



Research Article

# The Impact of Board of Directors on the Disclosure of Sustainable Development of Listed Firms

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## Abstract

Vietnam is a developing country with many remarkable achievements. However, in recent years, economic and social development in Vietnam still relies heavily on the exploitation of natural resources; labor productivity is still low; production technology and consumption models still use a lot of energy and raw materials and emit a lot of waste. Vietnam's development process is facing many severe challenges, with potential risks of unsustainable development such as climate change, environmental pollution, depletion of natural resources, etc. Therefore, Vietnamese firms need to be aware that economic development is always associated with environmental protection activities and social responsibility. This study is conducted to investigate the impact level of the disclosure of sustainable development of Vietnamese listed firms. The study determines the impact of board of directors on the level of sustainable development information disclosure of these firms. Data was collected from annual reports, corporate sustainability reports, management reports, and financial reports of 345 firms in 2023. The results reveal that the level of disclosure of sustainable development of Vietnamese listed firms is low, no firm discloses 100% fully, some firms do not publish sustainable development information. The findings also show that the level of mandatory disclosure of sustainable development is higher than the level of voluntary disclosure of sustainable development. The research results show that The board of directors factors do not impact the level of mandatory disclosure of sustainable development. There are four determinants related to the board of directors that impact the level of voluntary disclosure of sustainable development, including board size, board independence, the proportion of foreign BOD members, the chairman-cum-CEO have a positive impact (in the same direction) on the level of disclosure of sustainable development. Based on the findings, several recommendations are proposed for promoting the disclosure of sustainable development information on the side of Vietnamese listed firms.

## Keywords

Board of Directors, Information Disclosure, Listed Firms, Sustainable Development

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## 1. Introduction

In 1987, the World Commission on Environment and Development set goals for sustainable development, which described sustainable development as development that meets the needs of the present without compromising the capabilities of future generations in meeting their own needs. All organizations, through their activities and relationships, can positively and negatively impact sustainable development goals. Therefore, organizations play a key role in achieving this goal.

According to GRI standards, a Sustainable Development Report is an organization's preparation of a report to publicly disclose the economic, environmental, and social impacts that contribute positively and negatively to the goal of sustainable development [10]. Through this process, the organization identifies significant impacts on the economy, environment and society and discloses those impacts according to globally accepted standards. The GRI Standards create a common voice for organizations and stakeholders to communicate and understand their economic, environmental and social impacts. This standard was established to enhance global comparability and the quality of information on these impacts, thereby enhancing organizational transparency and accountability.

A Sustainability Report based on the GRI Standards must assess an organization's positive and negative impacts on sustainable development goals in a balanced and reasonable manner. The GRI Sustainability Reporting Standards (GRI Standards) are developed for use by organizations to report on their impact on the economy, environment, and society.

Research on the influence of the board of directors and the level of disclosure of sustainable development information has been discussed in a number of studies such as: research by [1, 5, 16, 21, 22, 24]. However, the research results are not the same and are studied in many different aspects. These studies focus on examining the influence of the board of directors in terms of size, independence, internationalization, the chairman-cum-CEO, number of board meetings, female factor, average age force of board members to publish sustainable development information.

The disclosure of sustainable development can be divided into two forms: mandatory disclosure and voluntary disclosure of sustainable development. The mandatory disclosure of sustainability relates to the operation of the firm. It is often stipulated by the government regulators and firms must comply. The voluntary disclosure of sustainable development is highly showing the sustainable development strategy of the firm. Through transparent and accountable in the disclosure of sustainable development information, firms strengthen the confidence of stakeholders in their business and the economy in general.

The disclosure of sustainable development promotes many aspects of firms' business activities. The disclosure of sustainable development requires firms to pay attention to the interests of related parties, who may be affected by the oper-

ation of the firms, and to the business activities. There are a wide variety of related parties such as shareholders, creditors, suppliers, customers, employees, communities, investors, the media and regulators to better understand its financial position, firm's performance and sustainable strategy. The disclosure of sustainable development is the clearest action in demonstrating the social responsibility of firms, developing the economy today, but not affecting the rights of future generations. By proactively disclosing information on sustainable development, enterprises can affirm their position, vision, brand and clearly demonstrate the combination of the firm's business performance with the construction of an advanced society, sustainable development, thereby building trust with many stakeholders. [2, 12].

