

# **Impact of Board Composition of Philippine Companies on the Quality of their ESG Disclosures**

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Do independence and diversity in the board result in better quality of ESG disclosures? This research answers this question by exploring whether certain aspects of the board composition of listed firms in the Philippines positively affect the quality of ESG disclosures. The authors have found that board gender diversity has a significant positive effect on the quality of ESG disclosures, while they cannot definitively conclude on the impact of board independence, CEO duality, and board size. Nevertheless, firms that seek to improve independence in the board should do so not only for improving ESG disclosure score but also primarily for improving representation of stakeholders and minority shareholders, which is consistent with good corporate governance. The findings of this research further support the importance of independence and diversity in corporate governance.

*Keywords:* ESG disclosure, independent directors, women on the board, CEO duality, corporate governance, Philippines

## **1 Introduction**

The growing awareness of sustainability issues globally has ushered in a move by governments and by investors toward heightened expectations on Environmental, Social, and Corporate Governance (ESG) reporting. Institutional investors are pressuring their asset managers to incorporate ESG factors in their investment strategy (KPMG, 2019) while an increasing number of governments are passing sustainability reporting guidelines for their publicly listed companies in their respective jurisdictions. In the Philippines, the local Securities and Exchange Commission (SEC) has promulgated its own sustainability reporting guidelines in 2019, which itself was to support the United Nations' Sustainable Development Goals. These expectations force publicly listed companies to include ESG in their corporate strategy and reporting.

Under the agency theory in finance, the management of a firm might not exactly adhere to the expectations of its stakeholders without an appropriate incentive and control mechanism (Jensen & Meckling, 1976). The burden of ensuring that the resulting agency costs are mitigated rests on the board of directors, who is chiefly in charge of reviewing and guiding corporate strategy (OECD, 2015). Thus, one way for a company to ensure that its reporting process sufficiently adheres to evolving reportorial expectations is to make changes in the composition of its board.

In this study, the authors seek to determine what qualities the board must have to effectively promote higher quality ESG disclosures. The authors investigate the impact of board independence, board gender diversity, chief executive officer (CEO) duality, and board size on the quality of the ESG disclosures of companies listed in the Philippine Stock Exchange (PSE) from 2010 to 2019. This study provides useful evidence for policymakers in creating regulations and for corporations in instituting proper corporate governance structures that promote sustainable strategies.

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## 2 Review of Related Literature

### 2.1 The Role of the Board on ESG Disclosures

The SEC sustainability guidelines currently in effect in the Philippines have only been published in 2019. During the decade prior to the publishing of the guidelines, submitting sustainability reports has been completely voluntary, despite being widely practiced already abroad. Thus, any firm wanting to do ESG disclosures would have to do it for reasons beyond mere compliance. Even after the SEC guidelines have been published, the level of detail in the sustainability reports is highly discretionary, since firms have the ability to decide on what disclosures to make based on their assessment of materiality. Furthermore, the guidelines follow a “comply or explain” approach for the first three years of implementation, which essentially gives the firm a chance to not disclose anything at all. This shows that sustainability reporting remains to be highly voluntary in the Philippine context.

According to the legitimacy theory, managers will tend to use external reporting as a way to “legitimize” its presence in a given market (Deegan, 2002). In an era when investors and regulators are becoming more conscious of sustainability issues, the authors expect firms to want to show its stakeholders that they are proactive in this aspect. The authors view the firm’s board of directors to be a critical actor in this endeavor to steer the quality of ESG disclosures in their respective organizations.

The agency theory is the most dominant theory in corporate governance, which posits that agency problems arise between the shareholders and the managers due to their conflicting interests. Shareholders can minimize agency problems by establishing appropriate incentives for managers, instituting monitoring controls on managers, and asking managers to take on bonding costs (Jensen & Meckling, 1976). One way of doing this is to ensure that the board exercises its control function, which is more likely to happen if directors are independent (Agrawal & Knoeber, 1996). Based on this theory, a firm can improve its ability to disclose the appropriate disclosures, and thus improve information symmetry with investors, by increasing agency costs. At the board level, this is done by appointing more independent directors and ensuring that the CEO and the chairman of the board are appointed separately and independently.

