CORPORATE SOCIAL RESPONSIBILITY COMMITMENT OF WOMEN DIRECTORS THROUGH AUDIT COMMITTEES: EVIDENCE FROM INTERNATIONAL FIRMS

María Consuelo Pucheta-Martínez
Universidad Jaume I
Departamento de Finanzas y Contabilidad
Campus del Riu Sec, s/n
12071-Castellón
Spain
e-mail: pucheta@uji.es
Inmaculada Bel-Oms
Universidad de Valencia
Departamento de Finanzas Empresariales
Avda. Tarongers, s/n.
46022- Valencia
Spain
e-mail: Inmaculada.Bel@uv.es
Isabel Gallego-Álvarez
University of Salamanca
Multidisciplinary Institute for Enterprise (IME)
Department of Business Administration
Campus Miguel de Unamuno, Edificio FES
37007-Salamanca
Spain
e-mail: igallego@usal.es

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Abstract

Purpose This paper explores the impact of some audit committees' characteristics (executive and independent directors and directors' attendance at audit committee meetings) on CSR reporting. Moreover, it also aims to test the moderating effect of women directors on boards on the association between audit committees' characteristics and CSR disclosure.

Design/methodology/approach Using an international sample comprising 13,264 firm-year observations of non-financial firms from 2007 to 2018.

Findings The results show that executive and independent directors on audit committees have a negative impact on CSR reporting, while the directors' attendance at audit committees meetings is positively associated with CSR disclosure. Our results also provide convincing evidence that female directors on corporate boards positively moderate the negative association between executive and independent directors on audit committees and CSR disclosure. Finally, the findings also show that female directors on corporate boards do not moderate the positive impact of directors' attendance at audit committees' meetings on CSR information.

Research limitations/implications This study is focused on attributes of audit committees based on a sample of international listed non-financial firms.

Originality/value This is the first study analysing the moderating role of female directors on boards on the relations between both executive directors on audit committees and CSR reporting and the average attendance of directors at audit committees' meetings and CSR disclosure.

Keywords: Corporate social responsibility commitment, women directors, board commissions, international firms, executive directors, independent directors, activity audit committee

Paper type Research paper

EL COMPROMISO DE LAS CONSEJERAS DE LOS CONSEJOS DE ADMINISTRACIÓN EN LA RESPONSABILIDAD SOCIAL CORPORATIVA A TRAVÉS DE LOS COMITÉS DE AUDITORÍA: EVIDENCIA DE EMPRESAS INTERNACIONALES

Resumen

Propósito Este trabajo explora el impacto de algunas características de los comités de auditoría (consejeros ejecutivos e independientes y la asistencia de los consejeros a las reuniones de los comités de auditoría) en la divulgación de información de responsabilidad social corporativa (RSC). Además, también tiene como objetivo analizar el efecto moderador de las consejeras del consejo de administración en la relación entre las características de los comités y la divulgación de la RSC.

Diseño/metodología/enfoque Este estudio se basa en una muestra internacional que comprende 13,264 observaciones empresas-año no financieras desde 2007 hasta 2018.

Hallazgos Los resultados muestran que los consejeros ejecutivos e independientes en comités de auditoría tienen un impacto negativo en la divulgación de información de RSC, mientras que la asistencia de los consejeros a las reuniones del comité se asocia positivamente con la divulgación de información sobre RSC. Nuestros resultados también evidencian que las consejeras del consejo de administración moderan positivamente la asociación negativa entre los consejeros ejecutivos e independientes de los comités de auditoría y la divulgación de información sobre RSC. Finalmente, los hallazgos también muestran que las consejeras no moderan el impacto positivo de la asistencia de los consejeros a las reuniones de los comités de auditoría y la divulgación sobre RSC.

Limitaciones/implicaciones de la investigación Este estudio se centra en los atributos de los comités de auditoría de una muestra de empresas internacionales no financieras cotizadas.

Originalidad/valor Este es el primer estudio que examina el papel moderador de las consejeras de los consejos en las relaciones entre los consejeros ejecutivos en los comités de auditoría y el informe de RSC y la asistencia media de los consejeros a las reuniones de los comités de auditoría y divulgación de la RSC.

Palabras clave Compromiso de Responsabilidad Social Corporativa, consejeras, comisiones del consejo, empresas internacionales, consejeros ejecutivos, consejeros independientes, actividad del comité de auditoría

Tipo de papel Trabajo de investigación

CORPORATE SOCIAL RESPONSIBILITY COMMITMENT OF WOMEN DIRECTORS THROUGH BOARD COMMISSIONS: EVIDENCE FROM INTERNATIONAL FIRMS

1. Introduction

Firms must achieve their financial and non-financial expectations under the pressure of transparency, ethics and reliability (García-Sánchez *et al.,* 2019), while addressing several stakeholder interests (Jamali *et al.,* 2008). Agency theory postulate that CSR disclosure reduces information asymmetries between shareholders and managers, providing information to investors about the relationships between firms and employees, the environment and society (Said *et al.,* 2009). Firms tend to disclose CSR information to improve their reputation because such disclosure of non-financial information conveys to stakeholders and society the engagement of firms in social and environmental issues (Martínez-Ferrero *et al.,* 2018). As Deegan and Blomquist (2006) note, the disclosure of non-financial information may help stakeholders to decide whether to invest in some firms. Those firms with stronger corporate governance mechanisms will more likely guarantee transparency and ethics while continuing to generate income (Ruangviset *et al.,* 2014).