In the context of Vietnam, Circular No. 96/2020/TT-BTC of the Ministry of Finance issued November 16, 2020 Guidance on information disclosure on the stock market requires the disclosure of information on sustainable development, however the targets related to environment and society in this circular do not clarify the specific content and calculation method [18].

This research aims to answer the question: What is the level of the disclosure of sustainable development of Vietnamese listed firms? Which characteristics of the board of directors impact the level of disclosure of sustainable development in Vietnamese listed firms, in terms of mandatory sustainability information and Voluntary sustainable development information.

The paper uses descriptive statistical methods to evaluate the level of disclosure of sustainable development information, and also uses multiple linear regression models (applying the least squares method) with SPSS software to Identify corporate governance factors that affect the level of sustainable development information disclosure.

The research results show that hypotheses H1, H2, H3, H7 are accepted. Accordingly, the variables Size of the board of directors, Level of independence of the board of directors, Proportion of foreign members of the Board of Directors, Chairman of the board of directors concurrently the CEO have a positive influence on the level of public Voluntary publication of sustainable development information.

The study consists of six sections. Following the introduction, Section 2 describes the theoretical framework and core theories. Sections 3 reviews the hypotheses development. Section 4 describes the research methodology such as variable measurement, data collection, research model, and regression model. Section 5 presents empirical results and research discussion included the level of disclosure of sustainable development and the impact of board of directors on the level of disclosure of sustainable development Information. Finally, Section 6 provides some policy implications and concluding of the study.

## 2. Theoretical Framework and Core Theories

According to Enterprise Law No. 59/2020/QH14, the board of directors is the firm's management agency, with full authority on behalf of the firm to decide and exercise the rights and obligations of the firm that are not under the authority of General Meeting of Shareholders. Only in the organizational structure of a joint stock firm is there a Board of Directors. In a joint stock firm, the General Meeting of Shareholders is the highest decision-making body, followed by the Board of Directors. The Board of Directors has the right to decide on the company's strategy, medium-term development plan and annual business plan; Elect, dismiss, dismiss the Chairman of the Board of Directors; Appoint, sign contracts, terminate contracts with the Director or General Director and other important managers as prescribed by the Company's Charter.

According to the United Nations Global Initiative (GRI) report, sustainable development reporting is an organization preparing a report to publicly disclose the economic, environmental and social impacts that contribute positively and negatively for the goal of sustainable development [10]. Through this process, the organization identifies significant impacts on the economy, environment and society and discloses those impacts according to globally accepted standards. The GRI standards are structured as a set of interrelated modular standards. The specific standards are as follows:

**Economy:** Sustainable production; sustainable consumption; customer and consumer satisfaction.

**Environment:** Comply with laws on environmental protection; Prevent pollution, fix problems, improve the environment; Save resources, cope with climate change; Protect forest resources, protect biodiversity; Protect land resources; Protect water resources; Environmental protection of air, dust, sound and vibration; Protect mineral resources; Protect marine environmental resources.

**Society:** Social relations; Prevention of corruption and business monopoly; Labor use. Employee training: Labor regulations; Working and rest time; Salary, bonus and allowance regime; Insurance policies; Labor safety and hygiene; Health care and welfare for employees; Democracy in the workplace and collective labor agreements

*Theories that refer to information disclosure such as Stakeholder Theory; Agency Theory; Political Economy Theory.*

A stakeholder is an individual or group of individuals who can influence or be influenced by the actions of a firm. Basically, a stakeholder is a concept that refers to those parties to whom a firm must be responsible. Stakeholders include: investors, customers, employees, creditors, shareholders, unions, surrounding communities and governments. Those who have more influence on the firm will be considered more important to the firm manager.

The Stakeholder theory suggests that firms exist not only to serve the interests of shareholders but also need to balance and

serve the interests of the firm's stakeholders. Stakeholders are often interested in the aspects: financial, social and environmental. The activities of the firm related to these aspects need to be announced and explained to stakeholders.

