Sustainable development disclosure: ESG reporting and gender diversity in the audit committee

Abstract

This paper analyzes the link between female representation on audit committees and specific information attributes of environmental, social and governance (ESG) disclosures. We also examine whether the role of women is moderated by the busyness and intensity of the committee. Our results reveal a positive association between gender diversity in the audit committee and the quality of voluntary ESG reporting, which results in greater comprehensiveness and relevance. These findings extend the academic debate concerning the role of female directors on sustainability policies. Moreover, given the importance of ESG information in capital markets and its potential benefits for firms, this evidence may help regulators and owners to implement adequate corporate governance mechanisms. In addition, the busyness of the audit committee negatively moderates the influence of female AC members. Therefore, we highlight the need to consider the context in which women work in order to understand their influence on sustainability reporting.

Key Words: sustainable development; social and environmental policies; ESG reporting; gender diversity; audit committee.

1. Introduction

In recent years, environmental, social and governance (hereinafter ESG) issues have received a great deal of attention from individual shareholders, institutional investors, governments, local communities, employees and suppliers (Yu et al., 2018). As a result, firms have become more sophisticated in their ESG disclosures in order to satisfy their stakeholders' information demands (Amran et al., 2014; Helfaya and Moussa, 2017). In addition, disclosure of information on ESG issues is expected to prove beneficial in capital markets due to reduced information asymmetries and agency conflicts (Salama et al., 2011; Cheng et al., 2014). Addressing ESG issues has thus become critical to both business strategy (Lokuwaduge and Heenetigala, 2017) and policy-makers (i.e. Directive 2013/50/EU). Consequently, studying the determinants of ESG disclosures remains relevant for firms, regulators, and academics alike (Giannarakis, 2014a; Arayssi et al., 2016). However, although it is known that boards of directors are increasingly expected to take charge of corporate social reporting (Galbreath, 2018), the role of directors in ESG reporting remains unclear (Jizi, 2017).

This paper aims to fill the gap in previous literature by exploring the link between female representation on the audit committee (hereinafter AC) and the quality of voluntary ESG reporting by focusing on specific attributes of ESG disclosures. First, the AC is responsible for financial and non-financial information, and there is an ongoing professional and academic debate regarding the need for the AC to oversee corporate social responsibility (CSR) disclosures (KMPG, 2017; Al-Shaer and Zaman, 2018). Yet despite the significance of ESG information, previous research has thus far failed to analyze the impact of ACs on ESG voluntary disclosures. Second, measurement of ESG reporting is a controversial issue (De la Cuesta and Valor, 2013) and previous studies generally measure the extent of ESG information by employing content analysis

techniques or composite ratings (Giles and Murphy 2016; Iaonnou and Serafim 2017; Jizi, 2017), with the search for additional measures of ESG information remaining a challenge in the existing literature (Amran et al., 2014). In this sense, one of the main novelties of our paper is its analysis of specific information attributes of ESG disclosures that have been widely discussed by academics, policy-makers and professional bodies: namely, the comprehensiveness, relevance, and accessibility of this information. Third, this study aims to extend the debates regarding the role of female directors in the AC and their potential influence on social and environmental strategies. Researchers have increasingly questioned whether boards of directors and board subcommittees may be affected by gender diversity (Adams and Ferreira 2009; Mensi-Klarbach, 2014), and this discussion has also moved to the political sphere, with many countries advocating the need to establish quotas for female representation on boards (e.g. France, Italy, Norway, Spain, and the United Kingdom). In particular, there is consensus regarding women's greater orientation towards environmental issues (Agarwal, 2010; Kaijser and Kronsell, 2014; Perkins, 2007), and recent research has mobilized these ideas to investigate the influence of female directors on social and environmental strategies (Glass et al., 2016; Li et al. 2017; Horbach and Jacob, 2018). Analyzing the effect of gender diversity in the AC on specific attributes of ESG disclosures remains unexplored, yet may prove to be a major issue for companies and regulators with regard to setting up appropriate corporate governance mechanisms aimed at improving ESG reporting practices. Furthermore, as an additional objective, this paper provides a more in-depth analysis of the role played by women in the AC by examining whether the busyness of this committee and the intensity of its activity may moderate the effect of gender diversity on ESG disclosure practices.

Our sample is composed of Spanish listed firms in the Madrid Stock Exchange for the period 2012-2015. This sample provides a particularly interesting scenario because Spain is one of the pioneer countries in implementing laws aimed at encouraging the presence of women on boards of directors. In addition, the quality of voluntary ESG disclosures of Spanish listed firms is measured by a specialized agency (*Deva Comunicación Financiera y Sostenibilidad*), which develops a multidimensional index based on the information disclosed in the annual report, the sustainability report, and the integrated report. This rating considers different attributes in order to reflect the quality of voluntary ESG reporting: comprehensiveness, relevance and accessibility. Therefore, this offers a unique framework to assess ESG disclosures.

Our results point to a positive association between gender diversity in the AC and the quality of voluntary ESG disclosures, which result in greater comprehensiveness and relevance. Our findings contribute to CSR and environmental management literature by highlighting that the presence of women in the AC leads to more comprehensive and useful ESG information being disclosed for stakeholders. This heralds a step forward in the literature since it provides an understanding of how gender diversity in the AC influences specific attributes of ESG disclosures. We also contribute to corporate governance literature by extending the debate concerning whether the presence of women on boards and their committees has an effect on social and environmental strategies. In addition, our findings also report that the busyness of the AC, measured through the number of directorships held by its members, negatively moderates the influence of gender diversity. Consistent with previous research (Zona et al., 2013), when seeking to gain a clearer insight into their influence on ESG disclosures we emphasize the need to consider the context in which women work.

The following section provides a literature review and hypothesis development. The sample, method and results are then discussed. The final section reports the main conclusions.

2. Theoretical framework and hypothesis development

ESG reporting covers issues that are beyond economic concerns but which might also impact on economic aspects (Gray et al., 1995). ESG information has become extremely important in recent years and firms have been pressured to disseminate more useful information about ESG activities. ESG reporting practices indicate an effective corporate commitment to environmental responsibility and are a significant mechanism to safeguard stakeholders' interests (Helfaya and Moussa, 2017). In this sense, the disclosure of information on ESG issues has become crucial for stakeholders in their decisions (Eccles et al., 2011; Arayssi et al., 2016). In addition, revealing voluntary information reduces agency costs associated with moral hazard problems and information asymmetry between the firm and external stakeholders (Poshakwale and Courtis, 2005; Yu et al., 2018). Recent reports highlight that there is a disconnection about what firms disclose on ESG issues and what investors want to know (PriceWaterhouse, 2016), and investors and information intermediaries are increasingly demanding this information to integrate ESG data into their valuation models (Ioannou and Serafeim, 2015). Therefore, disclosure of ESG information minimizes these asymmetries and reduces uncertainty, thereby helping to improve access to finance and firm valuation (Cheng et al., 2014; Ioannou and Serafeim, 2017).

