Research on Effects of Board of Directors’ Characteristics on Corporate Social Responsibility Disclosure - Manufacturing Listed Firms on the Stock Exchange of Vietnam

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ABSTRACT

Manuscript type: Research paper
Research aims: This study aims to assess how corporate governance characteristics affect the disclosure of corporate social responsibility (CSR) among manufacturing companies listed on the stock market of Vietnam.
Design/Methodology/Approach: The study analyses the annual reports of 195 companies listed on the Vietnam stock market between 2018 and 2022, to investigate the influence of board size, board independence, women on board, board meetings, managerial ownership, and female leadership on corporate social responsibility disclosure (CSRD). The Fixed Effects Model (FEM) and Random Effects Model (REM) were employed to determine the optimal model. Subsequently, defects and regression were analysed using the General Least Squares (GLS) model.
Research findings: The findings reveal that the managerial ownership factor has the most substantial negative impact on CSRD; followed by the female leadership a positive influence on CSRD. Lastly, the board size factor has a positive effect on CSRD, with a significant alignment with previous research. Additionally, board independence, women on board, and board meetings have an insignificant influence on CSRD.
Theoretical contribution: Based on the findings, manufacturing companies listed on the stock market of Vietnam demonstrate a level of corporate social responsibility disclosure that is slightly below...
average (47.9%). The findings revealed that the involvement of women in management becomes meaningful when they possess actual control, whereas their mere presence on boards does not affect CSR disclosure.

**Practitioner/Policy implications**: The results provide valuable insights for policymakers in identifying the corporate governance characteristics that can foster CSR reporting in Vietnamese listed companies.

**Research limitation/Implications**: The research relied on annual CSR reporting as a metric to assess CSR disclosure, disregarding various other communication channels used by companies to communicate their CSR initiatives. Furthermore, the study did not assess the disparity in CSRD levels across various types of enterprises and different scales of businesses.

**Keywords**: Board of Directors’ Characteristics, Corporate Social Responsibility, Corporate Social Responsibility Disclosure.

**JEL Classification**: G34, M14, M41

1. **Introduction**

Corporate social responsibility refers to the activities undertaken by a company that goes beyond legal obligations to manage its impact on the community. It involves demonstrating the company’s commitment to its employees, suppliers, customers, and society, as well as safeguarding against social and environmental risks (Nyahas, et al, 2018). According to Freeman, Wicks, & Parmar (2004), the stakeholder theory emphasises the importance of values in business operations and urges managers to openly communicate their collective values and identify key stakeholders. The theory also requires transparency in business practices and forming relationships with stakeholders to achieve business goals. The stakeholder theory has become popular in CSR studies due to its emphasis on social sustainability and can improve a company’s understanding of sustainability reporting. Since sustainability reporting involves two-way communication between a firm and its stakeholders, the stakeholder theory is a valuable framework for such reporting and disclosure activities, as noted by Gray et al. (1995).

Corporate social responsibility disclosure, on the other hand, is the process of providing information about the interactions between companies and their environment, employees, society, and consumers (Gray et al., 2001). It can be defined as the provision of information to inform all stakeholders about a company’s CSR initiatives. CSR disclosure is viewed as a strategic tool to enhance corporate reputation (Siregar & Bachtiar, 2010), address stakeholder concerns, and maximise shareholder benefits (Bénabou & Tirole, 2010). It also helps foster relationships with customers, communities,
and governments (Uwuigbe & Egbote, 2013; ensure organisational legitimacy (Khan et al, 2013); reduce information asymmetry between managers and stakeholders (Cormier et al, 2011), and improve a company’s image in the eyes of key stakeholders (Alniacik et al., 2011).