This stakeholder theory holds that firms have an obligation to treat stakeholders fairly, and in the event of conflicting interests, firms have an obligation to achieve an optimal balance between them.

Since the needs of stakeholders are different and always changing, firms will focus on meeting the needs of stakeholders with large and direct interests and assume that the interests of the remaining parties are also satisfied through the firm pursuing a firm's strategy and reporting information in accordance with social norms and values.

Agency theory studies the relationship between principals and managers in a firm. Principals are those who have ownership rights such as shareholders or creditors. Managers are those who are hired (employees) or appointed to perform tasks or manage the firm's resources. According to agency theory, the goals of principals and managers may not be the same, even conflict with each other, causing agency problems. Agency theory shows that the relationship between managers and principals. They have common goals of benefit but they are not always the same. Agency theory states that if both parties in this relationship (the principal and the manager) want to maximize their own interests, then there is reason to believe that the manager of the firm will not act in the best interests of the principal.

For example, the principal wants to maximize the value of the firm or the profits of shareholders, while the manager may want to maximize his or her own personal interests or remuneration. This can lead to bad corporate practices such as wasting assets, falsifying firm results, altering accounting figures, or lack of transparency.

Principals can limit conflict by setting appropriate incentives for managers or creating oversight to limit irregular activities by managers. Agency theory explains why annual reports are required to provide information to principals.

The theory of political influence refers to the ability of entities, such as corporations or organizations, to shape political decisions and outcomes through their activities. The theory of political influence states that regulators in the government, trade unions or community groups make decisions related to the interests of the firm such as tax policies, monopoly restrictions, and competition based on the information disclosed by firms. And firms will voluntarily disclose more sustainable development information to avoid being inspected. On the other hand, when the information is voluntarily disclosed, firm's managers expect the policies to be loosened. In many ways, the question arises in political theory, It is an area of debate related to freedom and security. For example, privacy and confidentiality in business are valued, but fear of companies wasting resources leads to increased scrutiny of mining output in mineral enterprises. The widespread publication of financial reports in the media is justified as increasing data transparency and fulfilling the firm's social responsibility, but what about data on the firm's key business products and areas

that provide a more detailed picture to competitors?

### 3. Hypotheses Development

This study is conducted to investigate the impact of four determinants of a firm's board of directors on the level of (mandatory/voluntary) disclosure of sustainable development as follows:

#### Board size

When the size of the board of directors is large, each person on the board of directors works hard to show shareholders their importance. They want shareholders to see their efforts, so they will push the board of directors to disclose more information. Some studies show that board size has a positive impact on sustainability information disclosure. Thus, it can be understood that the greater the number of board members, the higher the level of disclosure of sustainable development information, and at the same time the quality of disclosed information will be improved [1, 5, 9, 17, 21, 22, 24].

This is consistent with Stakeholder Theory, increasing board size motivates each board member to meet the expectations of stakeholders. Therefore, hypothesis H1 is proposed:

H1: Board size has a positive impact (in the same direction) with the level of disclosure of sustainable development.

#### Board independent

Under agency theory, a board of directors with high independence will be more effective in monitoring and controlling the operations of the firm. So, the level of independence of the board of directors is expected to make the firm's activities develop sustainably and create high transparency. Once board members are independent, they should evaluate management performance more objectively than other directors. Some studies found that board members that are independent, will be less dependent on the will of the chairman of the board than the remaining members. The chairman of the board of directors cannot influence independent board members. Therefore, a high proportion of independent board members of a company is expected to provide better monitoring and control of management activities [6, 14].

Previous results of studies show that independent board members are more supportive of investing in the firm's sustainable development activities and pay more attention to awareness of their social impact on a firm compared to the remaining board members [1, 7, 16].

In fact, research has shown that independent directors are more supportive of investing in corporate sustainability activities and are more concerned with awareness of social impact of the public compared to other board members [12, 23]. Furthermore, previous studies show that boards of directors with a high proportion of independent members tend to facilitate transparency and disclosure of sustainable development information.

This suggests that independent board members have the ability to support the disclosure of sustainability information

to reduce information asymmetry between people inside and outside the firm. From there, the hypothesis is:

H2: The level of independence of the board of directors has a positive impact (in the same direction) with the level of disclosure of sustainable development.