Second, the resource dependence theory recognizes the influences of external resources and uncertainty to the firm. Under this theory, the board becomes the link by which the firm takes advantage of the expertise and network of the board members in order to support its strategy (Hillman et al., 2009). A firm can improve its ESG strategy by ensuring that the members of the board have the resources and the motivation to address sustainability issues. A more diverse board would then be beneficial, since this would mean an increased capacity of the firm to gather resources from a wider source of external relationships. This can be done by appointing more directors (i.e., increasing board size), which expands the possible sources of expertise, and appointing more women directors, who tend to have backgrounds and perspectives of a nonfinancial nature, compared to their male counterparts (Hillman et al., 2002).

### 2.2 Results of Similar Studies

Several studies have been conducted to investigate which particular aspects of the board’s composition could actually improve the quality of a firm’s ESG disclosures. Three such studies are summarized below:

**Table 1. Summary of Similar Studies on the Research Topic**

Author(s)	Focus of Study	Empirical Method	Findings
Arayssi et al. (2020)	Publicly listed firms in the Gulf Countries; Thomson Reuters ESG Disclosure Score	Panel Regression – Random Effects Model	Independent directors, women on board impact ESG disclosure score positively, while CEO duality impact it negatively.
Birindelli et al. (2018)	Publicly listed banks in the United States (US) and in Europe; Thomson Reuters ESG Disclosure Score	Panel Regression – Fixed Effects Model	Women directors, board size, and Corporate Social Responsibility (CSR) committee impact ESG disclosure

Author(s)	Focus of Study	Empirical Method	Findings
Husted et al. (2019)	Publicly listed firms in Latin America; Bloomberg ESG Score	Generalized Least Squares	score positively, while independent directors impact it negatively. Board size and independent directors impact ESG disclosure positively, while women on board and CEO duality impact it negatively.

These studies have used the following variables in assessing the impact of board composition: board independence, board gender diversity, CEO duality, and board size. These have resulted in mixed conclusions since the studies have been conducted on firms from different markets. However, none of these studies have been done in the Philippine market, which is the focus of this study. The authors follow the methodology employed by Arayssi et al. (2020), whose findings most closely conform with their expectations on the impact of their chosen dependent variables. The authors also acknowledge that there are some similarities to the markets in the Philippines and in the Gulf Countries, such as low investor protection, weak and segmented capital markets, high insider shareholdings, one-tier board structure, and high level of family shareholdings.

### 2.3 Hypothesis Formulation

The authors examine each of the four elements of board composition above, namely, board independence, board gender diversity, CEO duality, and board size.

An independent director is someone who does not have a business relationship with the company. Under the agency theory, it is necessary to appoint independent directors in order to curb possible financial conflicts between insider directors' or managers' incentives and shareholder interests (especially those of minority shareholders). The authors can expect that more independent directors mean more diverse perspectives regarding how the company should be run. Moreover, the presence of independent directors tends to increase transparency and better disclosures for management (Armstrong et al., 2014).

Empirical evidence shows that the presence of independent directors positively impact CSR. In the US, socially responsible firms tend to have more independent directors (Webb, 2004). In emerging markets, as in Bangladesh, independent directors positively influence CSR disclosures among its listed companies (Khan et al., 2012).

The authors see mixed results when the dependent variable considered is ESG performance. Board independence positively impacts ESG disclosures of listed companies in the Gulf Countries (Arayssi et al., 2020) and in Latin America (Husted & Sousa-Filho, 2019), while the opposite is true with Italian banks, negatively impacting ESG disclosure score (Birindelli et al., 2018). However, there is no research yet in the Philippine market regarding the effect of the presence of independent directors on ESG disclosure score. Thus, the authors hypothesize:

**H1:** The presence of independent directors has a positive effect in the ESG disclosure score of PSE-listed companies.

Research suggest that women directors tend to bring in more diversity into the boardroom (Singh et al., 2008) and provide expertise and perspectives that are other than financial in nature (Hillman et al., 2002). Under the resource dependence theory, the presence of women in the board would allow it to be more cognizant of nonfinancial concerns, which is a feature of ESG disclosures. The firm would be more willing to disclose nonfinancial issues if it had the resources and motivations to do so. The authors can expect that the presence of women directors will also positively influence ESG disclosure score.