The board of directors holds responsibility for establishing standards in terms of operational objectives, strategies, and control mechanisms (Ali & Attan, 2013). Consequently, the characteristics of the board greatly influence the performance of the Board of Directors, particularly regarding the implementation of CSR activities. The board of directors plays a crucial role in driving CSR in the private sector by translating these values into their companies’ strategies and actions. According to Rupley et al (2012), the board acts as an internal governance mechanism that influences decisions related to CSR, including CSR disclosure. Additionally, information disclosure is a key responsibility of the board of directors, as they are essential in overseeing the organisation’s CSR behavior and being accountable to various interest groups. Consequently, numerous studies have explored the relationship between board characteristics and CSR disclosure. Numerous studies have been conducted worldwide; however, due to cultural, institutional, and regulatory variations regarding disclosure practices, their findings cannot be readily applied to other countries.

The research uses annual reports of manufacturing companies listed on the stock market of Vietnam from 2018 to 2022 to evaluate the level of corporate social responsibility disclosure and to assess the impact of corporate governance characteristics on CSRD.

2. Literature review

2.1. Corporate social responsibility disclosure

According to Carroll (1979), Cheng et al. (2014), and Wang et al. (2016), CSR refers to the incorporation of social and environmental considerations into a company’s activities and being mindful of the interests of stakeholders. Rao & Tilt (2016) suggests that companies can disclose their corporate social responsibility (CSR) either in their annual reports or in a separate CSR report. There are two main methods to measure the level of CSR disclosure; in which most studies have relied on companies’ financial statements and analysed the content of their annual reports, websites, and CSR reports using various methods such as checklists, words, and sentence counts. Other studies have used the ESG ratings (Cucari et al., 2018), Dow Jones Sustainability Indices (Chang et al., 2017), the GRI database
(Fuente et al., 2017) to measure CSR disclosure. The selection of annual reports as the primary focus in this study is justified by their recognized significance as a key communication channel for corporate social responsibility in emerging economies (Islam & Deegan, 2008; Mahadeo et al., 2011).

2.2. Board of directors’ characteristics on corporate social responsibility disclosure

2.2.1 Board size

The board of directors plays a significant role in the mechanism of corporate governance, particularly in overseeing how the company’s business is appropriately handled by their representatives. A greater number of members of boards tend to be more understanding of the interests and desires of stakeholders, are more likely to disclose environmental, social, and governance reporting; a well-functioning board may enhance profitability, which can, in turn, raise the level of disclosure regarding its social and environmental effects (Aslam et al, 2018). Board size refers to the number of directors who hold a position on the board. According to Anyigbah et al (2023), in China, the average size of a company’s board is 9 members, with a range of 3 to 19 members.

There are inconsistencies and conflicting findings in the existing literature regarding the role of board size on CSR. Esa & Anum Mohd Ghazali (2012) confirmed that board size was positively associated and statistically significant with the extent of CSR disclosure in the annual reports of government-linked companies in Malaysia. Anyigbah et al (2023) indicated that a larger board size increases the likelihood of disclosing information regarding economic environmental, and social sustainability. Some studies show different results. Boards with fewer members tend to make decisions more quickly, pay more attention to details, and share information with stakeholders more promptly (Htay et al, 2012); more effective monitoring and disclose more relevant information to stakeholders (Jensen & Meckling, 1990). In contrast, Said et al (2009); Giannarakis (2014), Bukair & Rahma (2015) confirmed that board size has no relation with CSR disclosure.

Due to the abundance of empirical evidence from prior studies conducted in both Western and Asian emerging markets, suggesting that an increased presence of independent directors on boards is associated with enhanced CSR disclosure, the authors propose the following hypothesis:
2.2.2 Board independence

Board independence refers to the percentage of non-executive directors serving on the board, signifying that the decision-making of directors is unaffected by other members of the company’s board of directors.

From an agency theory viewpoint, outside directors are better monitors of managers, as they are independent of the top management team and the firm. Fama & Jensen (1983) has indicated that an increased number of independent directors on a board leads to better monitoring. Additionally, directors who are independent and have minimal ties to management can incentivize companies to reveal more information to external investors.

Depending on the law of each country, number of independent directors are not similar, for instance in Vietnam it requires at least one-third of the board of directors to be independent members, which is similar to China (Anyigbah et al, 2023). However, the Malaysian Code on Corporate Governance requires at least half of the board of public companies comprising independent directors. Thai companies are governed by a board of directors, with at least one-third of the directors, or three (which- ever is higher), classified as independent.