Past investigations show the association between corporate governance mechanism and CSR disclosure (Said *et al.,* 2009; Martínez-Ferrero *et al.,* 2018). However, companies with weak corporate mechanisms may suffer coercive pressure from powerful stakeholders (Barakat *et al.,* 2015), which may result in higher standards for CSR disclosure instead of efficient incentives (Khan *et al.,* 2013). Academics and scholars have questioned the trustworthiness and usefulness of CSR reports, arguing that their truthfulness, reliability and precision are unknown (Rupley *et al.,* 2012). Choi *et al.* (2013) illustrate that firms may have on their board of directors opportunistic managers, who strategically use the disclosure of CSR information for their personal benefit.

To mitigate this situation, firms may consider implementing internal monitoring tools, such as audit committees. Although the traditional role of the audit committee emanates from mandatory financial disclosure, the strong pressure from stakeholders to include CSR information disclosure has led to expanding this role (Kolk and Pinkse, 2010). However, despite the existence of past research on the role of the audit committee as a core decision-making body for voluntary disclosure of CSR information, no available research addresses the effect of executive directors on audit committees and directors' attendance at audit committee meetings on CSR disclosure.

Thus, the aim of this paper is to explore the impact of audit committee characteristics on CSR disclosure. Second, we also aim to test the moderating effect of female directors on boards on the relationship between audit committee characteristics and CSR reporting.

This study contributes to the literature in several aspects. First, to the best of our knowledge, this is the first paper that examines, from the agency perspective, the effect of executive directors on audit committees and the average attendance by directors at audit committee meetings on CSR reporting. Second, as far as we know, this is also the first analysis of female directors on boards having a moderating role on the relations between both executive directors on audit committees and CSR reporting and the average attendance of directors at audit committees' meetings and CSR disclosure. Finally, this paper enriches past empirical evidence related to independent directors on audit committees, by showing their negative effect on CSR disclosure, since the inexperience of them with non-financial issues and overloading may justify the negative effect of these directors on CSR reporting.

The remainder of this study is structured as follows. First, we present a literature review of audit committee characteristics and CSR disclosure. Second, we describe the empirical design. Third, we show the results this study obtained. Finally, the last section includes the study's conclusions, implications and limitations.

2. Literature Review and Development of Hypotheses

Agency theory exposes that audit committees act as a mechanism to reduce managers' opportunistic behavior (Madi *et al.,* 2014). Using board subcommittees (such as audit committees), companies improve their supervisory functions, enhancing auditing and reporting quality (Fama and Jensen, 1983), as well as their transparency which may increase the disclosure of CSR information. One of the most important functions of the audit committee is to ensure that firms engage with the disclosure of CSR information (Jamali *et al.,* 2008; Kolk and Pinkse, 2010). The presence of audit committees with relevant features can act as indicators of companies' quality supervision and CSR disclosure (Appuhami and Tashakor, 2017). Berrone and Gomez-Mejia (2009) show that corporate governance mechanisms reduce the variety of interests establishing the background of agency theory, related to social and environmental practices. In this regard, managers and shareholders must promote corporate governance practices to motivate firms toward social and environmental responsibilities.

Under the umbrella of stakeholder theory, CSR may be an efficient way to manage the relationship between the firm and its stakeholders. Managers tend to do everything possible to maintain the relationship with stakeholders (Roberts, 1992). Moreover, this approach suggests that companies should be responsible to all stakeholders for moral reasons (Culpan and Trussel, 2005) and managers and stakeholders engage on many issues, including the disclosure of environmental and social information (Deegan and Unerman, 2006). In line with the stakeholder approach, stakeholders demand that firms be more transparent and credible about CSR matters and they expect that audit committees will assume the responsibility for disclosure of CSR information. Frias-Aceituno, Rodriguez-Ariza and Garcia-Sanchez (2013) argue that a set of agents worries about company attitudes toward CSR practices. In this regard, companies disclose voluntary information to satisfy stakeholder requirements.