Empirical studies show that US firms with women directors tend to have more philanthropic contributions (Marquis & Lee, 2013), and companies that employ more women tend to be more concerned with climate change (Ciocirlan & Pettersson, 2012). In terms of ESG, the Gulf Countries and Italy studies show that the presence of women directors tend to have a positive effect in ESG disclosure (Arayssi et al., 2020; Birindelli et al., 2018), while the Latin America study concludes otherwise (Husted & Sousa-Filho, 2019).

As with board independence, no such research on the presence of women directors has been written in the Philippine context. Thus, the authors hypothesize:

**H2:** The presence of women directors has a positive effect in the ESG disclosure score of PSE-listed companies.

CEO duality conflict occurs when the chairman of the board and the CEO roles are played by the same person. Such conflict could lead to the BOD becoming less effective in its oversight role, since the chairman also acts as the head of management. Under the agency theory, it is beneficial to assign these roles to two individuals to improve the board’s oversight function to protect its shareholders. Research among Fortune 500 firms suggest that firms whose boards are independently chaired tend to outperform financially those that are chaired by their CEO (Rechner & Dalton, 1991).

Research suggests a similar effect on ESG disclosure scores. Both in the Gulf Countries and the Latin American studies, it was found that CEO duality negatively impacts ESG disclosure scores.(Arayssi et al., 2020; Husted & Sousa-Filho, 2019). No such research has yet been done in the Philippines, and as such, the authors hypothesize:

**H3:** CEO duality has a negative effect in the ESG disclosure score of PSE-listed companies.

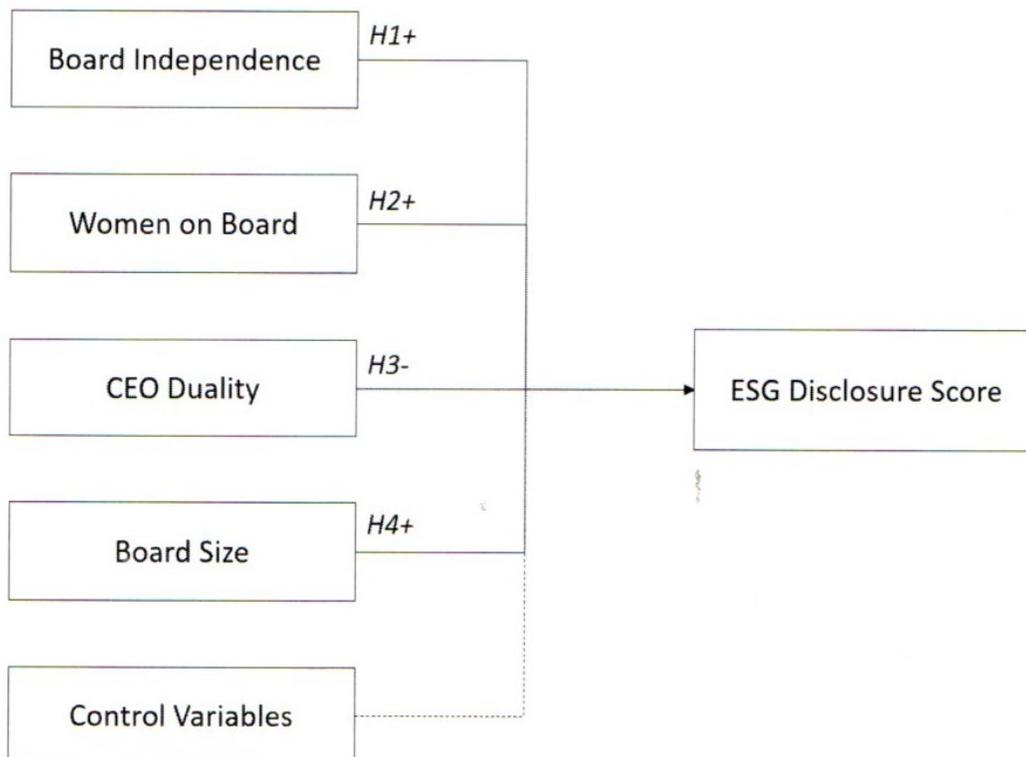
Finally, the authors examine board size, which is defined as the number of directors in the board. As the board size increases, the authors would also expect a wider set of values, viewpoints, and expertise, especially if such come from diverse backgrounds. Under the resource dependence theory, the larger board enables the firm to have more resources that can be sued by the firm in its strategy, including its capability of disclosing and acting on ESG issues.