However, the evidence concerning the determinants of ESG reporting has been questioned in several cases due to the lack of a framework for assessing such disclosures (Zheng et al., 2014), which remain mainly non-standardized. The problem

of quality in ESG reporting has proven to be a complex issue in the literature (De la Cuesta and Valor, 2013). Despite the complexity involved in measuring the quality of ESG reporting, the comprehensiveness, relevance, and accessibility of this information are considered crucial attributes. First, the quality of ESG reporting can only be guaranteed if most of the information related to environmental, social and governance aspects concerning a firm is disclosed (Adams and Whelan, 2009). The comprehensiveness of ESG is crucial to stakeholders (Jain et al., 2015) and is also an indicator of information depth which can contribute to enhancing comparability (De la Cuesta and Valor, 2013). Second, the focus of ESG information for satisfying the information demands of financial analysts, investors and stakeholders in general should also fall on the relevance of these disclosures (Manetti and Becatti, 2009). Broadly speaking, companies must focus on disclosing information that is vital for stakeholders in their decision-making process and must report relevant information concerning the impact of their operations (European Commission, 2017). In addition, accessibility is important because communication objectives cannot be achieved without it (Davey and Homkajohn, 2004). Firms must also therefore be aware of the need to improve the accessibility of their ESG disclosures (Adelopo et al., 2012).

Nonetheless, despite the growing number of debates regarding ESG issues and their significance in capital markets, the role played by directors, and in particular ACs, in ESG reporting practices, remains an open question in the literature (Amran et al., 2014; Jifi, 2017). This is a current topic of debate since both professionals and academics have recently emphasized that the AC needs to take responsibility for non-financial information and to pay particular attention to CSR-related disclosures (EY, 2014; FERMA, 2014; Salehi and Shirazi, 2016, KPMG, 2014; Al-Shaer and Zaman, 2018).

This paper fills the gap in the literature by analyzing the effect of gender diversity in ACs on ESG disclosures.

Previous literature widely concurs that women display a greater orientation towards sustainability initiatives and are likely to contribute towards a greater awareness of the need to develop social disclosure strategies (Agarwal, 2010; Hossain et al., 2017; Horbach and Jacob, 2018). In this line, researchers have recently examined the association between female directors and CSR-related disclosures by using a number of theoretical frameworks. Specifically, agency theory and stakeholder theory have been widely used to explain the above relationship (Bear, 2010; Arayssi et al, 2016; Liao et al, 2015; Rao and Tilt, 2016; Helfaya et al, 2017; Husted and Sousa 2018; Galbreath, 2018). Consistent with these theoretical approaches, in this paper, we posit that female AC members, in particular, may improve ESG disclosure practices.

Specifically, from an agency perspective, ACs are an important control system for internal monitoring and shareholder protection (Fama and Jensen, 1983). As regards gender diversity, an AC containing women may lead to closer monitoring and greater reporting discipline (Adams and Ferreira, 2009; Srinidhi et al., 2011). In particular, women are likely to better oversee ESG reporting practices for several reasons. On the one hand, female directors bring specific beliefs and values, drawing higher levels of attention to social and environmental issues and, in AC meetings, women are expected to supervise ESG disclosures better (Galbreath, 2018; Husted and Sousa-Filho 2018). The literature also highlights that female directors stimulate more participative communication among board members, thus increasing the AC's ability to discuss and monitor ESG issues (Bear et al., 2010). Moreover, female directors are generally better prepared for meetings (Huse and Solberg, 2006) since they diligently scan for and collect information related to social and environmental issues, and are therefore more

ready to emphasize the benefits of ESG disclosures (Galbreath, 2018). In addition, female directors are more qualified and have greater relevant experience (Field et al., 2016), and previous research has documented that higher qualifications enable CSR issues to be monitored better, which can help the AC to integrate ESG information into voluntary disclosure practices (Giannirakis, 2014b). Women also approach their responsibilities as directors with greater commitment and involvement (Fondas and Sassalos, 2000; Huse and Solberg, 2006), which may lead to female AC members fulfilling their duties better, such as monitoring ESG reporting practices. In this line, the literature also suggests that female directors are also more likely to accept roles that are related to overseeing environmental and sustainable development matters (Liao et al., 2015).

In addition to the agency functions, consistent with stakeholder theory (Hill and Jones, 1992), ACs should increase a company's sustainable behavior and its accountability to its stakeholders. In this sense, stakeholders increasingly expect companies to be transparent about their ESG issues, and ACs are expected to take responsibility for ESG disclosures. Under this view, the potential effect of female AC members on ESG reporting practices may be explained by several reasons. First, women represent the concerns of the various stakeholders better (Bear et al., 2010). The presence of women in the AC is an opportunity to draw talent from a larger pool of population who are likely to be more stakeholder-oriented and maintain strong ties with key stakeholders (Arayssi et al., 2016). In particular, the literature agrees that female directors are more stakeholder oriented and more sensitive to CSR issues, which in turn may improve stakeholder engagement and promote ESG disclosures (Giannarakis, 2014b; Helfaya and Moussa, 2017). Women also tend to be more participative and democratic than men (Eagly et al., 2003), which would probably encourage even greater levels of debate

regarding a firm's stakeholders and the attention paid to ESG issues (Galbreath 2018). Both increased sensitivity and participative decision-making styles commonly account for the fact that female directors are more proactive towards social and environmental disclosures in an effort to satisfy stakeholders' information needs (Rao and Tilt, 2016).
In line with the previous arguments, the following hypothesis is formulated:
H1: There is a positive association between gender diversity in the AC and the quality of voluntary ESG disclosures.

Female directors may, however, prove to be more effective at improving ESG disclosures depending on the context in which they work. Given that establishing adequate ESG disclosure policies requires a high degree of dedication, coordination and commitment, we examine how the activity of the AC may moderate the role of women in ESG disclosure process. In particular, we focus on the busyness of the AC (average number of AC member directorships) and the intensity of its activity (number of meetings). Both features can determine women's ability to influence the AC's tasks, and are explained below.
The number of directorships has been the subject of debate in economic research (Hamdan, 2018), and two opposing views have commonly been used in the literature to explain the consequences of director interlocking. In particular, the number of AC member directorships may influence ESG disclosures for several reasons.

On the one hand, interlocking AC members are able to obtain greater access to information in more than one company, thus increasing AC involvement in CSR issues and stimulating potential adoption of CSR practices (Razek, 2014; Jain et al., 2015). Moreover, AC members who exercise their functions on the boards of different firms may also be in a better position to update firms' environmental information and

knowledge since their simultaneous access to different networks provides experience in different contexts (Ortiz de Mandojana and Aragon-Correa, 2015). These AC members may also promote voluntary ESG disclosures since they have a greater capacity to manage the development of stakeholder information needs (Lenox and King, 2004). Specifically, these directors may better implement ESG reporting practices because they gain experience of managing environmental issues in different situations, and can manage information concerning environmental standards, practices, regulations, and societal expectations better (Ortiz de Mandojana and Aragon-Correa, 2015).

