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## Ownership and Corporate Social Responsibility

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*Published in:*  
European Management Journal

*DOI:*  
[10.1016/j.emj.2021.01.008](https://doi.org/10.1016/j.emj.2021.01.008)

**IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.**

*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
2021

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*

Seckin-Halac, D., Erdener-Acar, E., & Zengin-Karaibrahimoglu, Y. (2021). Ownership and Corporate Social Responsibility: "The power of the female touch". *European Management Journal*, 39(6), 695-709.  
<https://doi.org/10.1016/j.emj.2021.01.008>

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# Ownership and corporate social responsibility: "The power of the female touch"



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## ARTICLE INFO

### Article history:

Received 26 April 2020

Received in revised form

10 December 2020

Accepted 15 January 2021

Available online 28 January 2021

### Keywords:

Corporate social responsibility

Board gender diversity

Ownership concentration

Family shareholding

Moderated mediation

## ABSTRACT

Using a sample of 26,029 firm-year observations over the period 2002–2017 from 4,479 firms and 44 countries, we examine the relationship between ownership concentration and corporate social responsibility by focusing on the mediating role of board gender diversity and the moderating role of family shareholding. We find that ownership concentration negatively affects corporate social responsibility, and the board gender diversity partially mediates this negative effect. Our results indicate that the mediating effect of board gender diversity leads to a 10.65 percent decrease in the impact of ownership concentration on corporate social responsibility. Furthermore, moderated path analysis indicates that family shareholding weakens the direct effect of ownership concentration on board gender diversity and its indirect effect on corporate social responsibility. In post hoc analysis, we also document that the effect of gender diversity on the board is more prevalent in high gender-egalitarian societies where women are more involved in decision-making. Our study addresses the strategic role of female board members in increasing firms' respect for corporate social responsibility, especially in family-controlled firms. Thus, our results may provide insights to regulators and policymakers to enhance firms' corporate social practices by encouraging women's participation on corporate boards.

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## 1. Introduction

With increasing public scrutiny, firms pay more attention to corporate social responsibility (CSR) (Hyun et al., 2016). However, their efforts to gain genuine philanthropic identities or corporate prestige, the degree of firms' commitment to CSR, and the direction of CSR activities differ significantly between firms. Among all the other factors described in the literature, firms' ownership structure is considered as one of the fundamental determinants of firms' corporate social investments. Hence, ownership structure affects the functioning of corporate governance mechanisms and the reasoning of differences in firms' behaviors (Fama & Jensen, 1983).<sup>1</sup> Previous studies empirically address the direct association between ownership structure and corporate social investments and

performance (Barnea & Rubin, 2010; Dam & Scholtens, 2012; Delgado-García et al., 2010; McGuinness et al., 2017; Rees and Radinova, 2015). However, firms' behaviors towards social and environmental issues are multi-dimensional and influenced by various other firm and country-specific characteristics. The literature has not yet investigated the mitigating role of other possible mechanisms, particularly corporate governance, on this relationship. To our knowledge, there are only two papers that studied such possible mechanisms. Rees and Rodionova (2015) examine the impact of ownership on CSR and the influence of firm governance quality on this relationship and find that both closely held equity and family shareholding are negatively associated with corporate social performance, and firms' governance structure mediates this negative association. Also, McGuinness et al. (2017) investigate the effect of women on the board of directors and female CEOs on CSR and whether the effect of women differs in foreign and state ownership in a single country context, and document that the presence of women explains the driving force behind CSR change. Both studies have made significant contributions to the literature on the importance of potential mitigating resources affecting the impact of ownership structure on CSR. However, their findings do

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<sup>1</sup> Denis and McConnell (2003) argue that control and ownership are not completely separated from each other and some owners have a significant influence on firms' operations by virtue and size of the equity shares they own.

not explain (1) the immediate mediating role of female board members in the relationship between ownership concentration (OC) and CSR, and how this mediation is moderated by family shareholding, and (2) the changes in the mediating role of women across countries with different institutional developments regarding the power of women in society.