Empirically, Giannarakis (2014) found that board size does not significantly impact ESG disclosure in developed markets. However, board size seems to have a positive effect in less developed markets. Allegrini and Greco (2013) found a positive effect on governance disclosure in Italian firms, while Esa & Anum Mohd Ghazali (2012) found the same in Malaysian firms. In terms of ESG disclosure score, evidence from Italian banks (Birindelli et al., 2018) and from Latin American firms (Husted & Sousa-Filho, 2019) show a Giannarakis ositive effect. As an emerging market, the authors would expect a similar relationship in the Philippines. Thus, the authors hypothesize:

**H4:** The size of the board has a positive effect in the ESG disclosure score of PSE-listed companies.

The authors summarize the conceptual framework of their study in the following diagram:

**Figure 1. Conceptual Framework, adapted from Husted, et al. (2019)**



### 3 Data and Methodology

#### 3.1 ESG Disclosure Score

The authors use ESG data provided by Bloomberg to test their hypotheses. Bloomberg calculates their ESG disclosure score using its own proprietary scoring methodology based on sustainability and industry frameworks. The score components are weighted in terms of importance, which is tailored per industry to ensure that each company is evaluated based only on what is relevant in its industry sector. A minimum score of 0.1 is given to a firm with no disclosures and a maximum of 100 to a firm that had disclosures for all the items monitored by Bloomberg. Accordingly, the authors' sample pertains to data on 51 firms listed in the PSE within the time period 2010 to 2019, which were rated by Bloomberg for their ESG disclosures. The sampling procedure has resulted in a total size of 467 firm-year observations. Table 2 illustrates the breakdown of these firms per segment and per year.

**Table 2. Breakdown of Sample per Segment and per Year**

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Financials	6	9	9	9	9	9	9	9	9	9
Holding Firms	7	9	9	9	9	10	10	10	10	10
Industrial	5	8	10	11	11	11	11	11	11	11
Mining and Oil	3	4	5	5	5	5	5	5	5	5
Property	5	8	9	9	9	9	9	9	9	9
Services	2	4	5	6	6	6	6	6	7	7
PSE firms selected	28	42	47	49	49	50	50	50	51	51
Total firms in PSE	220	225	231	237	246	253	257	261	265	266
% of Total in PSE	12.7%	18.7%	20.3%	20.7%	19.9%	19.8%	19.5%	19.2%	19.2%	19.2%

Sources: Bloomberg Finance L.P., S&P Capital IQ

#### 3.2 Control Variables

The authors control for the effect of variables that they expect to also impact ESG disclosure score based on prior research. The authors control for the effect of the presence of a CSR committee which is expected to have a positive effect on ESG score (Baraiibar-Diez & D. Odriozola, 2019), since this shows a tangible commitment by the board to undertake more social endeavors.

The authors also control for the effect of asset size, financial performance, growth, and financial leverage, consistent with the legitimacy theory that larger and better performing firms are more pressured to provide higher quality disclosures. The authors expect asset size, financial performance, and growth to positively impact ESG score, and financial leverage to have the opposite effect, consistent with previous research (Esa & Anum Mohd Ghazali, 2012). The authors extracted such data from S&P Capital IQ.

Lastly, the authors control for the effects of macroeconomic conditions for each year, which is measured by real GDP growth. The authors obtain such data from the Philippine Institute of Development Studies (PIDS).

Table 3 below summarizes the definition and measurement of all the variables included in the model.

