobin's Q ratio measuring stock market performance. Based on the research model of Jiang et al.²⁶, the author proposes a regression model for the study to test hypothesis H₁ as follows:

$$DISC_{it} = \beta_o + \beta_1 ESG_Score_{it} + \beta_2 Control + \varepsilon_{it} \quad (1)$$

Where $DISC_{it}$ is the dependent variable, representing the measure of greenhouse gas emission disclosure of company i at time t . This variable is assigned a dummy value, one if the company discloses and 0 if otherwise. ESG_Score_{it} is the independent variable for the ESG score using the KLD scale. As in previous studies^{4,8,11,22}, we use control variables Size, measured by taking the natural logarithm of the market value of equity; Leverage (Lev), calculated as total debt divided by total equity; and Growth, calculated as the revenue growth between two consecutive years. Details of variable construction are presented in Table 1. We regress the equation (1) using a probit model with the dependent variable being binary because the probit

model assumes a latent continuous variable that follows a normal distribution and provides interpretable probabilities, reflecting the likelihood of the binary outcome occurring. Also, the probit model can perform better with smaller sample sizes than the logistic model.

The study by Kurnia et al.²⁰ suggests that in addition to financial performance, company value is also reflected in market performance, and market performance is evaluated based on the Tobin's Q ratio. Based on the framework of Kurnia et al.²⁰, the following general research model is developed to examine H₂, H₃, H₄ hypotheses. We use lagged values of the independent variables to avoid endogeneity concerns. Models to test H₂ hypothesis:

$$FP_{it} \text{ (Tobin's Q)} = \beta_o + \beta_1 ESG_Score_{it-1} + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 Growth_{it} + \varepsilon_{it} \quad (2)$$

$$FP_{it} \text{ (ROA)} = \beta_o + \beta_1 ESG_Score_{it-1} + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 Growth_{it} + \varepsilon_{it} \quad (3)$$

$$FP_{it} \text{ (ROE)} = \beta_o + \beta_1 ESG_Score_{it-1} + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 Growth_{it} + \varepsilon_{it} \quad (4)$$

Models to test H₃ hypothesis:

$$FP_{it} \text{ (Tobin's Q)} = \beta_o + \beta_1 DISC_{it-1} + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 Growth_{it} + \varepsilon_{it} \quad (5)$$

$$FP_{it} \text{ (ROA)} = \beta_o + \beta_1 DISC_{it-1} + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 Growth_{it} + \varepsilon_{it} \quad (6)$$

$$FP_{it} \text{ (ROE)} = \beta_o + \beta_1 DISC_{it-1} + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 Growth_{it} + \varepsilon_{it} \quad (7)$$

RESULTS AND DISCUSSIONS

Table 2 describes the characteristics of the variables used after winsorising the outliers. It shows that, on average, the sample of listed firms generate a 5% return on assets and an 11.6% return on equity.

The statistics show that with the Tobin Q's of 1.2, the sample firms have an average market value of approximately 1.2 times their book value. This implies that the Vietnamese stock market values the companies' market value higher than their asset value, and the standard deviation of 0.6455 indicates a significant variation in the market's valuation.

The descriptive statistics for the independent variable ESG_Score show that the average ESG score of the companies is 6.751 with a standard deviation of 5.1078. The ESG scores range from -4 to 25, indicating diversity in the implementation of ESG activities by the companies. Vinamilk, the Vietnam Dairy Products Joint Stock Company, has the highest ESG score of 25 in 2022, as Vinamilk has consistently been a leader in the dairy industry in terms of clear, transparent, and sustainable development reporting and has received numerous awards for its sustainable development efforts, notably the "Leading CSR and

^aCircular 155/2016 and Circular 96/2020 on information disclosure were issued and got effective in 2017 and 2021 which requires disclosure on sustainability and on GHG emission disclosure.

^b<https://www.wiso.uni-hamburg.de/bibliothek/recherche/datenbanken/unternehmensdaten/msci-methodology-2014.pdf>.