Studies on the effect of board independence on CSRD have been implemented in various countries. The correlation between corporate governance and CSRD has become a growing concern among developed countries, whereas developing countries have only recently started to pay attention to this issue (Nour et al, 2020). Some indicated that board independence is positively correlated to and CSR disclosures in United States (Jizi et al, 2014); in China (Anyigbah et al, 2023); in Bangladesh (Khan, 2010; Khan et al, 2013; Rashid & Hossain, 2022); in Latin American (Husted & de Sousa-Filho, 2019), in Nigeria (Isa & Muhammad, 2015), in Jodan (Nour et al, 2020).

In contrast, some studies pointed out that board independence has a negative impact on CSRD (Alia & Mardawi, 2021). There is no relationship between board independence and CSRD (Bukair & Rahman, 2015; Habbash, 2016) or there is insignificant correlation between board independence and CSRD (Mohd-Said et al, 2018; Yusoff et al, 2019; Orazalin, 2019). In this research, the authors propose the following hypothesis:

\[ \text{Hypothesis 2 (H2): Independent directors on corporate boards is positively related to CRSD.} \]
2.2.3 Women on board

Women on board refers to the number of women sitting on the board of directors as used Khan (2010). Post & Byron (2015) defined female board representation as the number, proportion, or presence of women on boards of directors.

A lot of researchers showed the priority role of women on board such as women are deemed to be more concerned with social issues (Elm et al., 2001); female directors have better background outside of business compared to male directors and to bring different perspective to the board (Hillman et al, 2002); female directors are better to be support specialists and community influentials, more favourable work environment (Bernardi et al, 2006); higher level environment CSR (Post et al, 2011); which are likely to predispose them toward a positive attitude toward CSR. The impact of women on corporate social responsibility disclosure (CSRD) has been a controversial topic of research because findings are inconsistent. One study, conducted by Khan (2010), indicated that there is no significant correlation between the presence of women on the board and CSR reporting. Within the scope of this research, considering the specific context of Vietnam as an Asian nation, a significant shift in awareness has been observed in recent years. Notably, the increased presence of women in the board of directors has contributed to fostering a positive transformation in management perspectives. In light of these observations, the author puts forth the following hypothesis.

Hypothesis 3 (H3): Women on board positively affects CSRD.

2.2.4 Managerial ownership

Managerial ownership mentions the proportion of shares held by the board of directors’ members in relation to the total number of issued shares. It can be calculated by dividing the shares owned by the board members by the total number of issued shares. In Indonesia, Nurleni & Bandang (2018) stated that there is a direct effect of a negative and significant correlation between managerial ownership on CSR disclosure. Isa & Muhammad (2015) found an inverse correlation between managerial ownership and CSR disclosure, which is in line with the research of Eng & Mak (2003), and Kurawa & Kabara (2014). This means a firm with a high level of board ownership will disclose less CSR information. Therefore, the authors would like to test the following hypothesis:

Hypothesis 4 (H4): Managerial ownership has a positive effect on CSRD.
2.2.5 Board meeting frequency

Some research pointed out that a higher frequency of board of directors’ meetings, the communication between the board of directors will be more frequent and provide a great opportunity for the board of directors to discuss and resolve important issues of the company. Several previous studies have discussed the relationship between board meeting with CSR disclosures, but they still cause debate (Ahmad et al, 2017; Anyigbah et al., 2023)

Jizi (2017) mentioned that the frequency of their meetings demonstrates the board’s stability and promotes greater transparency in information disclosure to stakeholders. Therefore, these studies concluded that board meeting frequency influences CSR, suggesting that more frequent board meetings may increase CSR (Ponnu & Karthigeyan, 2010; Brick & Chidambaran, 2010)

However, Johl et al. (2015) indicates that board of directors’ meetings cannot always increase the effectiveness and disclosure of CSR. Ahmad et al (2017) indicate that board of directors meeting has a negative and significant effect on CSRD, it means that the higher frequency of board of directors’ meeting, the lower the CSRD scores. Some studies explain that the more frequently a board meeting is held, the meeting tends to be unproductive, so it is not surprising that company performance deteriorates. In this study, the authors suggest the following hypothesis:

Hypothesis 5 (H5): Board meeting frequency has a positive effect on CSRD.