2.1. Executive directors on audit committees

Cheng and Courtenay (2006) note that executive directors have confidential and private information about the firm and specific knowledge about the internal functioning of their company. An agency approach postulates that the executive directors' interests may drive them to opportunistic behavior for their own benefit. In this regard, controlling shareholders appoint executive directors and managers and tend to decrease the protections for other stakeholder interests. The inclusion of more executive directors on boards and audit committees gives rise to weak monitoring mechanisms. They may obtain access to incentives to align with managers, to maximize their own wealth at the shareholders' expense (Masulis *et al.,* 2009). Agency theory maintains that executive directors sometimes engage in self-interested behavior (Oh *et al.,* 2017; Seaborn *et al.,* 2020) to enhance the affordability of resources to obtain more personal benefits, likely damaging stakeholders' interests.

Past research notes that executive directors provide scant information to independent directors, to avoid stakeholders obtaining all the information (Armstrong *et al.,* 2014), which may interfere in the strategic decision-making of shareholders (Adams and Ferreira, 2007). Slawinski and Bansal (2015) argue that inside directors focus on financial decisions that contrast with decisions regarding CSR practices. Pucheta- Martínez *et al.* (2019) provide evidence that executive directors in financial entities have a main goal of maximizing their benefits in the short term instead of encouraging CSR practices. In this regard, Miras-Rodríguez and Di Pietra (2018) and Hettler *et al.* (2021) document that the existence of executive directors on boards decreases the disclosure of CSR information because when firms have limited resources, executive directors will be less likely to encourage CSR reporting, to maintain resource availability for their own benefit. However, scant empirical evidence focuses on the relationship between executive directors on audit committees and CSR disclosure (Miras-Rodríguez and Di Pietra, 2018; Pucheta- Martínez *et al.,* 2019; Hettler *et al.,* 2021).

These arguments anticipate a negative influence of executive directors on audit committees on CSR reporting. Their possible focus on their own interest instead of shareholder and stakeholder interests can cause agency problems and reduce the disclosure of CSR information. Hence, we propose the following hypothesis:

Hypothesis 1: Executive directors on audit committees have a negative influence on CSR disclosure.

2.2. Independent directors on audit committees

Agency theory postulates that independent audit committees lead to a more efficient supervisory role relating to managers' behaviors since the committees act independently and objectively (Bedard and Gendron, 2010). In this sense, Pucheta-Martínez and De Fuentes-Barberá (2007) show that the inclusion of only independent directors on audit committees improves firm transparency. In line with an agency approach, Fama and Jensen (1983) suggest that independent directors on audit committees supervise managers to mitigate agency problems and asymmetry of information.

Previous empirical studies are inconclusive as to whether audit committee independence influences CSR disclosure, finding both a positive and a negative effect or insignificant results. Appuhami and Tashakor (2017) and Qaderi *et al.* (2020) show a positive effect of independent directors on audit committees and CSR disclosure because managers do not influence independent directors, who tend to act freely to supervise managers' functions and, thus, protect the credibility and transparency of CSR information. Such authors as Haniffa and Cooke (2005) find a negative association between audit committee independence and CSR disclosure since independent directors have scant true independence and high-level work, in line with agency theory. Alotaibi and Hussainey (2016) provide evidence that the inclusion of independent directors reduces the quality of CSR disclosure. Ali *et al.* (2017) argue that the cause of this negative influence on CSR disclosure could be the scant pressure these directors get from stakeholders on issues related to CSR disclosure or the little knowledge that independent directors have about CSR matters. Earlier evidence shows that companies with non-assurance reporting and independent corporate boards reduce the disclosure of CSR information, except when firms have lower proprietary costs. Majeed *et al.* (2015) and Suwaidan *et al.* (2021) reveal that board independence negatively affects a firm's corporate social responsibility disclosure. Their reasoning is that independent directors focus on financial performance instead of social aspects and they consider the CSR information in the firm's annual reports irrelevant, compared with other information. Finally, Eriabie and Odia (2016) report that independent directors on audit committees have no effect on CSR disclosure.

Even though corporate governance codes recommend the presence of independent directors on audit committees, their presence seems to have a negative effect on CSR disclosure because they lack knowledge about CSR and assign greater importance to financial performance than CSR issues and their independence is not real. Consequently, independent directors on audit committees can reduce CSR disclosure. Therefore, we propose the following hypothesis:

Hypothesis 2: Independent directors on audit committees have a negative influence on CSR disclosure

2.3. The attendance at audit committee meetings by directors

The number of audit committee meetings during one financial year defines audit committee activity (Talpur *et al.,* 2018). The level of committee activity and attendance by directors show the predisposition of the members to accomplish their responsibilities, provide guidelines on effectiveness (DeZoort *et al.,* 2002) and ensure providing high-quality information (Kang *et al.,* 2011). Moreover, audit committees' meetings and attendance by directors enhance the level of corporate transparency and the reliability of financial statements (Khlif and Samaha, 2016).