Strong corporate governance is essential to managing business operations that have a positive impact on society beyond legal and financial requirements (Harjoto & Jo, 2011). In recent years, in addition to various mechanisms, board gender diversity (BGD), which is affected by firms' ownership structure, is recognized as one of the strategic tools for strong and effective corporate governance (Adams & Ferreira, 2009). Recent regulations on gender quotas also emphasize the strategic importance of women's representation on the board.

Feminine values related to ethics of care and relational values dominate the current CSR and social performance literature (Grosser et al., 2017). However, except for a few studies, the ownership–gender relationship and their combined effect on CSR have been neglected.<sup>2</sup> Therefore, we aim to examine whether the relationship between OC and CSR changes with the female touch and whether the female power is different in family-owned firms compared to others. We argue that due to the socially constructed gender roles of female board members, OC mitigates the negative impact on CSR. Besides, CSR-related governance decisions require some level of consensus in boardroom discussions (Hyun et al., 2016). Based on the majority effect in decision-making and social identity theory, we argue that female board members may be more effective in family-owned firms than other ownership structures. We also aim to show the potential impact of country-level cultural differences, more specifically gender egalitarianism, on the mediating role of women.

Using a sample of 26,029 firm-year observations over the period 2002–2017 from 4,479 firms and 44 countries, we find that the negative impact of OC on CSR is partially mediated by the BGD. Also, the moderated mediation analysis indicates that family shareholding weakens the direct effect of OC on BGD and its indirect effect on CSR. Our results can be interpreted as women are more accepted in firms with higher family shareholdings. We further document that the effect of BGD is stronger in high gender-egalitarian societies where females have higher societal acceptance and power.

We contribute to the existing literature by presenting a gender perspective on the ownership–CSR relationship with the influence of BGD in the international context. Grounding on social role theory and the theory of planned behavior, we explain the influence of female board members on CSR and develop an understanding of women's role in mediating the impact of OC and changes in the mediation through family shareholding. Specifically, our study complements the findings of Rees and Rodionova (2015) by documenting that the association between OC, family shareholding, and CSR is not straightforward, and there is a differential conditional impact of the OC on CSR based on the BGD and also moderated by the family shareholding. Furthermore, we complement the findings of McGuinness et al. (2017) using an

international sample and a moderated mediation analysis on the ownership–women relationship. Using an internationally diverse sample, we explain the variation in the impact of gender as a socially constructed phenomenon, the effect of national culture – *gender-egalitarian stance* – in the OC–CSR association. Our findings imply that the role of women in corporate life is highly correlated with institutional developments regarding women at the country-level. From a regulatory point of view, policymakers should consider potential institutional differences when determining BGD related regulations and, consequently, apply different enforcement mechanisms to empower women in business life.

## 2. Literature review and hypothesis development

### 2.1. OC, BGD, and CSR

Coming to the agenda with Bowen (1953) for the first time as an academic doctrine, CSR became a strategic issue for companies and society especially in the 1990s, and still maintains its importance today (Agudelo et al., 2019). The literature provides various definitions of CSR (Carroll, 1979, 1999; Jones, 1980). A well-known definition was made by Carroll in 1979 (p. 500), and pointed to the four-part framework that encompassed “*economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time*”. In 1999, Carroll modified the former definition and stated: “*The CSR firm should strive to make a profit, obey the law, be ethical, and be a good corporate citizen*”.

In recent years, firms' CSR activities and the resources allocated to these activities have increased significantly. However, these CSR activities have the potential to create a conflict between different shareholders (Barnea & Rubin, 2010). Specifically, this potential conflict may arise among controlling shareholders, who are affecting firms' behaviors regarding social investments (Dam & Scholtens, 2012; Rees & Rodionova, 2013). According to agency theory, controlling shareholders tend to be opportunistic (Shleifer & Vishny, 1986) and prefer to use firms' resources to their interests (e.g., Chen et al., 2006; Denis & McConnell, 2003; García-Meca and Sanchez-Ballesta, 2009; Jensen & Meckling, 1976; Lins, 2003; Shleifer & Vishny, 1986). They bear relatively high costs and risks associated with allocating resources to social investments (Cox et al., 2004). Thus, they are more likely to be opportunistic to limit possible non-value-maximizing investments (Kim & Yi, 2006) and constrain the investment in such activities (Rees & Rodionova, 2015). Thus, the concentration of ownership creates additional pressure on owners to oppose social investments due to the high cost of capital resulting from high-risk premiums (Demsetz & Lehn, 1985). Given the expected negative net financial return of such investments in the short term, controlling shareholders are more likely to be cautious about these investments. For example, Dam and Scholtens (2012) find that ownership by employees, individuals, and firms are associated with relatively poor social performance.