Table 1: Variables calculation method

Type of variables	Signal	Formula and describe	References
Dependent variables	FP (Firm performance)	Measure through: $ROA = \text{Net income} / \text{Asset}$ $ROE = \text{Net income} / \text{Equity}$ $\text{Tobin's } Q = (\text{Market value of equity} + \text{book value of debt}) / (\text{book value of assets})$	Hardiyansah et al. ⁴ Kurnia et al. ²⁰
	DISC	Measure of GHG emissions disclosure: DISC = 1: the company discloses GHG emissions DISC = 0: the company does not disclose GHG emissions	Jiang et al. ²⁶ Hardiyansah et al. ⁴ Matsumura et al. ⁸
Independent variables	ESG_Score	$\text{ESG_Score} = \text{Total strengths score} - \text{Total concerns score on the KLD scale}^c$	Minutolo et al. ¹¹
Control variables	Size	$\text{Size} = \text{Log}(\text{Book value of total assets})$	Hardiyansah et al. ⁴ Matsumura et al. ⁸
	Leverage	$\text{Lev} = \text{Total Debt} / \text{Total Asset}$	Dhaliwal et al. ²²
	Growth	$\text{Growth} = (\text{Revenue next year} - \text{Revenue previous year}) / \text{Revenue previous year}$	Minutolo et al. ¹¹

^c The KLD scale provided by MSCI comprises 80 indicators (questions) covering seven domains. After reviewing MSCI's KLD questionnaire and comparing it to Vietnam's economic and social conditions, the author adjusted the KLD scale to include 62 questions across six domains: Community, Governance, Diversity, Employees, Environment, and Product. For each item (question), if a company demonstrates strength (or concern) in a given area, this is recorded as a "1" in the corresponding cell; otherwise, it is marked as "0." If data for the specified index is unavailable, it is marked as "NR" (Not Rated). In cases where the information is referenced but not explicitly detailed, it is marked as "NA" (Not Available). See an example in appendix section.

Table 2: Descriptive statistics of variables

Variables	Observation	Mean	Standard deviation	Min	Max
TobinQ	744	1.2262	0.6455	0.1921	7.9491
ROA	744	0.0504	0.0605	-0.2894	0.4503
ROE	744	0.1159	0.1053	-0.3709	0.6741
ESG_Score	679	6.751	5.1078	-4	25
DISC	744	0.1398	0.3469	0	1
Size	744	7.0605	0.7606	4.8551	9.3264
Lev	744	0.5386	0.2284	0.0243	0.9929
Growth	744	0.2760	0.9987	-0.83853	10.458

Source: Author

ESG Company” - Gold Ranking and the ”Exemplary CSR Company of Vietnam” - Platinum Ranking at the Global CSR & ESG Conference 2022. Meanwhile, the company with the lowest ESG score is Pomina Steel Joint Stock Company, with a score of -4 in 2022, one of the reasons that it has not diversified its corporate governance is that it does not have any female executive members. Additionally, the company’s number of employees decreased significantly (by 53%) in the years 2021-2022, and the company has not yet focused on sustainable development reporting, nor has it reported its ESG activities clearly and transparently.

Research findings

The regression models in this study involve unbalanced panel data due to research requiring data use at non-concurrent periods. The study will use the probit model for GHG disclosure model since the DISC is a binary variable. In this study, linear regression models were used to test the variables, including the Ordinary Least Squares (OLS) model, the Fixed Effects Model (FEM), the Random Effects Model (REM), and the Generalized Least Squares (GLS) model based on the best-fit testing outcome. The regression results are presented in Table 3.

The model testing hypothesis H_1 is the Probit model. For the other hypotheses, the best-fit model is the Generalized Least Squares (GLS) model, as this model can address the issue of heteroskedasticity that occurs in the OLS, FEM or REM models. The model test results of Breusch-Pagan and White show that heteroskedasticity exists, and GLS is the suitable choice.