On the other hand, AC members holding multiple board appointments may be incapable of effectively monitoring all the firms they represent, thus supporting the busyness hypothesis (Fich and Shivdasani, 2006). Holding multiple directorships diminishes directors' dedication because AC members become over-committed and lack the time to perform their tasks properly (Fernández-Méndez et al., 2017). This might also reduce AC member coordination, since busy directors, namely those holding multiple appointments, tend to be absent from meetings (Jiraporn et al., 2009). Specifically, overseeing CSR reporting practices requires a great deal of attention (Giannarakis, 2014b) and AC members are expected to be highly involved if they are to effectively address ESG issues (Galbreath, 2018). Consequently, we assume that at higher levels of busyness, the role of female directors in the AC will be less effective. We therefore formulate the following hypothesis:

H2: The link between gender diversity in the AC and the quality of ESG disclosures is negatively influenced by the committee's busyness.

The intensity of a board or committee's activity is a value-relevant attribute when seeking to improve their effectiveness. Previous research has generally used the number

of meetings as a measure of the activity and/or diligence of a board or committee, under the assumption that more activity contributes to better monitoring managers' ability to take decisions (Brick and Chidambaran, 2010). In theory, a large number of AC meetings is likely to improve reporting practices by leading to greater control over disclosure process (Al-Mudhaki and Joshi, 2004). Little attention has been devoted to the relationship between AC meetings and CSR reporting practices, yet the existing empirical evidence confirms that AC members who attend frequent meetings are more likely to enhance the quality of non-financial reporting, and particularly voluntary CSR disclosures (Li et al., 2012; Allegrini and Greco 2013; Frías-Aceituno et al., 2013; Naseem et al., 2017). This association can be explained because ACs that hold large numbers of meetings are likely to allocate more time to analyzing and addressing stakeholders' information needs and to overseeing voluntary disclosure practices (Naseem et al., 2017). Specifically, frequent AC meetings can improve the discussion of ESG issues, thus enabling ESG information to be included in corporate disclosure policies (Giannarakis, 2014b). In addition, the number of meetings may also improve director commitment (Yin et al., 2012) and therefore the promotion of ESG disclosures practices in order to better fulfill their tasks. Consistent with these arguments, we expect women in ACs to have a greater effect on ESG reporting practices if the number of committee meetings is high. We thus posit the next hypothesis:

H3: The link between gender diversity in the AC and the quality of ESG disclosures is positively influenced by the committee's activity.

3. Data and methodology

3.1. Sample and data

Our final sample is composed of firms listed on the Madrid Stock Exchange for the period 2012-2015. Spain is a particularly relevant setting to examine the role of female AC members since it is one of the pioneer countries in promoting the presence of women on boards. In addition, the quality of voluntary ESG disclosures is measured by a specialized agency, *Deva Comunicación Financiera y Sostenibilidad (DEVA)*[1], which provides specific measures for the comprehensiveness, relevance and accessibility of this information. Information about directors was manually collected by examining the biography of the 1,353 AC members from the selected firms for the period between 2012 and 2015. These biographies were obtained from the firms' annual reports or corporate governance reports and, where necessary, by examining other public sources such as *Bloomberg Business Week*. Finally, financial data were extracted from Datastream. The final sample comprises 375 observations.

3.2. Variables and empirical model

The dependent variable is based on the information provided by the *Informe Reporta,* published by *Deva Comunicación Financiera y Sostenibilidad*. This agency produces several rankings to measure the quality of voluntary ESG disclosures of firms listed in the Madrid Stock Exchange General Index. These rankings provide quantitative scores for every listed firm regarding specific information attributes linked to the quality of voluntary ESG reporting: its comprehensiveness, relevance and accessibility. In this paper, we consider three measures for voluntary ESG disclosures, taking into consideration each of these rankings. First, the comprehensiveness score (COMPR) measures the completeness of ESG information. Second, the relevance score (RELEV) considers the disclosure of the environmental and social impact of a firm's activity in

[1] For more detail, visit the www.informereporta.com website.

order to improve the decision-making of financial analysts, investors and stakeholders in general. Third, the accessibility score (ACCESSIB) measures whether access to a firm's ESG disclosures is clear and easy for stakeholders. Construction of these scores focuses on the extent to which several indicators are fulfilled, selected by using criteria based on a number of principles and topics relevant to all of a firm's different stakeholders and which have been considered in the recommendations for good reporting practices issued by The Global Reporting Initiative (GRI), AA1000 Accountability Principles, the Dow Jones Sustainability Index (DJSI), FTSE4Good, and the International Integrated Reporting Council (IIRC). For example, the comprehensiveness score relies on the disclosure of a number of information items, such as environmental policy, corporate social strategy, integration of sustainability issues into business operations, corporate governance structures, and code of business conduct and ethics. The relevance score focuses on indicators related to the identification of stakeholders' information needs, the inclusion of relevant ESG issues for stakeholders, the extent of ESG information on these relevant issues, among others. Finally, the criteria employed to calculate the accessibility score consider the availability of information, web accessibility and usability. Each indicator is individually examined and valued by a group of independent analysts in addition to being supervised by experts in the reporting field.

In line with previous studies (Gordini and Rancati, 2017; Garcia-Martinez et al., 2017), the main explanatory variable, gender diversity in the AC, is measured by means of a Blau index (BLAU). As a sensibility test, we use the percentage of women in the AC (PGENDER) as an alternative measure for gender diversity (Rodrigues et al., 2017).

The two moderating variables, busyness and frequency of AC meetings, have been considered in the model (Al-Shaer and Zaman, 2016; Rao and Tilt, 2016). AC busyness

(BUSY) refers to the average number of boards on which AC members served in a given year. The intensity of the AC's activity (MEETINGS) is measured by yearly AC meeting frequency.

In addition, various AC-related variables are included as control variables (Ahmed Haji et al., 2016; Li et al., 2012): size, independence, and tenure. AC size (ACSIZE) refers to the total number of members on the committee. AC independence (INDEP) is calculated by the proportion of independent directors within a committee. AC tenure (TENURE) is computed as the average number of years that AC members spent on a particular committee. Based on meta-analyses of disclosure studies (Chavent et al., 2006), we also control for several variables felt to be related to voluntary ESG disclosure practices: firm leverage, firm size, profitability and industry. Firm leverage (LEVERAGE) is measured with the ratio of total debt to total assets. Furthermore, the size of the firm (SIZE) is calculated as the logarithm of total assets. In addition, firm profitability (ROA) is calculated as the return on total asset ratio. Finally, dummy variables (two-digit SIC codes) are also included to control for the industry effect (Sector dummies).

Table 1 provides a summary of the variables and their definitions.

[Table 1 here]

Our database combines time-series and cross-sectional data to form panel data. Thus, to test the hypotheses formulated, we employ a panel data estimation model for the regression analysis where the different measures for the quality of voluntary ESG disclosures are regressed on independent and control variables. A panel data approach allows us to effectively control for possible unobserved heterogeneity (i.e., the existence of time-invariant explanatory variables that are not observed but correlated with the

observed explanatory variables). Therefore, within-firm changes are used to explain variations in the dependent variable (Coles et al. 2008). We use the Hausman test to determine whether a fixed effects (FE) or random effects (RE) estimation model is the most suitable.