BGD is considered important by agency theory, isolating the board from the domination of a single mind in decision-making and collective intelligence (Abdullah, 2014; Burgess & Tharenou, 2002; Fauzi & Locke, 2012; Pucheta-Martinez et al., 2018; Woolley et al., 2015). As to the resource dependency theory, more diverse boards should provide greater access to additional resources (Abdullah, 2014; Burgess & Tharenou, 2002; Fauzi & Locke, 2012; Kyaw et al., 2017; Pucheta-Martinez et al., 2018). According to stakeholder theory, providing more diverse boards results in greater representation of a broader stakeholder group (Abdullah, 2014; Burgess & Tharenou, 2002; Fauzi & Locke, 2012; Fernandez et al., 2018; Macaulay et al., 2017). Fraudulent behaviors and corporate scandals at the forefront of governance issues promote

<sup>2</sup> The linear relationship between gender and ethics/CSR (e.g., Bernardi et al., 2006, 2009, 2002; Boulouta, 2013; Byron & Post, 2016) were mostly handled in country-based studies with smaller samples (e.g., Bianco et al., 2015; Burke, 1997; Campell & Minguez-Vera, 2008; Sheridan & Milgate, 2005) where gender perspective is ignored in the Canadian Context (Alonso-Almeida et al., 2015). Ben-Amar et al. (2013) study corporate ownership and diversity of the board of directors in the Canadian context where Liu et al. (2014) examine ownership–gender relationships in the case of China. However, the ownership structure is decomposed as person-controlled and state-control.

BGD globally (Larkin et al., 2013). Supporting gender equality and human rights are two of the EU's founding values and the UN's guiding principles. Besides, the corporate world's re-premiumization efforts have forced many European countries to apply gender quotas on corporate boards (Biswas et al., 2018; Kyaw et al., 2017). Also it was assumed that the presence of women on the boards of directors plays a vital role in CSR policies (Fernandez-Feijoo et al., 2014). Burgess and Tharenou (2002) add that while BGD increases company reputation and image, such well-balanced boards are likely to be effective and reduce corporate failures. Firms with more women on the board are included in the World's Most Ethical Firms list (Bernardi et al., 2006).

In line with the socialization theory, the positive link between BGD and CSR is explained by highlighting the moral orientations of men and women (Allazzani et al., 2017; Bear et al., 2010; Biswas et al., 2018; Byron & Post, 2016; Chadwick & Dawson, 2018; Francoeur, 2017; Kyaw et al., 2017; McGuinness et al., 2017; McGuinness et al., 2017, 2017; Yaaser et al., 2017). While moral orientations have been investigated as one of the independent drivers of CSR, building on prior research in social psychology, Hafenbrädl and Waeger (2017) suggest that “*specific beliefs and moral orientations are embedded in and shaped by more general belief systems.*” As for social role theory, the impacts of those sex-differentiated social behaviors of men and women on actual behaviors are mediated by structural conditions such as psychology, social/organizational settings, and culture (Eagly, 1997). Accepting gender as a socially constructed term, *the expectations associated with gender roles act as normative pressures that foster behaviors consistent with these sex-typical work roles* (Eagly, 1997). Since gender roles are constructed and shared, and people – consciously or not – choose to behave consistently with the person's gender role, or at least avoid drastic deviations in their behavior (Eagly & Wood, 2012). Therefore, such socially assigned gender roles and societal/organizational expectations can force women to be more eager to stand up for social issues (Fernandez et al., 2018; Nielsen & Huse, 2010).