#### The proportion of foreign board members

When a foreign investor buys shares in large quantities or is a strategic shareholder, they appoint individuals to join the firm's board of directors to inspect and control the firm's operations. Some firms nominate foreigners to the board of directors to take advantage of their understanding of corporate governance style and culture. Some empirical studies show a positive relationship between the proportion of foreign board members and the disclosure of sustainable development information [16, 9]. Thus, it can be understood that the higher the proportion of foreign board members will increase the level of disclosure information about sustainable development of the firm.

Other researchers show that foreign investors face higher risks than domestic investors. These authors believe that the potential risks related to business that foreign investors incur such as political risks and legal protection are not tight. Especially in emerging markets like Vietnam, the problem of information asymmetry is even higher [7, 15].

With the economy transitioning from a centralized subsidy to a market mechanism like in Vietnam, opening the economy and promoting foreign investment attraction contribute to economic growth. Opening up and integrating with the world is also an opportunity for Vietnamese firms to learn from the experiences and management styles of advanced countries, where the level of disclosure information about sustainable development is better implemented than in Vietnam. Therefore, the next hypothesis is:

H3: Firm with a higher proportion of foreign board members has a higher level of disclosure sustainable development.

#### Female board members

In corporate governance, the presence of women at senior management levels is sometimes very good because women are often considered careful and skillful. Women often think about the pros and cons when information is published. When information is released, they often skillfully handle the impact of the published information. Women often have careful and skillful characteristics, so corporate governance will have a positive impact. Female board characteristics have a positive impact on the disclosure information about sustainable development, which has been confirmed in studies by [9, 10, 16].

In the context of Vietnam, there are many regulations on gender equality such as Resolution No. 11-NQ/TW of the Politburo, dated April 27, 2007 on women's work in the period of accelerating industrialization and modernization. In 2006, the National Assembly of Vietnam passed Law No. 73/2006/QH11: Law on Gender Equality, aimed at eliminating gender discrimination, creating equal opportunities for men and women in socio-economic development and develop



human resources, move towards substantive gender equality between men and women and establish and strengthen cooperative and supportive relationships between men and women in all areas of social and family life [18]. The next hypothesis proposed is:

H4: Firm with female board members has a higher level of disclosure of sustainable development than firm without female board members.

The average age of board members

There is a view that if people go through many units, many ups and downs, and many experiences, the firm management will be better. People are quite old, so they are mature enough to judge and make decisions, including the decision to disclose information. However, there is also the view that the younger generation is more well-trained, they have the enthusiasm of youth, they understand modern management, and are ready to come up with new directions for business activities, innovative business, as well as information about the sustainable development of the firm compared to older managers [1, 4, 6].

In Vietnam, the disclosure of sustainable development has only recently received attention, so young managers easily accept changes, including the publication of sustainable development information. So the next hypothesis is:

H5: The higher the average age of board members, the lower the level disclosure of sustainability.

The number of board meetings

Regular board meetings provide opportunities for members to share more information, allowing for better workload distribution and specific responsibilities. According to the provisions of Decree No. 71/2017/ND-CP of the Vietnamese government, the board of directors must meet at least once every quarter. That means meetings must be held at least four times a year [8].

Explaining this issue, studies all suggest that having many board meetings will require the Board of Directors to disclose more information, including sustainable development information [14, 21]. The hypothesis proposed is:

H6: The greater the number of board meetings in a year, the higher the level of disclosure of sustainable development.

The chairman-cum-CEO

Agency theory points out that managers' personal interests have the ability to influence the extent to which they engage in sustainability activities and sustainability disclosure. Some researchers found that the chairman of the board of directors can be the CEO if he or she holds the majority of shares in the company or has excellent performance or some personal reason [13, 20]. Some researchers indicated that when the chairman of the board of directors is also the CEO, the decisions on the contents favor this person with great power. Important information that negatively affects executives is often hidden [12]. Empirical studies show that if there is duality, there is positive influence on the level of sustainable development information disclosure [3, 11, 14]. The next hypothesis proposed is:

H7: Firm with a chairman of the board of directors who is also a CEO has a higher level of disclosure of sustainable development than firm with a chairman of the board of directors who does not concurrently hold the same position.