According to Pucheta-Martíınez and De Fuentes (2007), active audit committees encourage the level of financial disclosure of Spanish firms. Such authors as Allegrini and Greco (2011) note that the level of audit committee activity and attendance by directors affect the level of voluntary disclosure and Ettredge *et al*. (2011) and Taliyang and Jusop (2011) report their significant influence on the disclosure of corporate information. Karamanou and Vafea (2005) and Buallay and Al-Ajmi (2019) find that the frequency of audit committee meetings allows directors more time in their supervisory role and may enhance CSR disclosure. Jizi *et al.* (2014) also argue that the number of audit committee meetings is a good proxy for determining the good faith and diligence of their effort, which may influence the disclosure of CSR information. Appuhami and Tashakor (2017) reveal that companies whose audit committee meets more frequently may detect mistakes and discrepancies and, thus, enhance CSR disclosure. This view is consistent with stakeholder theory, which suggests that audit committees that meet frequently may increase awareness and experience among members, resulting in a higher degree of reinforcement of the disclosure of CSR information.

Predictably, active audit committees will be able to debate financial information and other issues, such as environmental and social information, which the disclosure of CSR information will reflect positively. Accordingly, we posit the following hypothesis:

Hypothesis 3: The attendance at audit committee meetings by directors has a positive influence on CSR disclosure.

2.4. The moderating role of women directors on boards

Drawing on CSR disclosure, such authors as Webb (2004) and Huse and Solberg (2006) support the premise that female directors are more sensitive to CSR issues. In this sense, Giannarakis *et al.* (2014) argue that female directors are more worried about social and environmental activities. Orazalin and Baydauletov (2020) show that companies with a greater representation of female directors on the corporate board encourage environmental and social performance. Liu *et al.* (2020) find that women directors on the board encourage innovation in the firm's strategic and CSR matters. Ramon-Llorens *et al.* (2021) argue that female directors' characteristics, including technical expertise and specific skills, encourage the orientation toward the disclosure of CSR information.

Based on management, sociology and psychology literature and focusing on gender diversity on boards, we must emphasize that women directors tend to identify opportunistic behaviors (Zelechowski and Bilimoria, 2006) and act with more social sensitivity than their male counterparts (Ruegger and King, 1992). In this regard, Byrnes *et al.* (1999) and Man and Wong (2013) show that female directors tend to take less risk and are more conservative than men. Recent empirical literature (Abbasi *et al.,* 2020; Ghafoor *et al.,* 2022; Ud Din *et al.,* 2021) shows the behavioral, ethical, managerial and leadership style of women directors differs from their homologous colleagues and counterparts.

Scant previous literature exists on the moderating role of female directors on corporate boards (Reguera-Alvarado and Bravo-Urquiza, 2021) and no studies examine the moderating effect that women directors on boards may have on the relationship between executive directors on the audit committee and the attendance at audit committee meetings by directors and CSR disclosure. In this respect, we support the view that the presence of women directors on boards may play a positive moderating role in the relationship between audit committee attributes and the disclosure of CSR information due to their greater sense of social responsibility. Women directors are more likely to make strategic decisions consistent with encouraging the firm's ethical behavior and supporting a higher level of CSR disclosure. Based on the theoretical background and the evidence past research provides, we propose the following hypothesis:

Hypothesis 4: Female directors moderate the association between executive directors on audit committees, independent directors on audit committees, the attendance at audit committee meetings by directors and CSR disclosure.

3. Methodology

3.1. Sample

We focused on an international sample of non-financial listed firms in 38 countries (Argentina, Australia, Austria, Belgium, Bermuda, Brazil, Canada, China, Cyprus, Czech Republic, Denmark, Egypt, Finland, France, Germany, Hong Kong, India, Ireland, Isle of Man, Israel, Italy, Japan, Jersey, Korea Republic, Luxembourg, Macau, Mexico, Netherlands, New Zealand, Portugal, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, United Kingdom, United States) from 2007 to 2018. We restricted the sample to publicly listed firms and removed financial entities. The final sample consisted of an unbalanced panel dataset of 13,264 firm-year observations. Our data were collected from the Thomson Reuters database, which provides all necessary information for calculating all variables analyzing this research required.

3.2 Measures

CSR_DISCLOS is calculated as the addition of 112 items based on environmental and social matters, collected from the Thomson Reuters database and the total number of items considered. When the firm reports information about the items analyzed, we coded the value as 1 and 0 otherwise (Hermawan and Gunardi, 2019; Issa *et al.,* 2022). If the CSR_DISCLOS index ranged between 0.1 and 0.5 points, firms disclosed moderate CRS information, while scores of the CSR_DISCLOS index between 0.6–0.9 points indicated that firms disclosed relevant information about CSR. Finally, firms with a CSR_DISCLOS index of 1 fully disclosed CSR information.