**Table 3. Summary of Definition of Variables**

Variable	Definition	Measurement	Source
<b>Dependent variable</b>			
ESG	ESG Disclosure Score	Bloomberg score using its proprietary scoring methodology	Bloomberg
<b>Independent variables</b>			
IndepDir	Board Independence	Number of independent directors / Total number of directors in the board	Bloomberg
WomenDir	Women on Board	Number of women directors / Total number of directors in the board	Bloomberg

Variable	Definition	Measurement	Source
CEOD	CEO Duality	Dummy variable: 1 if the CEO also Chairs the Board of Directors, 0 if otherwise	Bloomberg
BoardSize	Board Size	Total number of directors in the board	Bloomberg
<b>Control variables</b>			
CSRCom	Presence of CSR Committee	Dummy variable: 1 if there is a CSR Committee, 0 if otherwise	Bloomberg
FirmSize	Total Assets	Natural logarithm of Total Assets as of Year-End	Capital IQ
FirmLev	Debt Ratio	Total debt / Total liability as of Year-end	Capital IQ
FirmPerf	Return on Assets	Net income / Total assets as of Year-end	Capital IQ
FirmGrowth	P/B Ratio	Share price / Book value per share	Capital IQ
lnGDP	Real GDP Growth	Natural logarithm of annual change in real GDP of the Philippines	PIDS

The authors did a preliminary test of their data for possible multicollinearity with the Variance inflation factor (VIF) and Spearman correlation matrix (see Appendix A). Based on the test, the variable with the highest VIF was firm size at 1.43. This implies that there is no significant multicollinearity among the authors' variables (ideally, VIF must be below 5).

Given that the authors' data has cross-sectional and time components, the most appropriate statistical method for the study is panel data regression. The choice of using a fixed effects model or a random effects model was determined using the results of the Hausman test. This test resulted in a  $p$  value of 0.000, which means that the fixed effects model is appropriate.

Thus, the authors specify the fixed effects model that estimates the relationship between ESG disclosure score with their selected independent variables as:

$$ESG_{it} = \alpha_i + \beta_1 IndepDir + \beta_2 WomenDir_{it} + \beta_3 CEOD_{it} + \beta_4 CSRCom_{it} + \beta_5 FirmSize_{it} + \beta_6 FirmLev_{it} + \beta_7 FirmPerf_{it} + \beta_8 FirmGrowth_{it} + \beta_9 lnGDP_{it} + \varepsilon_t$$

where  $\alpha_i$  is the fixed-effect constant for each individual company,  $\beta$  is the corresponding coefficient for each independent variable indicated,  $\varepsilon$  is the error term,  $i$  is the individual company, and  $t$  is the year.

Finally, the authors have also checked for heteroskedasticity of residuals using a Breusch-Pagan test. This has resulted in a  $p$  value of 0.00, implying heteroskedasticity in the standard errors. As such, the authors will use robust standard errors following the methodology of Arellano (1987), as appropriate for fixed effects method of panel data regression.

## 4 Results and Discussion

Table 4 below shows descriptive statistics of the variables chosen. The authors' data show that ESG disclosure performance for Philippine firms are still quite low at an average of 22.67, with a standard deviation of 13.99. The firm with the highest ESG disclosure score was Ayala Corporation at 57.46 in 2016. The authors do notice that ESG disclosure scores were increasing through the years, signaling that firms are becoming more willing to disclose more information as they become more comfortable preparing these reports. Majority of the ESG-rated listed companies have CEO duality at an average of 68%, which means that most firms find that having their CEO chair their board is effective for their strategies. The authors also note that the average board size is between 10 to 11 directors. Moreover, on average, only around three out of that number are independent, and only around one is female. Although some firms had above average number of females on the board (up to four in some cases, such as in Philippine National Bank, PLDT, Inc., Semirara Mining, and Power Co.), the authors also note that many of these firms' women directors were also major stockholders. This detail could possibly mitigate the female director's effect on ESG disclosure, given its implicit lack of independence. Furthermore, these low numbers imply that reforms might be necessary in order to increase diversity in the boardroom, which could possibly lead to better ESG performance and disclosure.