The general model used to test our hypothesis is presented in Equation 1:

$$\text{ESG DISCLOSURES}_{i,t} = \beta_0 + \beta_1 \text{BLAU}_{i,t} + \beta_2 \text{BUSY}_{i,t} + \beta_3 \text{MEETINGS}_{i,t} + \beta_4 \text{ACSIZE}_{i,t} + \beta_5 \text{INDEP}_{i,t} + \beta_6 \text{TENURE}_{i,t} + \beta_7 \text{LEVERAGE}_{i,t} + \beta_8 \text{SIZE}_{i,t} + \beta_9 \text{ROA}_{i,t} + \sum_{J=1}^{6} \beta_{10} \text{ Sector dummies}_{jt} + \mu_i + \varepsilon_{it}$$

Equation [1]

where β0 is the intercept, and βi is the coefficient of each independent variable. i identifies the individual and t the year; μi represents the fixed individual effect; and εit, the stochastic error. The stochastic error term combines both the measurement error of any independent variable and the omission of explanatory variables.

4. Empirical results

4.1. Descriptive statistics

Table 2 provides the main descriptive statistics for our variables. As regards the measures for ESG disclosures, it can be seen that all the variables present a significant range of values. Although the sample is composed of large listed firms, their ESG reporting practices differ with regard to their comprehensiveness, relevance, and accessibility. Women are clearly underrepresented, since female directors only average 13.5% of total AC membership. Although not reflected in this table, the percentage of women in the AC did, however, increase over the time horizon from 11.4% in 2012 to 15.24% in 2015. The average number of AC member directorships exceeds 2.3. The AC

meets around seven times a year, and is composed of nearly four members on average, the vast majority of whom are independent directors.

[Table 2 here]

The correlation coefficients are reported in Table 3. In particular, results show a positive association between all the information attributes related to the quality of ESG disclosures and the presence of women in the AC. Furthermore, several control variables also seem to be positively correlated with the information measures.

[Table 3 here]

4.2. Main analysis

The results of the multivariate analysis are presented in Table 4. Columns 1-3 report the association between each dependent variable and gender diversity in the AC. Results show a positive and statistically significant association between the presence of female directors in the AC (BLAU) and the comprehensiveness (COMPR) and relevance (RELEV) of ESG disclosures (p-value<0.001). Moreover, results fail to find an association between female AC members (BLAU) and the accessibility (ACCESSIB) of voluntary ESG information. As regards the control variables, the average number of AC member directorships (BUSY), AC member tenure (TENURE) and the number of AC meetings (MEETINGS) are positively related to the comprehensiveness (COMPR) and relevance (RELEV) of ESG disclosures. In addition, a positive association between firm size (SIZE) and profitability (ROA) and most of the variables for ESG disclosures can also be observed.

[Table 4 here]

As a sensitivity analysis, all the regressions were re-run, including a different variable (PWOMEN) for our main explanatory variable, which refers to the proportion of women in the AC. For brevity, results are unreported, yet confirm the role played by women in the AC vis-à-vis establishing better voluntary ESG reporting practices and lead us to support Hypothesis H1.

One possible problem when analyzing linkages between the quality of voluntary disclosures and corporate governance is the issue of endogeneity between the dependent and independent variables, and one problem associated with endogeneity is reverse causality (Adams and Ferreira, 2009). In other words, boards of socially responsible companies can be more attractive and may more easily recruit more women than boards of non-socially responsible companies (Webb, 2004). In this sense, women might not randomly join company boards of directors but choose those with better disclosure practices, since this can enhance their reputations and avoid them taking on an additional workload (Abernathy et al., 2013; Dou et al., 2015). Therefore, reverse causality endogeneity implies that, beyond the potential effect of female AC members on ESG disclosures, firms with better ESG reporting practices might also attract female directors. We use simultaneous equations to address this endogeneity problem (Carter et al, 2010; Cheng et al, 2014). This methodology provides efficient estimates when error terms can be correlated across equations. Thus, estimating the model is like a problem of seemingly unrelated regressions with the difference that some explanatory variables may be endogenous (López and Morrós, 2014). This procedure employs an estimation via three-stage least squares (3SLS). A system of two equations using the three-stage least squares method was therefore estimated. The first equation is the general model proposed in our study, considering each of our ESG disclosure measures as the dependent variable: COMPR (Model 1), RELEV (Model 3), and ACCESSIB (Model

5); and the presence of women in the AC (BLAU) as the independent variable. The second equation seeks to explain the determinants of gender diversity by using the variable BLAU as the dependent variable and the measures related to voluntary ESG disclosures as independent variables (Model 2, Model 4, and Model 6). In this second equation, in addition to the previous control variables, we also incorporated the logarithm of directors' remunerations (REMUNERATION) as an explanatory variable of the presence of women in the AC. Although director remuneration should not differ by sociodemographic attributes, recent research has highlighted that female directors receive lower compensation than their male counterparts (Bozhinov et al, 2017; Fedaseyeu et al, 2018; Field et al, 2016). The results, presented in Table 5, confirm the existence of a link between voluntary ESG disclosure and gender diversity in the AC.

[Table 5 here]

In the next stage of the study, we analyze how two specific characteristics of the AC (busyness and meetings) influence the relationship between the quality of voluntary ESG disclosures and the presence of female directors on this committee. Variables were centered at their within-firm mean which control for firms' unobserved time-invariant characteristics. Table 6 presents the results from the regression analyses, including the interaction of the variable related to gender diversity with both the variables for busyness (BUSY) and number of AC meetings (MEETINGS). Models 1-6 report the potential moderation of these AC characteristics in the link between each measure concerning the disclosure of ESG information and gender diversity. As regards the interaction between gender diversity in the AC and its busyness (Model 1, Model 3, and Model 5), our evidence shows that directorships (BLAU*BUSY) negatively moderate the relationship between the comprehensiveness (COMPR) and relevance (RELEV) of voluntary ESG reporting and the presence of women in the AC (BLAU), thus

supporting Hypothesis 2. Model 2, Model 4, and Model 6 provide the coefficient of the interaction between gender diversity and AC meetings (BLAU*MEETINGS). In this case, we fail to find a significant effect of the number of AC meetings (BLAU*MEETINGS) on the link between the quality of voluntary ESG disclosures (COMPR, RELEV, and ACCESSIB) and the presence of women in the AC (BLAU). These findings suggest that the effect of female AC members on ESG reporting practices remains the same regardless of how intense the committee's activity is. Therefore, Hypothesis 3 is not supported. Although the frequency of meetings seems to individually affect ESG disclosures, its influence on the role of gender diversity in the AC is negligible.

[Table 6 here]

To further explain these findings, the results of the interaction analyses for the variable 'BUSY' are shown in Figures 1 ('COMPR'), and Figure 2 ('RELEV'). The impact of busy ACs on the relationship between gender diversity in the AC and the quality of voluntary disclosures can be observed in these figures.