The explanatory variables are as follows. AUDCOM_EXEC_DIR as the ratio of the total number of executive directors on audit committees to the total number of directors on audit committees (Darrat *et al.,* 2016). AUDCOM_INDEP_DIR as the ratio of the total number of independent directors on audit committees to the total number of directors on audit committees (Appuhami and Tashakor, 2017; Ghafoor *et al.,* 2022). AUDCOM_MEET_ATTEN as the attendance at audit committees' meetings by directors (Ghafoor *et al.*, 2022). Finally, WOM_DIR_B as the ratio of the total number of female directors on boards to the total number of directors on boards (López-Delgado and Diéguez-Soto, 2020) is the moderating variable.

To avoid biased results, this study includes some control variables. SIZE as the log of total assets (Zhang and Shailer, 2021); ROA as the ratio between operating income before interest and taxes and total assets (Cordeiro *et al.,* 2020); LEV as the ratio of total debt divided by total assets (Sharma *et al.,* 2021); B_SIZE as the number of board members; CSR_COMM as a dichotomy variable that is coded 1 if firms have a CSR committee and 0 otherwise; SECTOR as a dummy variable, coded as 1 if companies operate in this sector and 0 otherwise; and YEAR by considering a set of dummy variables in the model. Table 1 provides a description of the variables.

<Insert Table 1 >

3.2. Economic model

The estimation of the following model allowed us to check the hypotheses proposed above:

$$\begin{aligned} CSR\_DISCLOS = {} & \beta_0 + AUDCOM\_EXEC\_DIR_{it} + \beta_2\ AUDCOM\_INDEP\_DIR_{it} + \\ & \beta_3 AUDCOM\_MEET\_ATTEN_{it} + \beta_4 SIZE_{it} + \beta_5 ROA_{it} + \beta_6 LEV_{it} + \beta_7 B\_SIZE_{it} \\ & + \beta_8 CSR\_COMMITTEE_{it} + SECTOR_{it} + \sum \beta_j\ YEAR_t + \Psi_i + \mho_{it} \end{aligned}$$

"β" is the regression coefficient, "i" is the firm, "t" is the year, "Ψ_i" is the unobserved firm-specific effects (unobserved heterogeneity), which change among individuals but not over time and $\mho_{it}$ is the error term. The methodology used for running this model was the generalized method of moments (GMM) (Arellano and Bond, 1991; Blundell and Bond, 1998). This estimator is efficient, consistent and asymptotically normal.

4. Results

4.1. Descriptive statistics

The descriptive statistics appear in Table 2. On average, the variable CSR_DISCLOS is 0.208, showing that the level of CSR information that firms in our sample provide is moderate. Focusing on the independent variables, the percentage of executive directors on audit committees (AUDCOM_EXEC_DIR) is 39.13% on average, the percentage of independent directors on audit committees is 53.81% and the average overall for attendance at audit committees meetings (AUDCOM_MEET_ATTEN) is 36.56%. Moreover, we examine the multicollinearity and the correlation matrix shows no correlation value higher than 0.8, confirming that multicollinearity does not exist, in line with past research (Shrestha, 2022).

<Insert Table 2>

4.2. Multivariate analysis

The empirical results are represented in Table 3. In Model 1, the finding supports Hypothesis 1, predicting that executive directors on audit committees discourage the disclosure of CSR information. Hettler *et al.* (2021) and Miras-Rodríguez and Di Pietra (2018) also provide the same evidence. We agree with such authors as Armstrong *et al.* (2014) who argue that executive directors do not monitor managers because they are more interested in obtaining personal benefits than in addressing the shareholders' and stakeholders' interests and demands. Agency perspective also suggests this reasoning, supporting the self-serving or self-interested behavior of executive directors (Oh *et al.,* 2017; Seaborn *et al.,* 2020). Therefore, executive directors on audit committees will not support the reporting of CSR information as they tend to entrench themselves, to improve the accessibility of resources for their own benefit (Masulis *et al.,* 2009) at the expense of outside stakeholders.

In Model 2, the results allow us to accept the second hypothesis, consistent with preceding research (Alotaibi and Hussainey, 2016; García-Sánchez and Martínez-Ferrero, 2017; Majeed *et al.,* 2015; Sundarasen *et al.,* 2016; Suwaidan *et al.,* 2021). This finding may be due to independent directors on audit committees having insufficient background and experience related to social and environmental issues and no orientation toward these topics. These directors may feel unqualified to judge CSR information correctly. Independent directors should control and monitor managers and safeguard the stakeholders' and minority shareholders' interests, but in CSR matters, independent directors also seem to align with managers' demands and interests and with those managers who do not enact social and environmental issues. Additionally, the justification of this result may also be managers without enough power to influence independent directors to support decisions consistent with the manager's views. Furthermore, independent directors also sit on the board of other firms and are very busy and overloaded, with little time to focus on CSR topics (Haniffa and Cooke, 2005; Ali *et al.,* 2017).