2.2.6 Female leadership

Zweigenhaft & Domhoff (2011) have found that female leaders are more likely to have professional experience in nonprofit, philanthropic, and community organisations compared to their male counterparts. This experience enhances their comprehension and consideration of various stakeholders. Similarly, Walls et al. (2012) argue that relevant experience in these organisations is associated with a greater commitment to environmental practices and a potential emphasis on stakeholder concerns. As a result, some studies suggest that female leadership can have a positive impact on corporate social responsibility and sustainability reporting.

Conversely, McGuinness et al. (2017) conducted a study demonstrating that female leadership carries equal significance to gender diversity in driving CSR changes. The research suggests that while gender diversity contributes to improving the social
performance of Chinese companies, the presence of female leadership, in conjunction with a diverse board, has a more substantial impact on ratings. Biswas et al., (2022) concluded that female directors with affiliations to the governing family, and other board members reduce CSR disclosure within family firms. Conversely, unaffiliated female board directors improve CSR disclosure. Considering the influence of Chinese culture on businesses in Asia and while the perception of the role of female leaders remains somewhat ambiguous, the author proposes the hypothesis as follows:

_Hypothesis 6 (H6): Female leadership negatively affects CSRD._

3. **Research Methods and Materials**

3.1. **Measurement**

In the process of developing an index for evaluating CSR disclosure, there is no standardised approach that has been universally adopted, and there are no universally accepted guidelines for selecting the elements to measure information disclosure (Marston & Shrives, 1991). Certain studies utilise well-established indices such as GRI, Dow Jones, and ESG as reference points, while others adapt or customise existing indices (Muttakin & Khan, 2014), and some even develop new indices tailored to their specific research requirements.

In this study, the authors used the GRI set and adjusted it according to Circular 96/2020/TT-BTC on information disclosure requirements in the Vietnamese stock market to ensure its suitability for the research context. Accordingly, the set of indicators measuring the level of responsible information disclosure is divided into three main aspects: economic, environment and social (labor, customer, community) and with a total of 34 items.