[Insert Figures 1 and 2 here]

5. Discussion

This study seeks to explore the relationship between gender diversity in the AC and the quality of voluntary ESG disclosures by focusing on the comprehensiveness, relevance and accessibility of this information. Our results present a step forward in social and environmental studies and also contribute to the literature concerning business strategy and corporate governance.

First, how ESG reporting may or should be measured is a controversial issue in the literature (De la Cuesta and Valor, 2013). Previous studies have mainly used content analysis techniques (Giles and Murphy 2016; Lokuwaduge and Heenetigala, 2017) and composite ratings such as ASSET4 or Bloomberg to measure the extent of ESG information (Arayssi et al., 2016; Iaonnou and Serafim 2017; Jizi, 2017). However, the search for additional measures of social or environmental information is one of the challenges in the existing literature (Amran et al., 2014). As commented on in the theoretical framework, comprehensiveness, relevance, and accessibility in voluntary reporting has become an important subject of debate for academics, professional bodies, and policy-makers alike. Analyzing these information attributes enhances our understanding of ESG reporting practices.

Second, despite the increasing attention paid to gender diversity, previous literature has failed to provide evidence on the role of female AC members in the ESG reporting process. In the corporate sphere, some studies have indicated that gender diverse boards are associated to better CSR strategies (Bear et al., 2010; Glass et al., 2016; Li et al. 2017; Zhang et al., 2018). In particular, recent research has suggested that the presence of women on boards is linked to improvements in the extent of CSR information (Arayssi et al., 2016; Rao and Tilt, 2016; Helfaya and Moussa, 2017). Moreover, several studies have also examined the influence of women directors on the assurance of CSR information (Amran et al., 2014; Al-Shaer and Zaman, 2016). This branch of literature generally focuses on how women impact on the board of directors, although recent trends emphasize that ESG information should be a key subject for ACs (FERMA, 2014; Al-Shaer and Zaman, 2018).

We extend the previous literature by showing that gender diversity in the AC has a positive impact on the comprehensiveness and relevance of ESG. Our evidence

reinforces the role of gender diversity in the AC, since these information attributes are relevant for stakeholders, enhancing efficiency in capital markets and also prove beneficial for firms by improving the cost of finance and corporate reputation. From a theoretical point of view, women may act as monitoring mechanisms in the AC vis-à-vis increasing the commitment to provide valuable ESG information. In addition, women may push ACs to display greater stakeholder orientation and to place greater emphasis on comprehensive and relevant ESG reporting practices.

Our evidence also provides a new insight into the literature since the influence of female AC members on the comprehensiveness and relevance of ESG disclosures appears to be negatively moderated by AC busyness. Some studies have suggested that the association between gender diversity and corporate strategies might be moderated by contextual factors, although further inquiry is needed on this issue (Li et al., 2017). Our results highlight that, regardless of the presence of female directors in the AC, committees whose members are overcommitted display a negative relationship with the comprehensiveness and relevance of ESG information. The busyness of the AC is likely to affect the degree of dedication, coordination and commitment of AC members and, as a result, how effective the AC is in the disclosure process. Additional appointments can lead to inadequate control of a firm's ESG information, thus affecting the quality of ESG disclosures.

6. Conclusions

This paper provides new empirical evidence concerning the effect of gender diversity in the AC on the quality of voluntary ESG disclosures. Unlike previous studies, our analysis focuses on specific information attributes (comprehensiveness, relevance and

accessibility) to capture the quality of ESG disclosures. We find that the presence of women in the AC influences the comprehensiveness and relevance of ESG information.

Due to ongoing political debates regarding female representation on boards, listed companies are being forced to think about how to solve the problem of female under-representation on their boards and committees. One major concern is whether or not women who serve on boards and committees contribute economically. Our results present a strong business case for increasing gender diversity on board sub-committees since our evidence extends the academic debate on the benefits derived from having women serving on the AC. Furthermore, given the importance of ESG disclosures in capital markets, for firms, policy-makers and stakeholders in general, understanding the relationships between gender diversity in the AC and the quality of ESG reporting would help regulators and owners to establish appropriate corporate governance mechanisms.

Since prior research has highlighted the importance of considering a contextual approach (Zona et al., 2013; Li et al., 2017) in order to understand the effect of directors on firm outcomes, we also study the moderating influence of the AC's activity (busyness and meetings) on the role played by female AC members. Our findings extend previous research by showing that the busyness of ACs negatively moderates the effect of women in the AC on disclosure practices. This evidence contributes to the debate concerning the need to consider the context in which women work if their influence is to be understood better, which will have direct implications for academics, firms and regulators.

This paper evidences certain limitations that may be considered when undertaking future research. First, although Spain offers a relevant context for analyzing gender diversity and ESG information attributes, future research might explore different legal

and/or institutional contexts, since the effect of directors may vary across environments. Specific female characteristics and other types of social disclosures could also be examined. In addition, other moderating factors, apart from the AC's activity, could be studied, such as specific characteristics related to the board or to companies. Despite these limitations, our evidence provides several interesting insights concerning the role of AC members in ESG reporting practices, and creates new and encouraging opportunities for research.

References

Abernathy, J. L., Herrmann, D., Kang, T., & Krishnan, G. V. (2013). Audit committee financial expertise and properties of analyst earnings forecasts. *Advances in Accounting*, **29**(1), 1-11.

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, **94**(2): 291-309.

Adams, C. A., & Whelan, G. (2009). Conceptualising future change in corporate sustainability reporting. *Accounting, Auditing & Accountability Journal*, **22**(1), 118-143.

Adelopo, I., Cea Moure, R., Vargas Preciado, L., & Obalola, M. (2012). Determinants of web-accessibility of corporate social responsibility communications. *Journal of Global Responsibility*, **3**(2), 235-247.

Agarwal, B. (2010). Gender and green governance. Oxford: Oxford University Press.

Ahmed Haji, A., Ahmed Haji, A., Anifowose, M., & Anifowose, M. (2016). Audit committee and integrated reporting practice: does internal assurance matter? *Managerial Auditing Journal*, **31**(8/9), 915-948.

Allegrini, M., & Greco, G. (2013). Corporate boards, audit committees and voluntary disclosure: Evidence from Italian listed companies. *Journal of Management & Governance*, **17**(1), 187-216.

Al-Mudhaki, J., & Joshi, P. L. (2004). The role and functions of audit committees in the Indian corporate governance: empirical findings. *International Journal of Auditing*, **8**(1), 33-47.

Al-Shaer, H., & Zaman, M. *(2016).* Board gender diversity and sustainability reporting quality. *Journal of Contemporary Accounting & Economics*, **12**(3), 210-222.

Al-Shaer, H., & Zaman, M. (2018). Credibility of sustainability reports: The contribution of audit committees. *Business Strategy and the Environment*.

Amran, A., Lee, S. P., & Devi, S. S. (2014). The influence of governance structure and strategic corporate social responsibility toward sustainability reporting quality. *Business Strategy and the Environment,* **23**(4), 217-235.

Arayssi, M., Dah, M., & Jizi, M. (2016). Women on boards, sustainability reporting and firm performance. *Sustainability Accounting, Management and Policy Journal*, **7**(3), 376-401.