In Model 3, the finding supports the third hypothesis, consistent with previous authors, such as Appuhami and Tashakor (2017), Buallay and Al-Ajmi (2019), Ettredge *et al.* (2011), Jizi *et al.* (2014) and Taliyang and Jusop (2011), who show a positive association between audit committees meetings (AC activity) and CSR disclosure. Moreover, more attendance may also result in a greater likelihood of addressing CSR issues because audit committees directors will be more informed and, thus, can better detect discrepancies and guarantee the reliability of the whole CSR reporting process. Attendance at audit committees meetings will also improve this body's supervisory functions, which may increase CSR disclosure and its reliability. Moreover, this result is in line with the stakeholder perspective that suggests that audit committee meetings may grow the commitment of the members around CSR issues and better reinforce the disclosure of CSR information in sustainability reports.

In Models 4 and 5, we can partially accept the fourth hypothesis. This evidence supports the thesis of agency theory, which argues the benefits for business decisions of having boards comprising female directors, in line with Carter *et al.* (2003). Women directors tend to be more oriented toward social and environmental issues, more open-minded, more conciliatory, more convincing and more interested in non-financial than financial information and they value integrity and ethical behavior. In other words, past and recent research shows that leadership and managerial style and behavior of women directors differ from those of their male colleagues (Abbasi *et al.,* 2020; Ghafoor *et al.,* 2022; Ud Din *et al.,* 2021). Female directors on boards seem to persuade executive and independent directors on audit committees to disclose more CSR information, consistent with the results that Reguera-Alvarado and Bravo-Urquiza obtained (2021).

In Model 6, the finding does not support the fourth hypothesis. Although women directors have a managerial style and behavior more oriented toward CSR issues, female directors sitting on boards do not affect the disclosure of CSR information when directors regularly attend audit committees. The justification is that female directors on boards cannot monitor and supervise the increasing topics that audit committees address in their meetings with executive and independent directors regularly attending.

<Insert Table 3>

5. Conclusions

This paper examines the influence of executive and independent directors on audit committees and their attendance at audit committees meetings on CSR disclosure. Moreover, we extend past research to analyze the moderating effect on such relationships of female directors on boards.

The results show that the proportion of executive and independent directors on audit committees negatively affects the disclosure of CSR information while the directors' attendance at audit committees meetings is positively. Regarding the disclosure of CSR information by firms when female directors on boards interact with executive and independent directors on audit committees, the evidence shows the positive impact on CSR reporting, consistent with agency theory. However, the reporting of CSR information remains unaffected when female directors on boards interact with the attendance by directors at audit committees meetings.

Our research has several implications. First, body regulators should encourage the presence of women directors on boards in those audit committees comprising executive and independent directors. Second, firms and managers should restructure audit committees composition to create and encourage behavior consistent with disclosing CSR information. If boards include female directors, then audit committees consisting of executives and independent directors will encourage CSR disclosure. Nevertheless, the absence of women directors on boards will discourage CSR reporting if audit committees comprise executive and independent directors. Board gender diversity is not a significant factor for disclosing CSR information when directors regularly attend audit committees meetings. Third, we provide more evidence to support past literature on audit committees as a corporate governance mechanism and the role they play in increasing voluntary disclosure. Fourth, society in general and stakeholders in particular, who engage with CSR issues and information, can find our findings useful for identifying what firms will more likely disclose CSR information, given their board and audit committees composition.

This research has the following limitations and points to future research lines. First, this paper focuses on the relationship between three audit committees features based on a sample of listed non-financial firms. In this regard, future research could explore the association between other characteristics of audit committees, including such personal aspects of the directors as education, age, financial expertise, or religion and CSR disclosure.

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Table 1
Variables description

Variables	Description
CSR_DISCLOS	The ratio between the aggregation of 112 items focused on social and environmental issues and the total number of items analysed. If the company discloses information concerning each item, it will take the value 1 and 0, otherwise
AUDCOM_EXEC_DIR	The proportion of executive directors on audit committees= the total number of executive directors on audit committees/ The total number of directors on audit committees
AUDCOM_INDEP_DIR	The proportion of independent directors on audit committees= the total number of independent directors on audit committees/ The total number of directors on audit committees
AUDCOM_MEET_ATTEN	The average overall attendance percentage of audit committee meetings as reported by the company
SIZE	The log of total assets
ROA	Operating income before interests and taxes over total assets
LEV	Debt over total assets
B_SIZE	Number of directors on board
CSR_COMM	Dichotomous variable that takes the value 1 if the company has a CSR committee and 0 otherwise
BASIC MATERIALS	Dichotomous variable: 1= Basic Materials; 0 = Otherwise
CONSUMER CYCLICAL	Dichotomous variable: 1= Consumer Cyclical; 0 = Otherwise
CONSUMER NON-CYCLICAL	Dichotomous variable: 1= Consumer Non-Cyclical; 0 = Otherwise
ENERGY	Dichotomous variable: 1= Energy; 0 = Otherwise
HEALTHCARE	Dichotomous variable: 1= Healthcare; 0 = Otherwise
INDUSTRIALS	Dichotomous variable: 1= Industrial; 0 = Otherwise
TECHNOLOGY	Dichotomous variable: 1= Technology; 0 = Otherwise
TELECOMMUNICATION SERVICES	Dichotomous variable: 1= Telecommunication Services; 0 = Otherwise
UTILITIES	Dichotomous variable: 1= Utilities; 0 = Otherwise
WOM_DIR_B	The proportion of women directors on boards