The author uses an unweighted measurement method to calculate CSRD index. If the presented item is given the value 1, if the item is not present in the annual reports, it gets the value 0.
<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-Category</th>
<th>Abbreviation</th>
<th>Measurement</th>
<th>Cited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable</td>
<td>Corporate social responsibility disclosure index</td>
<td>csrd</td>
<td>“1” to each item in the annual report if the item is disclosed, and “0” for a non-disclosed item.</td>
<td>Islam &amp; Deegan, 2008; Mahadeo et al., 2011; Fuente et al., 2017; Said et al (2018), Ordóñez-Castaño et al., (2021); Ismail et al (2021)</td>
</tr>
<tr>
<td></td>
<td>Economic sustainability reporting</td>
<td>e</td>
<td>All 8 items listed in the economic indicators are assigned “1” if the item is disclosed and “0” if it is non-disclosed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Environmental sustainability reporting</td>
<td>env</td>
<td>All 11 items listed in the environmental indicators are assigned “1” if the item is disclosed and “0” if it is non-disclosed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social sustainability reporting</td>
<td>soc</td>
<td>All 15 items listed in the labour, customer and social indicators are assigned “1” if the item is disclosed and “0” if it is non-disclosed.</td>
<td></td>
</tr>
<tr>
<td>Independent Variables</td>
<td>Board size</td>
<td>size</td>
<td>Total number of directors on the board</td>
<td>Said et al., (2009); Htay et al., 2012; Giannarakis (2014); Bukair &amp; Rahma (2015); Anyigbah et al., (2023)</td>
</tr>
<tr>
<td></td>
<td>Board independence</td>
<td>ind</td>
<td>The proportion of independent directors on the board divided by board size</td>
<td>Khan, (2010); Khan et al., (2013); Jizi et al., (2014); Isa &amp; Muhammad (2015); Husted &amp; de Sousa-Filho (2019); Nour et al., (2020); Fahad &amp; Rahman (2020); Rashid &amp; Hossain (2022); Anyigbah et al., (2023)</td>
</tr>
<tr>
<td>Category Sub-Category</td>
<td>Abbreviation</td>
<td>Measurement</td>
<td>Cited</td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------</td>
<td>-------------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>Independent Variables</td>
<td>Women on board</td>
<td>Women</td>
<td>The proportion of women on board divided by board size</td>
<td>Hillman et al., (2002); Bernardi et al., (2006); Khan (2010); Post et al., (2011); Fernandez-Feijoo et al., (2012); Fahad &amp; Rahman (2020).</td>
</tr>
<tr>
<td>Managerial ownership</td>
<td>mo</td>
<td>The proportion of shares held by the board of directors’ members in relation to the total number of issued shares</td>
<td>Eng &amp; Mak (2003); Kurawa &amp; Kabara (2014); Isa &amp; Muhammad (2015); Nurleni &amp; Bandang (2018)</td>
<td></td>
</tr>
<tr>
<td>Board meeting frequency</td>
<td>meeting</td>
<td>Number of times meetings are held in a year</td>
<td>Ponnu &amp; Karthigeyan, (2010); Brick &amp; Chidambaran, (2010); Johl et al., (2015); Ahmad et al., (2017); Jizi (2017); Fahad &amp; Rahman (2020).</td>
<td></td>
</tr>
<tr>
<td>Female leadership</td>
<td>fl</td>
<td>“1” to each item if CEO or chairman is a female, and “0” for CEO or chairman is not a female</td>
<td>Zweigenhaft &amp; Domhoff (2011); Walls et al. (2012); Prabowo et al., (2017); Biswas et al., (2022)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Suggested by the authors

### 3.2. Research Methods

Using data extracted from the annual reports of 195 manufacturing enterprises listed on the Vietnamese stock market from 2018 to 2022, this investigation employs quantitative research methodologies to evaluate the influence of corporate governance on corporate social responsibility disclosure. The data collection in this research yielded data which is balanced, which means that all panel members have data measurements in all time periods from 2018 to 2022. Since this research uses encompassing panel data from a diverse set of listed companies, the use of OLS regression is deemed inappropriate, as suggested by Wooldridge (2010). Consequently, the article performs both the Fixed Effects Model (FEM) and Random Effects Model (REM) to identify the most suitable model. A Hausman test is conducted to find out the better model between FEM and REM.
Subsequently, defects and regression are examined using the General Least Squares (GLS) model.

4. Results and Discussion

4.1. Descriptive Statistics

The descriptive statistics of the variables in the model reveal that the mean level of CSRD is 16.30 out of a total of 34 standard points, with the minimum and maximum values being 6 and 30, respectively. This indicates that the average extent of CSRD of manufacturing enterprises listed in Vietnamese stock market in the period of 2018–2022 is 47.9%. The average board size (size) is approximately 4.72, with the range of values between 3 and 7, thus satisfying the disclosure requirements stipulated by Circular 96/2020/TT-BTC Guidelines. The mean value of board independence (ind) is about 2.29, and the average number of women serving on the board is 1.04, with the maximum number being 2. Managerial ownership (mo) has an average value of 18.76, with the minimum and maximum values being 0 and 66.67%, respectively. The number of meetings held in a year (meeting) has an average value of 8.86. The average proportion of female leadership (fl) is 0.24.