## 4. Research Methodology

### 4.1. Variable Measurement

In this study, the independent variables include the variables Board Size (Size); Level of independence of the Board of Directors (Ind); Foreign Board of Directors (For); Women's Board of Directors (Wom); Average age of the Board of Directors (Age); Number of meetings of the Board of Directors (Mee); Chairman cum CEO (Dua). The control variable is return on equity (ROE). The measurements of the independent variables and control variables are specifically stated in Table 1 as follows.

**Table 1.** Measurement of independent variables and control variables.

Variables	Coding	Measurement
Board Size	Siz	Number of board members of the firm.
Level of independence of the Board of Directors	Ind	The proportion of independence of members of the board of directors
Foreign Board of Directors	For	The proportion of foreign board members.
Women's Board of Directors	Wom	= 1 if the firm has female members on the board of directors. otherwise = 0
Average age of the Board of Directors	Age	The average age of board members
Number of meetings of the Board of Directors	Mee	The number of board meetings in a year
Chairman cum CEO	Dua	= 1 the chairman of the board of directors is also the CEO. otherwise = 0
Return on equity	ROE	Return on Equity

Measuring the level of disclosure of sustainable development

The disclosure of Sustainable development can be divided into two forms: mandatory and voluntary disclosure. The level of mandatory disclosure of sustainable development relates to the operation of the firm. It is often stipulated by the government regulations and firms must comply totally.

Based on Circular No. 96/2020/TT-BTC of the Ministry of Finance (mandatory disclosure of sustainable development- Y1). Circular No. 96/2020/TT-BTC requires the publication of 15 indexes.

The level of voluntary disclosure of sustainable development is highly optional, showing the spirit of integration, corporate responsible social of the firm, the sustainable development strategy of the firm. Through higher transparent and accountable of voluntary disclosure of sustainable development, firms strengthen the confidence of stakeholders in their businesses.

Based on previous researchs, the content of disclosure information about sustainable development according to the global initiative report - GRI (voluntary disclosure of sustainable development- Y2). According to the global initiative report - GRI, there are 73 indexes, coinciding with Circular No. 96/2020/TT-BTC of 10 indexes, so there are only 63 indexes that encourage businesses to voluntarily disclose.

This study chose to build a disclosure index of sustainable development ( $Y_i$ ) determined in an unweighted way. The formula is as follows:

$$Y_i = D_{ij}/n \times 100$$

In which:

$Y_i$ : Level of disclosure of sustainable development of the firm  $i$ .  $0 \leq Y_i \leq 100$

$D_i = 1$  if sustainable development  $j$  is published by firm  $i$  and

$D_i = 0$  if sustainable development  $j$  is not disclosed by firm  $i$ .

For mandatory disclosure of sustainable development,  $n = 15$  because according to Circular No. 96/2020/TT-BTC, 15 indexes are required to be published.

In the voluntary disclosure of sustainable development,  $n = 63$  because according to the global initiative report - GRI, there are 73 indexes, which coincides with Circular No. 96/2020/TT-BTC of 10 indexes, so there are only 63 indexes.

## 4.2. Data Collection

Data used in this study are annual reportings, corporate sustainable development reportings, management reportings, or financial reportings published on the websites <http://hsx.vn> and <http://hsx.vn> and <http://hsx.vn://hnx.vn>.

The randomly selected sample is 345 firms listed on the Hanoi Stock Exchange (HNX) and Ho Chi Minh City Stock Exchange (HOSE) in 2023, accounting for 47.5% of listed firms. This study does not survey firms in the insurance, securities, finance and banking sectors because firms in these sectors are specific fields.