ESG performance and GHG disclosure

The Probit regression results show a positive relationship between ESG activities and the disclosure of GHG emissions, with a positive correlation coefficient of 0.089 and a p-value of less than 0.01. This indicates that companies that perform well on ESG are also more willing to disclose their GHG emissions. This finding is consistent with the results of Jiang et al.²⁶, which concluded that effective ESG performance leads to companies’ willingness to participate in voluntary carbon disclosure, as well as the studies by Liao et al.¹⁷, which found that companies with better corporate governance are more willing to voluntarily disclose their carbon emissions, which supports stakeholder theory stating that firms account for not only shareholders but the other stakeholders as well. The correlation between the control variable of leverage ratio and the relationship between ESG Score and

DISC is a negative correlation with a correlation coefficient of -1.057. This indicates that the leverage variable hurts this relationship. The more debt a business uses, the more it tends to not invest in poor environmental, social, and corporate governance activities, which leads the company not to want to invest in GHG emissions disclosure activities. This result is consistent with the initial hypothesis, so we accept the hypothesis.

ESG performance and firm performance

The regression results show a positive relationship between ESG activities and firm performance. From the market perspective through Tobin’s Q, the market will highly value companies that perform suitable ESG activities. Still, the degree of correlation is weak with a coefficient of 0.015 and p_value less than 0.01. This result is consistent with Al-Tuwaijri et al.²¹, Minutolo et al.¹¹, and PhamTN et al.²⁷. This can be explained by the context of the Vietnamese market, where the implementation of ESG has only recently started to gain attention, and businesses have gradually recognized the benefits of implementing ESG. This result supports legitimacy theory and stakeholder theory, which declare that recent regulatory requirements on ESG bring benefits to the firms that respond to the call by investing in ESG and also help firms to avoid unnecessary costs of non-compliance and reputation costs of not performing towards stakeholders values.

The result also shows that ESG activities positively impact ROA and ROE, with coefficients of 0.001 and 0.003, respectively. This means that the more a company implements suitable ESG activities, the more profit it generates on total assets and equity. Previous studies have also discovered similar results, showing that ESG activities positively impact firm value measured through Tobin’s Q, ROA, and ROE indices²³, as well as the ROA and ROE indices. The correlation between the control variables of size, leverage ratio, and growth also shows similar results as Tobin’s Q. overall, the finding supports hypothesis 2.

GHG disclosure and firm performance

The regression results of models 5 and 7 show that GHG emissions disclosure has a positive impact on ROA and ROE, with correlation values of 0.028 and 0.039, respectively. This indicates that companies disclosing their GHG emissions will generate higher profits on total assets and equity. This result is consistent with Hardiyansah et al.⁴ and Saka et al.⁹, which showed that disclosure of carbon emissions positively

Table 3: Summary of regression model results

Variables	Model 1 (H1)	Model 2 (H2)	Model 3 (H3)	Model 4 (H2)	Model 5 (H3)	Model 6 (H2)	Model 7 (H3)
	DISC	TobinQ	TobinQ	ROA	ROA	ROE	ROE
L1.ESG_Score	0.089 (***) 0.000	0.015 (***) 0.000	-	0.001 (***) 0.000	-	0.003 (***) 0.000	-
L1.DISC	-	-	-0.019 0.373	-	0.028 (***) 0.000	-	0.039 (***) 0.000
Size	0.087 0.588	0.07 (***) 0.001	0.124 (***) 0.000	0.009 (***) 0.000	0.017 (***) 0.000	0.032 (***) 0.000	0.041 (***) 0.001
Lev	-1.057 (**) 0.024	-0.519 (***) 0.000	-0.523 (***) 0.000	-0.116 (***) 0.000	-0.13 (***) 0.000	-0.014 0.259	-0.035 (***) 0.001
Growth	-0.088 0.572	0.006 0.662	0.015 (**) 0.039	0.0084 (***) 0.000	0.009 (***) 0.000	0.012 (***) 0.000	0.0167 (***) 0.000
Breusch- Pagan test: X2		288.74	222.79	94.96	103.06	2.37	2.09
p-value		0.00	0.00	0.00	0.00	0.12	0.14
White test: X2		131.43	75.67	51.80	52.19	33.80	32.45
p-value		0.00	0.00	0.00	0.00	0.00	0.00
Suitable methods	Probit	GLS	GLS	GLS	GLS	GLS	GLS
	541	541	558	541	558	541	558

Source: Author

Note: *p<0.1,**p<0.05,***p<0.01

and significantly impacts firm value. This result supports the legitimacy theory, stating that complying with laws may help firms avoid unnecessary court costs, which then enhances firm performance.