Table 2: Descriptive Results of All Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>size</td>
<td>975</td>
<td>4.726</td>
<td>.950</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>ind</td>
<td>975</td>
<td>48.260</td>
<td>42.060</td>
<td>20</td>
<td>85.71</td>
</tr>
<tr>
<td>women</td>
<td>975</td>
<td>23.669</td>
<td>24.650</td>
<td>0</td>
<td>66.67</td>
</tr>
<tr>
<td>mo</td>
<td>975</td>
<td>18.765</td>
<td>22.207</td>
<td>0</td>
<td>66.67</td>
</tr>
<tr>
<td>meeting</td>
<td>975</td>
<td>8.863</td>
<td>6.136</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>fl</td>
<td>975</td>
<td>.242</td>
<td>.430</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>csrd</td>
<td>975</td>
<td>16.305</td>
<td>5.487</td>
<td>6</td>
<td>30</td>
</tr>
</tbody>
</table>

Source: Results from Stata software

4.2 Research Results

To determine whether there was a correlation between the variables, variables that could not meet the relevant requirements were eliminated. The results of Table 2, show that the correlation coefficients between
Table 3: Pearson’s Correlation Test Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>csrd</th>
<th>size</th>
<th>ind</th>
<th>women</th>
<th>mo</th>
<th>meeting</th>
<th>fl</th>
</tr>
</thead>
<tbody>
<tr>
<td>csrd</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>size</td>
<td>0.1910*</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sig</td>
<td>0.0638</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ind</td>
<td>0.0613</td>
<td>0.5031***</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sig</td>
<td>0.5550</td>
<td>0.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>women</td>
<td>0.0655</td>
<td>0.0875</td>
<td>0.1260</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sig</td>
<td>0.6537</td>
<td>0.3688</td>
<td>0.2236</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mo</td>
<td>-0.2661**</td>
<td>0.0947</td>
<td>0.0684</td>
<td>0.0717</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sig</td>
<td>0.0244</td>
<td>0.2037</td>
<td>0.5104</td>
<td>0.4021</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>meeting</td>
<td>0.0314</td>
<td>0.1483</td>
<td>0.0647</td>
<td>0.1104</td>
<td>0.2314**</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>sig</td>
<td>0.7624</td>
<td>0.1514</td>
<td>0.5332</td>
<td>0.2638</td>
<td>0.0241</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fl</td>
<td>0.2075**</td>
<td>0.0181</td>
<td>0.0897</td>
<td>0.1746*</td>
<td>0.0813</td>
<td>0.2088**</td>
<td>1.0000</td>
</tr>
<tr>
<td>sig</td>
<td>0.0366</td>
<td>0.9379</td>
<td>0.3524</td>
<td>0.0906</td>
<td>0.3058</td>
<td>0.0423</td>
<td></td>
</tr>
</tbody>
</table>

Note: ***, ** and * indicates significant at 1%, 5% and 10% level of significance
Source: Results from Stata software

The results of the Pearson correlation test point out that the CSRD variable have a relationship with size, mo, fl at the level from 0.1910 to 0.2661. Moreover, the fl variable has a correlation with women, meeting; size with ind and mo with meeting.

4.2.1 Selection of model

To choose between FEM and REM models, the study used the Hausman test. Hausman test results indicated that Prob > chi2 = 0.445 > 0.05, so the random estimation model (REM) is the most suitable.

4.2.2 Testing for heteroscedasticity

The Breusch and Pagan Lagrangian Multiplier for random effect was employed in the study to detect heteroscedasticity. The chosen REM exhibits heteroscedasticity phenomena, with a statistically significant Prob > chi2 = 0.000. Consequently, the regression coefficients will no longer be statistically significant, causing the REM model's conclusions to be skewed.
4.2.3 Testing for autocorrelation

The presence of autocorrelation in the selected REM model was investigated through the administration of the Wooldridge test. The results of the Wooldridge test indicated a statistically significant value of Prob > F = 0.000, implying that the REM model exhibits autocorrelation.

4.2.4 Testing for multicollinearity

The results of the Variance Inflation Factor (VIF) test showed that the VIF of all variables in the model is less than 10, indicating the absence of multicollinearity in the model.