## 4.3. Research Model

The research employs descriptive statistical methods to evaluate the level of mandatory disclosure (voluntary disclosure) of sustainable development, and also uses multiple linear regression models (applying the least squares method) with SPSS software to identify corporate governance determinants that affect the level of disclosure of sustainable development. Based on previous studies, we propose a research model:

$$D = \beta_0 + \beta_1 \text{Siz} + \beta_2 \text{Ind} + \beta_3 \text{For} + \beta_4 \text{Wom} + \beta_5 \text{Age} + \beta_6 \text{Mee} + \beta_7 \text{Dua} + \beta_8 \text{ROE} + \epsilon_i$$

In which:

D1: The mandatory disclosure of sustainable development

D2: The voluntary disclosure of sustainable development

## 5. Results and Discussion

### 5.1. The Level of Disclosure of Sustainable Development

The level disclosure of of sustainable development demonstrates each firm's responsibility and attention to environmental and social activities in addition to their main business activities. The level of disclosure information about sustainable development of Vietnamese listed firms includes the level of mandatory disclosure of sustainable development and voluntary disclosure of sustainable development as presented in the in [Table 2](#).

**Table 2.** Level of disclosure of sustainable development of Vietnamese listed firms.

The level disclosure	Min	Max	Mean	Standard deviation
Voluntary disclosure of sustainable development	0.00	51.14	7.11	5.89
Mandatory disclosure of sustainable development	0.00	90.03	49.56	26.54

Source: Compilations by the authors

The level of disclosure information about sustainable development of Vietnamese listed firms is below 50%, of which voluntary disclosure of sustainable development according to GRI is only 7.11% and mandatory disclosure of sustainable development required according to Circular No. 96/2020/TT-BTC is 49.56%. No firm discloses 100% of information and there are firms that do not disclose sustainable development information.

There is a difference between the level of mandatory dis-

closure of sustainable and the voluntary level of disclosure. Listed firms in Vietnam mainly have a voluntary sustainability information disclosure level of less than 10%, as 274 firms accounting for 79.19% of the number of surveyed firms (see Table 3). There is 01 firm announcing the rate of 43.84% and 01 firm announcing the rate of 63.01%. Regarding the level of mandatory disclosure of sustainable development, there is 01 firm that does not disclose, and 30 firms that announce 14/15 indexes.

**Table 3.** Statistical results of the level disclosure of sustainable development.

Proportion	No. of firms disclosing voluntary sustainable development information	No. of firms disclosing voluntary sustainable development information
0% - 10%	9	274
10% - 20%	65	60
20% - 30%	38	5
30% - 40%	56	4
40% - 50%	12	1
50% - 60%	55	1
60% - 70%	19	0
70% - 80%	39	0
80% - 90%	22	0
90% - 100%	30	0
Total	345	345

Source: Compilations by the authors

The above results partly indicate that the overview of the level of disclosure information about sustainable development of Vietnamese listed firms is not high. A low level of disclosure of sustainable development information can have a negative impact on firms. It is possible that a firm implements sustainable development well but does not pay attention to disclosing sustainable development information. Firms need to be aware that the act of disclosing sustainable development information will further expand the image of their firm to society.

## 5.2. The Impact of Board of Directors on the Level of Disclosure Information about Sustainable Development

The correlation between the dependent variable and the independent variables

The correlation between the determinants is determined as a basis for identifying cases of multicollinearity (if any), as well as a basis for identifying board determinants that impact on the disclosure of Sustainable Development. The correlation between these determinants is presented in Table 4 and Table 5 below.

**Table 4.** Correlation of mandatory disclosure of sustainable development.

	D1	Siz	Ind	For	Wom	Age	Mee	Dua	ROE
D1	1	0.099	0.067	0.066	0.032	0.111	0.412	0.214	0.487
Siz		1	0.079	0.321	0.320	0.253	0.214	0.041	0.076

	D1	Siz	Ind	For	Wom	Age	Mee	Dua	ROE
Ind			1	0.198	0.172	0.051	0.147	0.089	0.014
For				1	0.127	0.056	0.087	0.094	0.082
Wom					1	0.054	0.063	0.097	0.084
Age						1	0.087	0.088	0.351
Mee							1	0.451	0.381
Dua								1	0.091
ROE									1

Source: Compilations by the authors

Based on the Pearson coefficient in Table 4, it shows that there is a factor of board size that is correlated with the level of mandatory sustainable development information disclosure according to Circular No. 96/2020/TT-BTC, among Vietnamese listed firms were surveyed.