The finding, therefore, supports hypothesis 3. Meanwhile, the regression result of model 3 shows that GHG emission disclosure does not impact Tobin's Q, with p_value more than 0.1. This indicates that the disclosure of greenhouse gas emissions does not affect the market's evaluation of that company. This may be because the stock market in Vietnam is still not fully developed, and investors have not yet paid much attention to whether companies disclose their greenhouse gas emissions. This result is consistent with the findings of Kurnia et al.²⁰, which showed no effect of carbon emissions disclosure in Australia on firm value.

The coefficients of size on GHG emissions disclosure ROA and ROE are 0.017 and 0.041, respectively, which indicates that larger companies have more incentive to disclose their GHG emissions while having better financial performance. This finding is consistent with previous studies, such as Luo et al.²⁸, who found that larger companies are more likely aware of environmental responsibilities and willing to disclose information voluntarily. A typical example in Vietnam is the Vingroup (VIC) conglomerate, which has the most significant company size in the dataset with total assets of 577.4 trillion VND in 2022 and a high ESG score of 16 points, with the environmental factor scoring 5 points, the highest among all criteria.

CONCLUSIONS

This study attempts to examine the relationship between ESG performance, GHG disclosure, and firm performance. The results show that the three hypotheses are supported. Specifically, ESG performance and GHG disclosure have positive impacts on firm performance. Furthermore, ESG performance also has positive effects on GHG disclosure this proves that companies that perform well on ESG activities will be motivated to invest in conducting a GHG inventory and disclosing it. Although this study has clarified the key relationships initially proposed, the authors' research has certain limitations like other studies. This study was conducted during the initial phase of GHG emissions disclosure by Vietnamese enterprises, which began in 2021, resulting in a limited number of observations collected.

In the context of the increasing sustainable development in developing countries in general and Vietnam in particular, this study provides evidence that enterprises that invest in ESG performance and GHG disclosure will, by this means, improve their firm performance. In the long term, they will gain the interest of investors and create shareholder value. This result helps to raise business awareness about the importance of ESG and GHG disclosure activities.

Also, this study brings in policy and regulatory implications regarding sustainable development, particularly in developing countries like Vietnam. The main findings of this study provide convincing evidence for the positive impact of ESG practices and GHG disclosures on firm performance, which leverage the policymakers' motivation in encouraging to establish frameworks that incentive e such practices. This could involve the implementation of regulatory guidelines that require or encourage transparent reporting on ESG practices and emissions, promoting a culture of accountability among businesses. Over time, as awareness of ESG issues grows, the government could collaborate with industry stakeholders to develop standardi ed reporting frameworks, making it easier for companies to comply with regulations and for investors to assess corporate sustainability. Such measures enhance corporate responsibility and align with national and global sustainability goals, contributing to a more resilient economy that priorit es long-term environmental and social well-being.

LIST OF ABBREVIATIONS

ESG: Environment – Social – Governance
GHG: Greenhouse gas
KLD: Kinder, Lydenberg, Domini

OLS: Ordinary Least Square
FEM: Fixed Effects model
REM: Random Effects model
GLS: Generalized Least Squares
COP26: Conference of the Parties
CSR: Corporate Social Responsibility
MCSI: Multidimensional Creativity Scale Index
VNX: Vietnam National Exchange
HOSE: Ho Chi Minh Stock Exchange
HNX: Hanoi Stock Exchange
ROA: Return on assets
ROE: Return on equity
DISC: Disclosure
Lev: Leverage

COMPETING INTERESTS

The authors declare that they have no competing interests.

AUTHORS' CONTRIBUTIONS

Author 1 (Nguyen Thu Hien): Propose development directions for the research paper, write the content of the research article, revise and respond to reviewers.