Bear, S., Rahman, N., & Post, C. (2010). The impact of board diversity and gender composition on corporate social responsibility and firm reputation. *Journal of Business Ethics*, **97**(2), 207-221.

Brick, I. E., & Chidambaran, N. K. (2010). Board meetings, committee structure, and firm value. *Journal of Corporate Finance*, **16**(4), 533-553.

Bozhinov, V., Koch, C., & Schank, T. (2017). Has the push for equal gender representation changed the role of women on German supervisory boards? IZA Discussion Papers, No. 11057, Institute of Labor Economics (IZA), Bonn.

Carter, D. A., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The gender and ethnic diversity of US boards and board committees and firm financial performance. *Corporate Governance: An International Review*, **18**(5), 396-414.

Chavent, M., Ding, Y., Fu, L., Stolowy, H., & Wang, H. (2006). Disclosure and determinants studies: An extension using the divisive clustering method (DIV). *European Accounting Review*, **15**(2), 181-218.

Cheng, B., Ioannou, I., & Serafeim, G. (2014). Corporate social responsibility and access to finance. *Strategic Management Journal*, **35**(1), 1-23.

Coles, J.L., Naveen D., & Naveen, L. (2008). Boards: Does one size fit all? *Journal of Financial Economics,* **87**(2), 329-356.

Davey, H., & Homkajohn, K. (2004). Corporate internet reporting: an Asian example. *Problems and perspectives in management,* **2**(2), 211-227.

de la Cuesta, M., & Valor, C. (2013). Evaluation of the environmental, social and governance information disclosed by Spanish listed companies. *Social Responsibility Journal*, **9**(2), 220-240.

Dou, Y., S. Sahgal, and E. J. Zhang. 2015. Should Independent Directors Have Term Limits? The Role of Experience in Corporate Governance. *Financial Management*, **44** (3): 583–621.

Eagly, A. H., Johannesen-Schmidt, M.C., & Van Engen, M.L. (2003). Transformational, transactional, and laissez-faire leadership styles: a meta-analysis comparing women and men. *Psychological Bulletin,* **129**(4): 569-591.

Eccles, R. G., Serafeim, G., & Krzus, M. P. (2011). Market interest in nonfinancial information. *Journal of Applied Corporate Finance*, **23**(4), 113-127.

EY (2014). The audit committee leadership summit. ViewPoints, Issue, 25.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The journal of law and Economics*, **26**(2), 301-325.

Fedaseyeu, V., Linck, J. S., & Wagner, H. F. (2018). Do qualifications matter? New evidence on board functions and director compensation. *Journal of Corporate Finance*, 48, 816-839.

FERMA. (2014). *Audit and risk committees: Guidance for boards*. ECIAA.

Fernández-Méndez, C., Arrondo-García, R., & Pathan, S. (2017). Monitoring by busy and overlap directors: an examination of executive remuneration and financial reporting quality. *Spanish Journal of Finance and Accounting/Revista Española de Financiación y Contabilidad*, **46**(1), 28-62.

Fich, E. M., & Shivdasani, A. (2006). Are busy boards effective monitors? *The Journal of Finance,* **61**(2), 689-724.

Field, L.C., Souther, M.E., & Yore, A. (2016). Does Diversity Pay in the Boardroom? https://ssrn.com/abstract=2810543.

Fondas, N., & Sassalos, S. (2000). A different voice in the boardroom: How the presence of women directors affects board influence over management. *Global focus*, **12**(2), 13-22.

Frías-Aceituno, J. V., Rodriguez-Ariza, L., & Garcia-Sanchez, I. M. (2013). The role of the board in the dissemination of integrated corporate social reporting. *Corporate social Responsibility and Environmental Management*, **20**(4), 219-233.

Galbreath, J. (2018). Do Boards of Directors Influence Corporate Sustainable Development? An Attention Based Analysis. *Business Strategy and the Environment*, In press.

Garcia-Martinez, M., Zouaghi, F., & Garcia Marco, T. (2017). Diversity is strategy: the effect of R&D team diversity on innovative performance. *R&D Management*, **47**(2), 311-329.

Giannarakis, G. (2014a). Corporate governance and financial characteristic effects on the extent of corporate social responsibility disclosure. *Social Responsibility Journal*, **10**(4), 569-590.

Giannarakis, G. (2014b). The determinants influencing the extent of CSR disclosure. *International Journal of Law and Management*, **56**(5), 393-416.

Giles, O. A., & Murphy, D. (2016). SLAPPed: the relationship between SLAPP suits and changed ESG reporting by firms. *Sustainability Accounting, Management and Policy Journal*, **7**(1), 44-79.

Glass, C., Cook, A., & Ingersoll, A. R. (2016). Do women leaders promote sustainability? Analyzing the effect of corporate governance composition on environmental performance. *Business Strategy and the Environment*, **25**(7), 495-511.

Gordini, N., & Rancati, E. (2017). Gender diversity in the Italian boardroom and firm financial performance. *Management Research Review,* **40**(1), 75-94.

Gray, R., Kouhy, R., & Lavers, S. (1995). Corporate social and environmental reporting: a review of the literature and a longitudinal study of UK disclosure. *Accounting, Auditing & Accountability Journal,* **8**(2), 47-77.

Hamdan, A. (2018). Board interlocking and firm performance: the role of foreign ownership in Saudi Arabia. *International Journal of Managerial Finance*, **14**(3), 266-281.

Helfaya, A., & Moussa, T. (2017). Do board's corporate social responsibility strategy and orientation influence environmental sustainability disclosure? UK Evidence. *Business Strategy and the Environment,* **26**(8).

Hill, C. W., & Jones, T. M. (1992). Stakeholder-agency theory. *Journal of Management Studies*, **29**(2), 131-154.

Horbach, J., & Jacob, J. (2018). The relevance of personal characteristics and gender diversity for (eco) innovation activities at the firm-level: Results from a linked employer–employee database in Germany. *Business Strategy and the Environment*, In press.

Hossain, M., Farooque, O. A., Momin, M. A., & Almotairy, O. (2017). Women in the boardroom and their impact on climate change related disclosure. *Social Responsibility Journal*, **13**(4), 828-855.

Huse, M., & Solberg, A. (2006). Gender-related boardroom dynamics: How Scandinavian women make and can make contributions on corporate boards. *Women in Management Review*, **21**(2), 113-130.

Husted, B. W., & de Sousa-Filho, J. M. (2018). Board structure and environmental, social, and governance disclosure in Latin America. *Journal of Business Research*, In press.

Ioannou, I., & Serafeim, G. (2015). The impact of corporate social responsibility on investment recommendations: Analysts' perceptions and shifting institutional logics. *Strategic Management Journal,* **36**(7), 1053-1081.

Ioannou, I., & Serafeim, G. (2017). *The consequences of mandatory corporate sustainability reporting.*

Jain, A., Keneley, M., & Thomson, D. (2015). Voluntary CSR disclosure works! Evidence from Asia-Pacific banks. *Social Responsibility Journal,* **11**(1), 2-18.