**Table 5.** Correlation of voluntary disclosure of sustainable development.

	D2	Siz	Ind	For	Wom	Age	Mee	Dua	ROE
D2	1	0.187*	0.095*	0.254*	0.179	0.092	0.089	0.079	0.145
Siz		1	0.087	0.336	0.207	0.029	0.047	-0.034	-0.078
Ind			1	0.194	0.087	-0.199	0.058	-0.074	-0.025
For				1	0.211	0.053	0.081	-0.017	-0.096
Wom					1	0.041	0.013	0.096	-0.063
Age						1	-0.049	0.091	-0.021
Mee							1	0.564	0.060
Dua								1	0.149
ROE									1

Source: Compilations by the authors

Table 5 reveals that six determinants are correlated with the level of voluntary disclosure information about sustainable development of Vietnamese listed firms. This assessment is reliable from 95% to 99%. These variables are: Board size; Independence of the board of directors; Proportion of foreigners on the board of directors; Female members on the board of directors; The chairman of the board cum the director;

ROE.

#### Regression results

To evaluate the influence of the board of directors on the level disclosure of sustainable development information, this study uses multiple regression models and the least squares method. The regression results are shown in Table 6 as follows.



**Table 6.** Regression findings of the level of mandatory disclosure of sustainable development.

	Coefficients are not standardized		Standardized Co-efficient Beta	t	Sig.	Multicollinearity statistics	
	B	Std.Error				Tolerance	VIF
Constant	38.320	6.353		6.032	0.000		
Siz	1.918	1.111	0.093	1.727	0.085	0.916	1.092
R Square					0.009		
Adjusted R Square					0.006		
F					2.981		
Sig.					0.085		
Durbin-Watson					1.690		

Source: Compilations by the authors

Table 6 illustrates that no board factor has an impact on the level of mandatory disclosure of sustainable development because of the Sig coefficient greater than 5%.

$$D = \beta_0 + \beta_1 \text{Siz} + \beta_2 \text{Ind} + \beta_3 \text{For} + \beta_4 \text{Wom} + \beta_5 \text{Age} + \beta_6 \text{Mee} + \beta_7 \text{Dua} + \beta_8 \text{ROE} + e_i$$

**Table 7.** Regression results of the level of voluntary disclosure of sustainable development.

	Coefficients are not standardized		Standardized Coefficient Beta	‘t	Sig.	Multicollinearity statistics	
	B	Std.Error				Tolerance	VIF
Constant	3.018	1.422		2.055	0.042	0.854	1.125
Siz	0.543	0.251	0.171	2.124	0.034	0.951	1.041
Ind	0.347	1.514	0.021	0.412	0.042	0.962	1.167
For	9.010	2.524	0.189	3.617	0.000	0.942	1.071
Wom	1.014	0.801	0.097	1.651	0.101	0.981	1.021
Dua	0.897	0.691	0.082	1.422	0.017	0.913	1.006
ROE	3.217	1.700	0.139	2.501	0.101	0.853	1.159
R Square					0.109		
Adjusted R Square					0.086		
F					6.381		
Sig.					0.000		
Durbin-Watson					1.590		

Source: Compilations by the authors

Table 7 reveals that board size has a positive effect on the level of voluntary disclosure information about sustainable development with the coefficient Sig. is  $0.042 < 0.05$ . Thus, hypothesis H1 is accepted. This result is consistent with studies by [1, 5, 9, 17, 21, 2, 24].

The level of independence of the board of directors has a positive impact on the level of voluntary disclosure of sustainable development (coefficient Sig. =  $0.041 < 0.05$  and coefficient B =  $0.347 > 0$ ). The higher the level of independence of the board of directors, the greater the supervision of

company managers, which in turn requires more information to be disclosed, leading to a greater level of disclosure information about sustainable development. Hypothesis H2 is accepted and is consistent with agency theory and previous studies [7, 23].

The higher the proportion of board members who are foreigners will have a positive impact on the level of voluntary disclosure of sustainable development information (coefficient Sig. = 0.000 < 0.05 and coefficient B = 9.010 > 0). Hypothesis H3 is accepted. This finding is consistent with studies by [7, 9, 16].