The Ordinary Least Squares (OLS) estimation for REM will produce unbiased parameter estimates but will be inefficient. The chosen REM model suffers from the flaws of heteroscedasticity and autocorrelation. To obtain unbiased and efficient estimates, the Generalised Least Squares (GLS) estimation can be used to mitigate the effects of autocorrelation and variance changes in the selected REM model.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. err</th>
<th>z</th>
<th>P&gt;z</th>
<th>[95% conf. interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>size</td>
<td>0.101</td>
<td>0.084</td>
<td>1.12*</td>
<td>.072</td>
<td>.469 .930</td>
</tr>
<tr>
<td>ind</td>
<td>0.043</td>
<td>0.028</td>
<td>1.28</td>
<td>.488</td>
<td>.016 .414</td>
</tr>
<tr>
<td>women</td>
<td>0.216</td>
<td>0.139</td>
<td>1.60</td>
<td>.109</td>
<td>1.010 2.422</td>
</tr>
<tr>
<td>mo</td>
<td>-0.428</td>
<td>0.195</td>
<td>3.49***</td>
<td>.000</td>
<td>-1.065 3.791</td>
</tr>
<tr>
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<td>10.301 17.393</td>
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Wald chi2(6) 16.65**
Prob > chi2 0.0106 < 0.05

Note: ***, ** and * indicates significant at 1%, 5% and 10% level of significance based on t-statistics
Source: Results from Stata software

Based on the results of all of the above tests, it can be concluded that the random-effects model with adjustment of GLS modal is the best model for capturing the relationship between research factors and the level of CSR of manufacturing enterprises listed on the Vietnamese stock exchange. The factor of board size (size) has a positive influence on the CSRD with the level of significance of 10%.
Managerial ownership has the strongest and negative effect on CSRD with the level of significance of 1%. Female leadership affect positively CSRD with the level of significance of 5%. Finally, the results show that other factors have no relation with CSRD.

5. Research Findings and Implications

5.1 Research Findings

According to the results, manufacturing firms’ CSRD is only under average (47.9%). The research findings indicate that the extent of social responsibility information disclosure among manufacturing enterprises listed on the stock market in Vietnam during the period of 2018-2022 is below the average. This signifies that despite the existing interest and investment, the current level of disclosure does not meet the required standards. In fact, there is an enterprise which only achieved a score of 6 out of 34 indicators, focusing primarily on reporting numbers of employees, average salary, and some community charity initiatives; notably environmental information remains undisclosed. These results align closely with the findings of Ha (2019). In addition, the minimum level of CSRD (6 points) and maximum (30 points) shown in Table 1 indicates a wide deviation of CSRD quality among the manufacturing listed companies.

Hypothesis 1, the study reveals that the board size has a positive influence on the level of corporate social responsibility disclosure among manufacturing firms listed in the Vietnamese stock market ($\beta = 0.101, p < 0.1$). These findings align significantly with previous research conducted by Said et al. (2009), Esa & Anum Mohd Ghazali (2012) in Malaysia, Akbas (2016) in Turkey; Dias et al (2017) in Portugal, and Anyigbah et al. (2023) in China. Essentially, this finding suggests that improved reporting can be attributed to the presence of diverse and knowledgeable directors on larger boards (Esa & MohdGhazali, 2012). Additionally, board size is linked to the ability to facilitate effective monitoring and mitigate agency issues. A larger number of directors enables the board to fulfill its responsibilities efficiently, consequently leading to increased corporate social responsibility reporting.

Hypothesis 2 suggests that board independence has no significant impact on CSRD, as indicated by a significance level greater than 0.1. We initially predicted that independent directors would be more inclined to invest in CSR activities to improve the firm’s social standing. However, the results demonstrate the opposite effect; the study’s conclusion asserts that the presence of a higher number of
independent directors does not inherently improve the effectiveness of the board, particularly if these directors are unable to make valuable contributions to board activities. Although the regression analysis results do not align with our expectations, they are consistent with previous studies conducted by Mohd-Said et al. (2018), Yusoff et al. (2019), and Orazalin (2019) in developing countries (Malaysia and Kazakhstan).

Hypothesis 3 is rejected as the relationship between women on the board and the level of CSRD is found to be insignificant (p > 0.1). These research findings go against the initial expectations of the authors. However, they are consistent with previous studies conducted by Khan (2010) in Bangladesh, Giannarakis (2014) in the US, and Ajaz et al. (2020) in Pakistan.