Jiraporn, P., Davidson, W.N., DaDalt, P., & Ning, Y. (2009). Too busy to show up? An analysis of directors' absences. *The Quarterly Review of Economics and Finance*, **49** (3), 1159-1171.

Jizi, M. (2017). The influence of board composition on sustainable development disclosure. *Business Strategy and the Environment. **26**(5), 640-655.*

Kaijser, A., & Kronsell, A. (2014). Climate change through the lens of intersectionality. *Environmental Politics*, **23**(3), 417-433.

KPMG. (2014). Global Audit Committee Survey. London: KPMG Audit Committee Institute.

KPMG. (2017). Audit Committee Handbook. London: KPMG Audit Committee Institute.

Lenox M, & King A. (2004). Prospects for developing absorptive capacity through internal information provision. *Strategic Management Journal*, **25**, 331-345.

Liao, L., Luo, L., & Tang, Q. (2015). Gender diversity, board independence, environmental committee and greenhouse gas disclosure. *The British Accounting Review*, **47**(4), 409-424.

Li, J., Mangena, M., & Pike, R. (2012). The effect of AC characteristics on intellectual capital disclosure. *The British Accounting Review*, **44**(2), 98-110.

Li, J., Zhao, F., Chen, S., Jiang, W., Liu, T., & Shi, S. (2017). Gender diversity on boards and firms' environmental policy. *Business Strategy and the Environment,* **26**(3), 306-315.

Lokuwaduge, C. S. D. S., & Heenetigala, K. (2017). Integrating environmental, social and governance (ESG) disclosure for a sustainable development: an Australian study. *Business Strategy and the Environment,* **26**(4), 438-450.

López, F. J., & Morrós, I. (2014). Boards of directors and firm performance: the effect of multiple directorships. *Spanish Journal of Finance and Accounting/Revista Espanola de Financiacion y Contabilidad*, 43(2), 177-192.

Manetti, G., & Becatti, L. (2009). Assurance services for sustainability reports: Standards and empirical evidence. *Journal of Business Ethics,* **87**(1), 289-298.

Mensi-Klarbach, H. (2014). Gender in top management research: Towards a comprehensive research framework. *Management Research Review*, **37**(6), 538-552.

Naseem, M. A., Rehman, R. U., Ikram, A., & Malik, F. (2017). Impact of board characteristics on corporate social responsibility disclosure. *Journal of Applied Business Research*, **33**(4), 801.

Ortiz-de-Mandojana, N., & Aragon-Correa, J. A. (2015). Boards and sustainability: the contingent influence of director interlocks on corporate environmental performance. *Business Strategy and the Environment,* **24**(6), 499-517.

Perkins, P.E. (2007). Feminist ecological economics and sustainability. *Journal of Bioeconomics*, **9**(3), 227-244.

Poshakwale, S., & Courtis, J. K. (2005). Disclosure level and cost of equity capital: evidence from the banking industry. *Managerial and Decision Economics*, ***26***(7), 431-444.

Pricewaterhouse Coopers. (2016). Investors, corporates, and ESG: Bridging the gap. United States: Pricewaterhouse Coopers.

Rao, K., & Tilt, C. (2016). Board diversity and CSR reporting: an Australian study. *Meditari Accountancy Research,* **24**(2), 182-210.

Razek, M. A. (2014). The association between corporate social responsibility disclosure and corporate governance: a survey of Egypt. *Research Journal of Finance and Accounting*, **5**(1), 93-98.

Rodrigues, L. L., Tejedo-Romero, F., & Craig, R. (2017). Corporate governance and intellectual capital reporting in a period of financial crisis: Evidence from Portugal. *International Journal of Disclosure and Governance*, **14**(1), 1-29.

Salama A, Anderson K, & Toms J. (2011). Does community and environmental responsibility affect firm risk? Evidence from UK panel data 1994–2006. *Business Ethics* **20**(2): 192–204.

Salehi, M., & Shirazi, M. (2016). Audit committee impact on the quality of financial reporting and disclosure: Evidence from the Tehran stock exchange. *Management Research Review*, **39**(12), 1639-1662.

Srinidhi, B., Gul, F. A., & Tsui, J. (2011). Female directors and earnings quality. *Contemporary Accounting Research*, **28**(5), 1610-1644.

Webb, E. (2004). An examination of socially responsible firms' board structure. *Journal of Management and Governance*, **8**(3), 255–277.

Yin, F., Gao, S., Li, W., & Lv, H. (2012). Determinants of audit committee meeting frequency: evidence from Chinese listed companies. *Managerial Auditing Journal*, **27**(4), 425-444.

Yu, E. P. Y., Guo, C. Q., & Luu, B. V. (2018). Environmental, social and governance transparency and firm value. *Business Strategy and the Environment*, In press.

Zhang, J., Han, J., & Yin, M. (2018). A female style in corporate social responsibility? Evidence from charitable donations. *International Journal of Disclosure and Governance*, **15**(3), 185-196.

Zheng, L., Balsara, N., & Huang, H. (2014). Regulatory pressure, blockholders and corporate social responsibility (CSR) disclosures in China. *Social Responsibility Journal,* **10**(2), 226-245.

Zona, F., Zattoni, A., & Minichilli, A. (2013). A contingency model of boards of directors and firm innovation: The moderating role of firm size. *British Journal of Management*, **24**(3), 299-315.

Tables

Table 1. Description of variables

Variable	Definition
COMPR	Measure of the comprehensiveness of voluntary ESG disclosures
RELEV	Measure of the relevance of voluntary ESG disclosures
ACCESSIB	Measure of the accessibility of voluntary ESG disclosures
BLAU	Blau index of gender diversity in the AC
PWOMEN	Proportion of women in the AC
BUSY	Average number of directorships of AC members in a year
MEETINGS	Number of AC meetings by year
ACSIZE	Number of directors in the AC
INDEPENDENCE	Percentage of independent directors within the AC
TENURE	Average tenure (number of years) of AC members
LEVERAGE	Ratio of total debt to total assets
SIZE	Logarithm of total assets (thousands of euros)
ROA	Return on assets (EBIT divided by total assets)
Sector dummies	Dummy variables (two-digit SIC codes)

Table 2. Descriptive statistics of the main variables

Variables	Mean	Std. Dev.	Q1	Median	Q3
COMPR	13.877	9.489	4.050	13.800	22.400
RELEV	12.352	8.579	4.400	12.500	19.800
ACCESSIB	8.037	4.117	5.000	8.500	11.300
BLAU	0.167	0.207	0.000	0.000	0.375
PGENDER	0.135	0.181	0.000	0.000	0.250
BUSY	2.339	0.985	1.667	2.250	3.000
MEETINGS	6.976	2.972	5.000	6.000	9.000
ACSIZE	3.602	0.954	3.000	3.000	4.000
INDEPENDENCE	0.947	0.141	1.000	1.000	1.000
TENURE	6.971	4.203	4.000	6.333	9.268
LEVERAGE	0.684	0.295	0.496	0.702	0.896
SIZE	14.688	2.482	12.711	14.556	16.381
ROA	2.792	7.900	0.540	3.150	6.541