Table 2
Descriptive analysis

Variable	Obs.	Mean	Standard Deviation
CSR_DISCLOS	13,264	0.208	0.184
AUDCOM_EXEC_DIR	13,264	39.126	47.610
AUDCOM_INDEP_DIR	13,264	53.807	45.388
AUDCOM_MEET_ATTEN	13,264	36.559	44.612
SIZE	13,264	22.106	1.763
ROA	13,264	5.224	7.948
LEV	13,264	57.0811	23.548
B_SIZE	13,264	7.658	5.808
CSR_COMM	13,264	0.481	0.500
BASIC MATERIALS	13,264	0.159	0.336
CONSUMER CYCLICAL	13,264	0.167	0.373
CONSUMER NON-CYCLICAL	13,264	0.122	0.327
ENERGY	13,264	0.082	0.274
HEALTHCARE	13,264	0.089	0.285
INDUSTRIALS	13,264	0.183	0.387
TECHNOLOGY	13,264	0.104	0.306
TELECOMMUNICATION SERVICES	13,264	0.025	0.156
UTILITIES	13,264	0.068	0.252
WOM_DIR_B	13,264	8.735	11.791

Mean and standard deviation. CSR_DISCLOS is measured as the ratio between the aggregation of 112 items focused on social and environmental issues and the total number of items analysed. If the company discloses information concerning each item, it will take the value 1 and 0, otherwise; AUDCOM_EXEC_DIR is measured as the ratio between the total number of executive directors on audit committees and the total number of directors on audit committees; AUDCOM_INDEP_DIR is measured as the ratio between the total number of independent directors on audit committees and the total number of directors on audit committees; AUDCOM_MEET_ATTEN is calculated as the average overall attendance percentage of audit committee meetings as reported by the company; SIZE is measured as the logarithm of total assets; ROA is represented as the ratio between operating income before interest and taxes and total asset; LEV is the ratio between the total debt divided by total assets; B_SIZE is measured as the number of board members; CSR_COMM is defined as a dichotomy variable that takes a value of 1 if the firm had a CSR committee and 0 otherwise; BASIC MATERIALS if the company operates in Basic Materials sector and 0, otherwise; CONSUMER CYCLICALS if the company operates in Consumer Cyclicals sector and 0, otherwise; CONSUMER NON-CYCLICALS if the company operates in Consumer Non-Cyclicals sector and 0, otherwise; ENERGY if the company operates in Energy sector and 0, otherwise; HEALTHCARE if the company operates in Healthcare sector and 0, otherwise; INDUSTRIALS if the company operates in Industrials sector and 0, otherwise; TECHNOLOGY if the company operates in Technology sector and 0, otherwise; TELECOMMUNICATION SERVICES if the company operates in Telecommunication Services sector and 0, otherwise; UTILITIES if the company operates in Utilities sector and 0, otherwise; WOM_DIR_B is the proportion of female directors on boards.