Hypothesis 4, the coefficient for the path from mo to csrd is positive and significant (β = 0.428, p < 0.01). Hypothesis H4 is accepted which mean managerial ownership exhibits the strongest negative impact on the CSRD of manufacturing firms in Vietnam. In other words, a decrease in managerial ownership is associated with an increase in disclosure. This result is consistent with the findings of Eng & Mak (2003) in Singapore; Isa & Muhammad (2015) in Nigeria; and Khan et al (2013) in Bangladesh.

Hypothesis 5, the number of meetings held throughout the year does not indicate the quality of CSR disclosure. The variation in the number of annual meetings can be attributed to fluctuations in both the internal and external business environment, as well as the management’s operational perspective. Furthermore, several studies indicate that an abundance of organisational meetings does not necessarily lead to effective management. Instead, it often results in prolonged decision-making processes and unnecessary complexities.

Hypothesis 6, the final finding suggests that female leadership has a significant impact on CSRD. Interestingly, these research results are similar to some previous studies, particularly the research conducted by Harjoto et al (2020), which showed that female signers aim to address a broader group of stakeholders by issuing reports with a greater number of words related to solidarity compared to male signers. Similarly, Prabowo et al. (2017) found that the presence of female executives positively influences CSR disclosure. The representation of female directors can be influenced by cultural factors. Carrasco et al. (2015) emphasised that certain cultural characteristics of a nation can impact the presence of women on boards. Hofstede et al. (2010) highlighted that men tend to prioritise aspects such as profits, recognition, progress, and task-oriented outcomes, whereas women focus more on fostering effective
teamwork with superiors, collaboration, creating a conducive working environment, and ensuring labor security. Although the study establishes that there is no correlation between the presence of women on the board and corporate social responsibility disclosure, it reveals that female leadership has a positive impact on the CSRD of manufacturing firms in Vietnam. This phenomenon can be explained within the context of developing countries such as Vietnam, where there exists no state regulation mandating the obligatory inclusion of women on the board of directors. However, the current societal and community interest in gender equality has led some enterprises to appoint women to these positions. Nevertheless, the role of women within the board of directors in Vietnamese enterprises remains limited, occasionally serving as a mere formality. Consequently, the impact of women on the board of directors on enterprise effectiveness is modest, and it can be inferred that their presence has not yielded discernible changes in governance efficacy, CSR implementation, or CSR information disclosure.

5.2 Research Implications

For government, in order to enhance the level of social responsibility information disclosure among manufacturing enterprises listed on the stock market in Vietnam, certain measures need to be taken as follows:

(1) Develop a comprehensive document that specifies information disclosure requirements, incorporating updated international standards and criteria;
(2) Regular measurement and evaluation of the information disclosure level should be conducted, accompanied by appropriate incentives and sanctions.

In the context of manufacturing enterprises, specific actions are deemed imperative to enhance the level of social responsibility information disclosure.

(1) The businesses should allocate resources to implement social responsibility practices and effectively disclose CSR information;
(2) The companies should maintain a sufficiently large board of directors can contribute to diversifying perspectives, staying updated, and providing a foundation for improving the quality of disclosed information.
(3) The enterprises should control the percentage of equity owned by the board of directors at a lower level for a higher level of CSR disclosure.

(4) The businesses should actively promote substantive participation of women on the board of directors, particularly in ownership roles, to enhance the level of CSR information disclosure.

6. Limitations

Prudent interpretation is necessary when considering the findings of this study. Essentially, there are big differences in mechanisms, policies and market characteristics that the operation of CSR in developed and developing countries cannot be similar. This research was conducted in Vietnam, a developing country, so the research results cannot be generalised to developed countries and diverse countries under distinct legal and corporate governance systems. Consequently, the results cannot be easily generalised across different countries. Furthermore, this study primarily concentrated on the analysis of annual CSR reports, disregarding the wide array of alternative mass communication channels utilised by companies. As a result, future research endeavours may expand the scope to incorporate various reporting methods and formats. Moreover, the research findings would become more intriguing if control variables, such as enterprise type and company size, are integrated into the sample.

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