The Chairman of the Board of Directors concurrently serving as Deputy Managing Director has a positive impact on the level of sustainable development information disclosure of manufacturing firms listed on the Vietnamese stock market (coefficient Sig. = 0.018 < 0.05 and coefficient B = 0.897 > 0). Hypothesis H7 is accepted.

The VIF coefficients are all less than 5, so the model does not have multicollinearity.

From the above data we have model results:

$$D2 = 3,018 + 0,543 * Siz + 0,347 * Ind + 9,010 * For + 0,897 * Dua$$

## 6. Conclusion

This study is conducted to investigate the impact level of the board of directors on the level disclosure information of sustainable development Vietnamese listed firms. Data were collected from annual reportings, corporate sustainability reportings, management reportings, or financial reportings of 345 Vietnamese listed firms. The results reveal that the level disclosure of sustainable development information of Vietnamese listed firms is low. No firm discloses 100% of information. Some firms do not disclose sustainable development information. Surveyed firms have a higher level of mandatory disclosure information about sustainable development than the level of voluntary disclosure information about sustainable development. There are no board determinants that impact the level of mandatory disclosure information about sustainable development. There are four determinants that impact the level of voluntary disclosure information about sustainable development.

The research results show that board size has a positive impact (in the same direction) with the level of disclosure of sustainable development. Therefore, hypothesis 1 (H1) is supported. It means, the bigger the firm the higher the disclosure information about sustainable development. This is consistent with the results of many previous kinds of research such as [21, 24].

The study shows that the level of independence of the board of directors has a positive impact (in the same direction) with the level of disclosure information about sustainable development. Therefore, hypothesis 2 (H2) is supported, so the higher the level of independent members of the board of di-

rectors of the firm, the higher the disclosure information about sustainable development. This is consistent with the results of some previous researches such as [6, 16, 19]. This shows that the independent members of the board of directors of Vietnamese listed firms are willing to support the disclosure of sustainable development to reduce information asymmetry between shareholders and managers (according to agency theory) or between insiders and outsiders of the firm.

The results indicate that firm with a higher proportion of foreign board members has a higher level of disclosure of sustainable development. So hypothesis 3 (H3) is supported. This result adds to the evidence to stated that, among surveyed firms, firm with foreign investment had a higher level of disclosure information about sustainable development than firms with domestic investment [4, 7, 9, 12].

Although Circular 96/2000/TT-BTC on information disclosure on the stock market firmly adheres to the principle of equal treatment for all domestic and foreign investors, specifically in this case the issue of access to information [18]. In fact, through the data in this study, it is shown that firms with foreign investment capital often have a higher level of information disclosure on sustainable development. The explanation for this is: Foreign investors, usually come from developed countries where the management and supervision of listed enterprises have a tradition of transparency, openness, application of good international practices in corporate governance, and application of high-quality ESG (environmental - social - governance) standards. The presence of foreign investors encourages corporate administrators to improve the disclosure of sustainable development more widely.

Firm with a chairman of the board of directors who is also a CEO has a higher level of information disclosure on sustainable development than firm with a chairman of the board of directors who does not concurrently hold the same position. Therefore, hypothesis 7 (H7) is accepted. Empirical studies also show the result that if there is duality, it positively affects the level of sustainable development information disclosure [11, 14].

Based on the findings, some policy implications are proposed for improving the level disclosure of sustainable development information of Vietnamese listed firms as follows:

For listed firms: need to increase the number of board members, firm should increase the independence of the board of directors, and should take advantage of the ability and management qualifications of board members foreign governance.

For regulatory agencies: monitor the ratio of independent members on the board of directors according to Decree No. 71/2017/ND-CP dated June 6, 2017 of the Government guiding the governance of large companies they. Guide public firms to increase the proportion of independent board members.

However, this study has several limitations such as very difficult to determine whether the undisclosed information is due to the business not disclosing it or the information is not related to the business. Measuring sustainable development information is only quantitative and has not yet measured the quality of sustainable development information. Information published by businesses may not be unreliable.

## Abbreviations

BOD	Board of Directors
GRI	Global Reporting Initiative
CEO	Chief Executive Officer

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## Conflicts of Interest

The authors declare no conflicts of interest.

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