Author 2 (Nguyen Thi Anh Ngoc): Proposing research ideas, data collecting and processing, documenting results, and formatting according to the journal requirements.

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Thực hành ESG, công bố phát thải khí nhà kính và hiệu quả kinh doanh của các doanh nghiệp niêm yết tại Việt Nam

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TÓM TẮT

Xu hướng toàn cầu hướng tới sự bền vững cho thấy sự gia tăng nhận thức về tầm quan trọng của môi trường, xã hội và quản trị (ESG), trong đó việc giảm phát thải và công bố khí nhà kính (GHG) là một thực hành có trách nhiệm của doanh nghiệp. Nghiên cứu này xem xét tác động của các hoạt động bền vững khác nhau đến hiệu quả kinh doanh của doanh nghiệp. Cụ thể, chúng tôi nghiên cứu ảnh hưởng của các hoạt động ESG và công bố GHG đến hiệu quả kinh doanh của doanh nghiệp tại Việt Nam, một nền kinh tế đang phát triển nơi các thực hành bền vững đang nổi lên và ngày càng được ủng hộ. Trong khi các doanh nghiệp Việt Nam ngày càng đối mặt với nhiều áp lực từ các bên hữu quan về các thực hành cụ thể thể hiện cam kết của họ đối với phát triển bền vững, việc hiểu các bối cảnh cũng như mối quan hệ giữa các thực hành này ngày càng trở nên quan trọng. Thêm vào đó, chúng tôi cũng nghiên cứu mối quan hệ giữa các hoạt động ESG và công bố GHG, và nhận ra rằng công bố thông tin hiệu quả về các hoạt động môi trường cũng nâng cao vai trò trách nhiệm của doanh nghiệp đối với phát triển bền vững. Sử dụng bộ dữ liệu điểm ESG được xây dựng dựa trên phương pháp của Kinder, Lydenberg, Domini (chỉ số KLD) và bộ dữ liệu công bố GHG của các công ty niêm yết trong giai đoạn từ 2018 đến 2022 của 136 công ty niêm yết trên các thị trường chứng khoán Việt Nam, kết quả thực nghiệm thu được từ các mô hình hồi quy OLS, FEM, REM và GLS cho thấy rằng các công ty tham gia vào các thực hành ESG có khuynh hướng tích cực hơn trong việc công bố GHG.

Chúng tôi cũng tìm thấy rằng cả hoạt động ESG và việc công bố GHG đều có mối tương quan tích cực với hiệu quả hoạt động của công ty. Điều này củng cố ý tưởng rằng tính bền vững không chỉ là vấn đề tuân thủ, như lý thuyết tính hợp pháp đã đề xuất, mà còn là một lợi thế chiến lược có thể dẫn đến hiệu quả kinh doanh. Thêm vào đó, các phát hiện của chúng tôi hỗ trợ lý thuyết bên hữu quan và lý thuyết tín hiệu, cho thấy việc tham gia vào các thực hành ESG và công bố lượng khí thải GHG cho phép các bên hữu quan hiểu rõ hơn về hoạt động của công ty, từ đó thúc đẩy sự hỗ trợ cho các hoạt động này. Tuy nhiên, các kết quả không phù hợp với lý thuyết người đại diện, mà cho rằng có sự xung đột giữa cổ đông và nhà quản lý liên quan đến các hoạt động ESG. Nghiên cứu của chúng tôi làm nổi bật các hàm ý thực tiễn cho các nhà lãnh đạo doanh nghiệp rằng cam kết đối với ESG và tính minh bạch về GHG có thể nâng cao danh tiếng của công ty, định vị các công ty như những người dẫn đầu trong lĩnh vực bền vững, và thúc đẩy thành công lâu dài cũng như khả năng phục hồi trong một bối cảnh toàn cầu đang có nhiều biến động.

Từ khóa: ESG, hiệu quả kinh doanh của doanh nghiệp, công bố phát thải khí nhà kính, phát thải khí nhà kính

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