The description of all the variables is presented in Table 1. Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 3. Correlation matrix and variance inflation factors

	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1)	COMPR		0.932***	0.817***	0.224***	0.223***	0.233***	0.331***	0.025	0.048	-0.005	0.124***	0.595***	0.114**
(2)	RELEV			0.779***	0.231***	0.217***	0.208***	0.320***	0.053	0.068	-0.043	0.066	0.592***	0.148***
(3)	ACCESSIB				0.151***	0.138***	0.225***	0.241***	0.017	0.086*	-0.023	0.115**	0.556***	0.098*
(4)	BLAU					0.949***	-0.083	-0.037	0-003	0.037	-0.193***	0.136***	0.170***	-0.040
(5)	PGENDER						-0.115**	0.003	-0.012	0.019	-0.200***	0.131**	0.165**	-0.038
(6)	BUSY							0.079	0.045	-0.014	0.095*	-0.024	0.153**	0.070
(7)	MEETINGS								-0.027	-0.054	-0.168**	0.238***	0.490***	-0.087*
(8)	ACSIZE									0.170***	0.027	0.018	0.021	-0.043
(9)	INDEPENDENCE										-0.025	-0.073	-0.004	0.026
(10)	TENURE											-0.115**	-0.143**	0.124**
(11)	LEVERAGE												0.222***	-0.484***
(12)	SIZE													0.046
(13)	ROA													
	VIF				1.12	1.11	1.07	1.41	1.04	1.04	1.10	1.46	1.49	1.37

The description of all the variables is presented in Table 1. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 4. Regression of ESG disclosures and gender diversity (I)

VARIABLES	(1) COMPR	(2) RELEV	(3) ACCESSIB
BLAU	6.478***	4.847***	-0.243
	(1.834)	(1.677)	(1.323)
BUSY	1.074**	0.713*	0.205
	(0.449)	(0.416)	(0.384)
MEETINGS	0.275*	0.339**	-0.091
	(0.143)	(0.134)	(0.105)
ACSIZE	-0.207	0.189	-0.313**
	(0.239)	(0.228)	(0.158)
INDEP	0.585	1.813	0.2716
	(1.646)	(1.565)	(1.082)
TENURE	0.226**	0.191**	0.036
	(0.101)	(0.092)	(0.080)
LEVERAGE	0.536	-0.524	0.690
	(1.873)	(1.681)	(1.655)
SIZE	1.646***	1.247***	1.510**
	(0.293)	(0.264)	(0.735)
ROA	0.106**	0.132***	-0.028
	(0.044)	(0.042)	(0.032)
Sector dummies	Yes	Yes	Yes
Observations	372	376	376
R2-adj.	0.516	0.524	0.041
F-Statistic	120.76***	118.33***	1.22
FE/RE	RE	RE	FE

The description of all the variables is presented in Table 1. Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 5. Results of the estimation with simultaneous equations

VARIABLES	COMPR Model 1	BLAU Model 2	RELEV Model 3	BLAU Model 4	ACCESSIB Model 5	BLAU Model 6
BLAU	7.163***		7.013***		1.643**	
	(1.761)		(1.561)		(0.838)	
COMPR		0.005***				
		(0.002)				
RELEV				0.005***		
				(0.002)		
ACCESSIB						0.005
						(0.003)
BUSY	1.544***	-0.028***	1.274***	-0.027**	0.672***	-0.024**
	(0.359)	(0.011)	(0.319)	(0.011)	(0.171)	(0.011)
MEETINGS	0.444***		0.351***		0.010	
	(0.142)		(0.125)		(0.067)	
ACSIZE	0.057	-0.002	0.410	-0.002	-0.016	-0.000
	(0.362)	(0.011)	(0.322)	(0.011)	(0.173)	(0.011)
INDEP	3.322	0.014	3.675*	0.005	2.668**	0.008
	(2.448)	(0.073)	(2.181)	(0.073)	(1.171)	(0.074)
TENURE	0.276***	-0.011***	0.182**	-0.010***	0.089**	-0.010***
	(0.088)	(0.003)	(0.077)	(0.002)	(0.041)	(0.003)
LEVERAGE	-1.324		-2.916**		-0.128	
	(1.556)		(1.356)		(0.728)	
SIZE	1.806***	0.001	1.533***	0.000	0.757***	0.002
	(0.185)	(0.007)	(0.165)	(0.007)	(0.088)	(0.007)
ROA	0.086*		0.091**		0.024	
	(0.051)		(0.045)		(0.024)	
REMUNERATION		0.020		0.018		0.028**
		(0.013)		(0.013)		(0.013)
Sector dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	372	373	376	377	376	377
R2-adj.	0.526	0.126	0.539	0.124	0.424	0.105

The description of all the variables is presented in Table 1. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 6. Regression of ESG disclosures and gender diversity moderated by multiple directorships and AC meetings.

VARIABLES	COMPR		RELEV		ACCESSIB	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
BLAU	6.567***	5.240***	3.476*	2.436	0.186	-0.134
	(2.191)	(1.773)	(2.000)	(2.009)	(1.359)	(1.354)
BUSY	0.543	0.559	-0.032	-0.099	0.307	0.273
	(0.608)	(0.419)	(0.570)	(0.578)	(0.388)	(0.390)
BLAU*BUSY	-3.468**		-3.499**		-1.270	
	(1.543)		(1.439)		(0.978)	
MEETINGS	0.114	0.142	0.261*	0.250	-0.134	-0.138
	(0.169)	(0.141)	(0.157)	(0.159)	(0.107)	(0.107)
BLAU*MEETINGS		0.757		0.160		-0.039
		(0.514)		(0.507)		(0.342)
ACSIZE	-0.286	-0.143	1.182	0.126	-0.328**	-0.321**
	(0.247)	(0.245)	(1.195)	(0.236)	(0.159)	(0.159)
INDEP	-0.270	0.981	1.182	1.247	0.182	0.249
	(1.700)	(1.663)	(1.195)	(1.613)	(1.084)	(1.087)
TENURE	0.195	0.168*	0.177	0.156	0.059	0.051
	(0.127)	(0.095)	(0.119)	(0.120)	(0.081)	(0.081)
LEVERAGE	0.713	-1.927	-0.118	0.419	1.596	1.751
	(2.662)	(1.787)	(2.499)	(2.529)	(1.698)	(1.704)
SIZE	2.471*	2.614***	1.182	0.761	1.182	2.477***
	(1.282)	(0.277)	(1.195)	(1.197)	(1.195)	(0.807)
ROA	0.103**	0.070	0.137***	0.129***	-0.025	-0.028
	(0.051)	(0.044)	(0.047)	(0.048)	(0.032)	(0.032)
Sector dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	356	356	359	359	359	359
R2-adj.	0.075	0.423	0.077	0.055	0.073	0.067
F-Statistic	2.01**	228.12***	2.06**	1.44	1.97**	1.79*
FE/RE	FE	RE	FE	FE	FE	FE

The description of all the variables is presented in Table 1. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1