**Table 4. Descriptive Statistics**

Variable	Mean	Std. Deviation	Min	Max
ESG	22.67	13.99	3.31	57.46
IndepDir	0.28	0.08	0.00	0.58
WomenDir	0.11	0.11	0.00	0.57
CEOD	0.68	0.47	0.00	1.00
BoardSize	10.49	2.58	6.00	15.00
CSRCom	0.07	0.26	0.00	1.00
FirmSize	11.55	2.49	0.00	14.98
FirmLev	0.27	0.16	0.00	0.60
FirmPerf	0.04	0.05	-0.54	0.45
FirmGrowth	3.32	8.12	0.00	81.28
lnGDP	0.06	0.01	0.04	0.07

Table 5 below summarizes the results of the authors' fixed effects model panel data regression analysis using robust standard errors. Both the presence of women directors ( $p = 0.002$ ) and the firm size ( $p = 0.000$ ) have a significant positive effect on ESG disclosure score. Firm growth also has a positive effect, significant within the 5% confidence level ( $p = 0.037$ ). Interestingly, the other variables of interest—board independence and board size—did not have a significant effect on ESG disclosure score ( $p = 0.246$  and  $0.965$ , respectively). Lastly, the model is inconclusive regarding CEO duality using the fixed effects method. This is because the selected companies whose boards are chaired by their CEO stayed as such for the entire period of 2010 to 2019. Based on the results, the authors reject their null hypotheses regarding gender diversity but fail to reject regarding board independence and board size.

**Table 5. Summary of the Relationships of the Variables with ESG Disclosure Score**

Variable	Coefficient (Standard Error)	P-Value
IndepDir	15.300 (13.16)	0.246
WomenDir	37.528 (11.79)	0.002 ***
CEOD	(Omitted)	(Omitted)
BoardSize	-0.031 (0.713)	0.965
CSRCom	3.277 (4.149)	0.430
FirmSize	16.543 (2.040)	0.000 ***
FirmLev	-11.899 (10.920)	0.276
FirmPerf	-12.729 (8.503)	0.135
FirmGrowth	-0.320 (0.153)	0.036 **
lnGDP	-23.136 (30.199)	0.444

**Notes.** The t-tests done used Arellano (1987) robust standard errors to adjust for heteroskedasticity. The number of observations were 510. Asterisks \*\*\* and \*\* indicate significance at the 1% and 5% level, respectively.

### Robustness Test

It is possible that the dependent variable is the one causing the independent variables, a phenomenon called reverse causality. One can argue that better ESG disclosures reflect a firm's commitment to societal objectives, which, under legitimacy theory, would mean different stakeholders will assess the company at a better light and would therefore improve overall value and performance (Jizi et al., 2016; Simpson & Kohers, 2002). Hence, it is possible that it is ESG performance which affects firm performance and not the other way around. The authors modify the model using lagged values

for financial leverage, financial performance, and financial growth to ensure that their model does not suffer from reverse causality, the same methodology used in the Gulf Countries study (Arayssi et al., 2020).

Table 6 presents the comparison of the authors' original model and the model using lagged values for firm leverage, performance, and growth. The authors have noted that the results for gender diversity and firm size were similar for both models in terms of direction and significance of effect. However, the authors note that when using lagged values, the impact of firm growth turns out to be not significant, and board independence turns out to be significant. These findings increase the authors' confidence that gender diversity and firm size indeed have a significant effect on ESG performance. On the other hand, this confirms that the authors cannot conclude with confidence that board independence and firm growth have a significant effect on ESG performance after considering the two models, given the varying results.

**Table 6. Summary of the Relationships of the Variables with ESG Disclosure Score After Robustness Test**

Variable	Original Fixed Effects Model	Fixed Effects Model using Lagged Values
IndepDir	15.300 (13.16)	16.924 (9.401) *
WomenDir	37.528 (11.79) ***	31.945 (8.537) ***
CEOD	* (Omitted)	(Omitted)
BoardSize	-0.031 (0.713)	-0.326 (0.669)
CSRCom	3.277 (4.149)	3.834 (2.550)
FirmSize	16.543 (2.040) ***	19.268 (1.634) ***
FirmLev†	-11.899 (10.920)	-11.14 (0.127)
FirmPerf†	-12.729 (8.503)	-3.142 (8.489)
FirmGrowth†	-0.320 (0.153) **	-0.259 (0.168)
lnGDP	-23.136 (30.199)	-73.236 (60.007)

**Notes.** The coefficients and the robust standard errors (in parentheses) are displayed. The cross † indicates the control variables that were lagged by one year. The p-values are implied by the asterisks \*\*\*, \*\* and \*, which indicate significance at the 1%, 5% and 10%, respectively.