Table 3
Multivariate analysis results of the Generalised Method of Moments

	MODEL 1 Coef. P>|t|	MODEL 2 Coef. P>|t|	MODEL 3 Coef. P>|t|	MODEL 4 Coef. P>|t|	MODEL 5 Coef. P>|t|	MODEL 6 Coef. P>|t|
CSR_SCORE (t-1)	0.019	0.432***	0.062	-0.039	0.332**	0.440***
	(0.786)	(0.000)	(0.180)	(0.582)	(0.029)	(0.000)
AUDCOM_EXEC_DIR	-0.000**			-0.000*		
	(0.049)			(0.089)		
AUDCOM_INDEP_DIR		-0.000**			0.017***	
		(0.016)			(0.289)	
AUDCOM_MEET_ATTEN			0.000**			-0.000
			(0.159)			(0.290)
SIZE	0.007	0.011	0.005	0.017*	0,006**	-0.013
	(0.442)	(0.473)	(0.416)	(0.085)	(0.015)	(0.262)
ROA	0.002	0.006***	-0.002*	-0.002	0.004***	-0.004***
	(0.153)	(0.003)	(0.082)	(0.163)	(0.002)	(0,005)
LEV	0.003***	0.005***	-0.000	0.000	0.018***	-0.000
	(0.000)	(0.000)	(0.838)	(0.840)	(0.001)	(0.377)
B_SIZE	-0.006	0.011***	0.023***	-0.003	0.141	0.004*
	(0.834)	(0.007)	(0.000)	(0.273)	(0.003)	(0.056)
CSR_COMM	0.367***	0.151***	0.156***	0.370***	0.112	0.196***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.583)	(0.000)
BASIC MATERIALS	0.318	0.150	0.211	0.551**	0.106	0.047
	(0.165)	(0.471)	(0.251)	(0.010)	(0.476)	(0.790)
CONSUMER CYCLICAL	0.019	0.070	0.064	0.175	0.177	-0.085
	(0.906)	(0.647)	(0.626)	(0.259)	(0.218)	(0.479)
CONSUMER NON-CYCLICAL	0.156	0.198	-0.083	0.228*	0.019	0.063
	(0.251)	(0.186)	(0.091)	(0.087)	(0.943)	(0.589)
ENERGY	0.077	0.159	-0.083	0.309	0.234	-0.056
	(0.745)	(0.568)	(0.717)	(0.156)	(0.180)	(0.808)
HEALTHCARE	0.123	0.265	0.250	0.477**	-0.042	-0.010
	(0.464)	(0.147)	(0.189)	(0.033)	(0.799)	(0.959)
INDUSTRIALS	0.231	-0.009	0.202	0.457***	0.249	0.033
	(0.118)	(0.957)	(0.225)	(0.002)	(0.194)	(0.830)
TECHNOLOGY	0.482**	0.374**	0.186	0.474***	0.120	0.098
	(0.021)	(0.049)	(0.346)	(0.006)	(0.629)	(0.587)
TELECOMMUNICATION SERVICES	0.222	0.211	-0.349*	0.340	-0.300	-0.0104
	(0.328)	(0.399)	(0.082)	(0.102)	(0.492)	(0.595)
WOM_DIR_B				0.006***	-0.005	0.006***
				(0.000)	(0.137)	(0.000)
WOM_DIR_B x AUDCOM_EXEC_DIR				0.000*		
				(0.063)		
WOM_DIR_B x AUDCOM_INDEP_DIR					0.000*	
					(0.057)	

WOM_DIR_B x AUDICOM:NMEET_ATTEN						-0.000 (0.066)
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Wald χ^2 test	2054.33 ***	2247.66 ***	2562.18 ***	2761.06***	2397.11***	5167.50***
Arellano−–Bond test AR(1) (z, $p>\lvert z\rvert$)	-5.44 (0.000)	-4.72 (0.000)	-7.99 (0.000)	-5.98 (0.000)	-4.12 (0.000)	-6.64 (0.000)
Arellano−–Bond test AR(2) (z, $p>\lvert z\rvert$)	-4.98 (0.000)	-1.91 (0.057)	-4.44 (0.000)	-5.11 (0.000)	-2.32 (0.020)	-3.06 (0.002)
Hansen test (chi−square, $p>\lvert chi^2\rvert$)	78.66 (0.000)	31.31 (0.037)	62.17 (0.004)	47.17 (0.009)	15.14 (0.127)	26.77 (0.290)

Multivariate analysis results of the Generalised Method of Moments. CSR_DISCLOS is measured as the ratio between the aggregation of 112 items focused on social and environmental issues and the total number of items analysed. If the company discloses information concerning each item, it will take the value 1 and 0, otherwise; AUDCOM_EXEC_DIR is measured as the ratio between the total number of executive directors on audit committees and the total number of directors on audit committees; AUDCOM_INDEP_DIR is measured as the ratio between the total number of independent directors on audit committees and the total number of directors on audit committees; AUDCOM_MEET_ATTEN is calculated as the average overall attendance percentage of audit committee meetings as reported by the company; SIZE is measured as the logarithm of total assets; ROA is represented as the ratio between operating income before interest and taxes and total asset; LEV is the ratio between the total debt divided by total assets; B_SIZE is measured as the number of board members; CSR_COMM is defined as a dichotomy variable that takes a value of 1 if the firm had a CSR committee and 0 otherwise; BASIC MATERIALS if the company operates in Basic Materials sector and 0, otherwise; CONSUMER CYCLICALS if the company operates in Consumer Cyclicals sector and 0, otherwise; CONSUMER NON-CYCLICALS if the company operates in Consumer Non-Cyclicals sector and 0, otherwise; ENERGY if the company operates in Energy sector and 0, otherwise; HEALTHCARE if the company operates in Healthcare sector and 0, otherwise; INDUSTRIALS if the company operates in Industrials sector and 0, otherwise; TECHNOLOGY if the company operates in Technology sector and 0, otherwise; TELECOMMUNICATION SERVICES if the company operates in Telecommunication Services sector and 0, otherwise; UTILITIES if the company operates in Utilities sector and 0, otherwise; WOM_DIR_B is the proportion of female directors on boards.*p-value<0.1 **p-value<0.05 ***p-value<0.01.