## 5 Conclusions

The objective of this study was to contribute to the growing body of empirical research to show whether certain qualities of the board, namely, board independence, board gender diversity, CEO duality, and board size, have a significant impact on ESG disclosures. Although the authors' theoretical framework supports the claim that these four variables should have a significant effect on ESG performance, this study showed that only board gender diversity has a positive significant effect based on 2010 to 2019 data on Philippine publicly listed companies.

These findings imply that the authors cannot definitively conclude on the significance of board independence on ESG performance for PSE-listed companies, in contrast with some studies done in other contexts (Arayssi et al., 2020; Husted & Sousa-Filho, 2019). Although this study is inconclusive in this regard, further research may benefit from analyzing the actual level of independence of the boards of these firms. One study done on PSE-listed firms from 2012 to 2017 reveals the presence of "non-strict" independent directors who lack outside experience or monitoring ability (Li Liao et al., 2019). As the authors did not control for these effects, this present study is unable to determine the significance of board independence in bringing about better ESG disclosures.

The authors conclude that the presence of women directors positively impacts the quality of ESG disclosures of PSE-listed companies, consistent with the findings of other empirical studies (Arayssi et al., 2020; Birindelli et al., 2018). This supports the theory that gender diversity brings in diversity of expertise and perspectives (Hillman et al., 2002; Singh et al., 2008) which can end up promoting better ESG disclosures in the company.

The authors cannot conclude that board size has a significant impact on the quality of ESG disclosures. This is possibly due to the relatively higher average board size of the selected PSE-listed

firms as compared to the firms selected in other studies (Arayssi et al., 2020; Husted & Sousa-Filho, 2019). Another possible explanation is that the background and values of board directors are not sufficiently diverse to impact ESG even as the number of directors increases.

Although the expectation that CEO duality negatively affects ESG disclosure is logical, the authors' data was insufficient to confirm this. CEO duality in the sample Philippine firms was time invariant, i.e., the board was chaired by the CEO for the entire stretch of 2010 to 2019 for a given firm. Thus, the variable was omitted when the fixed effects model is used for panel data regression. As such, the authors were unable to conclude on the effect of CEO duality on the quality of ESG disclosures.

Finally, these findings show that larger firms tend to have better ESG scores, as seen in both the original model and the second model based on lagged values. This is consistent with the authors' expectation that larger firms have more resources in undertaking sustainable activities and spending for better disclosures. This also supports the legitimacy theory, wherein these larger firms are expected to adhere to the expectations of the immediate community that is becoming more and more aware of sustainability issues.

The managerial implication of this study is clear: a firm that seeks to improve its ESG performance can reach its objective by promoting gender diversity in the board. Such an action can lead to a broader perspective in determining the company's financial and nonfinancial goals. Moreover, although the authors acknowledge that they cannot conclude on the significance of the effect of the number of independent directors on ESG score, they think that promoting independence within the board would still benefit the firm that seeks to improve its ESG performance. Thus, the action of regulators and companies to promote independence should be based on their conviction that the interests of stakeholders, including minority shareholders, should be considered, rather than basing it on the endeavor to increase ESG score.

This study has a few limitations. First, the results are limited to the ESG data obtained from Bloomberg, which computes data using certain predetermined weights for different factors. Furthermore, as of 2019, only 20% of the total PSE-listed firms were rated. Further research could benefit from more recent data from Bloomberg or by aggregating the ESG data from various rating agencies. Second, the data regarding CEO duality was inappropriate due to the use of the fixed effects model. Further research on the effect of such variable may benefit from the use of other regression models, such as the general leased squares model or the random effects model as used in other studies, after establishing if such models could be appropriate. Third, the financial data of firms was obtained from Capital IQ. However, there can be nuances in the accounting policy choices of the management of each company. Further research can consider doing a more granular analysis of financial data by perusing the original financial statements themselves as submitted to the SEC. Fourth, the authors did not investigate the effect of ownership structure to the firm's ESG disclosures. Given that some women directors are appointed or are themselves major stockholders, ownership structure may have been a mitigating factor in their influence in improving ESG disclosures.

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