The theory of planned behavior (Ajzen, 1991) proposes that both beliefs in other people's thoughts and belief in the ability to display this behavior are effective in an individual's behavior. Due to their diverse backgrounds, women are often responsible for non-operational supportive functions such as legal advice, human resources, communication, and public relations (Zelechowski & Bilimoria, 2004). Field research indicates that while committees allow specialized responsibilities on the assigned subjects, men are often preferred for membership positions in compensation, executive, and finance committees, and women are preferred for membership in public affairs committees (Bilimoria & Piderit, 1994). Francoeur (2017) considers corporate social performance as a multi-dimensional construct and finds that gender-diverse boards are only positively associated with environmental and community dimensions of corporate social performance, labeled as less powerful stakeholders in the study. Also, as reported in EOWA (2008), in interviews with the Australian male board of directors, it was stated that while women were preferred for 'soft issues', including human resources, occupational health and safety, corporate donations, and ethical issues, they were not preferred for engineering and technical issues (as in Rao & Tilt, 2015).

The majority of the studies examining the relationship between gender and firm performance (related to finance) imply a negative or insignificant relationship (Abdullah, 2014; Marinova et al., 2016) and specifically emphasize the importance of critical mass (Rossi et al., 2018). Kyaw et al. (2017) study results indicate that unlike the financial performance situation, it is not necessary to reach a critical mass in women's board membership to contribute to CSR. In fact, it is boldly stated in the literature that women are appointed to

the board as members of the board of directors (Burgess and Tharenou, 2002), as if they were only responsible for social reasons due to their social sensitivity. Therefore, based on socially constructed gender roles, it is expected that women directors, consciously or unconsciously, will act by the expected gender roles, attract the attention of the board, and make decisions. As a result, much more socially, ethical, and caring actions will likely lead to a better CSR, and higher BGD is expected to mitigate powerful controlling shareholders' confrontation with socially responsible investments.

Therefore, OC negatively affects CSR and BGD. However, given the positive effect of BGD on CSR, we argue that BGD has a mediating role in this relationship, thus reduces the expected negative impact of OC on CSR. Hence, we propose:

**Hypothesis 1.** BGD mediates the relationship between OC and CSR.

### 3. The moderating role of family shareholding

Family firms are one of the most dominant forms of ownership in the world (Boubakri et al., 2010; La Porta et al., 1999). They are characterized by the trans-generational and intra-family succession for long-term growth and development supported by reputation and social capital (Chua et al., 2011). Family shareholders often have a long-term investment focus (Miller & Breton-Miller, 2006; Nelson, 2003). They are often involved in decision-making through holding executive management positions (Anderson & Reeb, 2003), avoid risky decisions (Gómez-Mejía et al., 2007), and have a high socio-economic wealth (Kappes & Schmid, 2013). In this respect, family-controlled firms are different from non-family-controlled firms. In family firms, family shareholders have strong incentives to keep the control and management of their firms (Burkart et al., 2003; Hillier & McColgan, 2009). Informal control mechanisms are higher, and managerial promotion opportunities are mostly given to employees who are strongly aligned with family interests (Arregle et al., 2007). Consequently, family-controlled firms have less agency conflict between managers and controlling shareholders, but the concentration of decision-making power of controlling family shareholders is higher in family-controlled firms compared to others (Rees & Rodionova, 2015).

Previous research shows that BGD decreases with OC (Kang et al., 2007) due to consolidation of controlling shareholders (Yeh & Woitke, 2005), while the presence of women in the boardroom increases with family shareholding (Abdullah, 2014; Abdullah et al., 2016; Martín-Ugedo & Miguez-Vera, 2014; McGuinness, 2018; Nekhili & Gatfaoui, 2013; Ruigrok et al., 2007; Sheridan & Milgate, 2005). The study of Campell and Miguez-Vera (2008) reveals that “*female board appointments, in reality, are more likely to be related to family links than to any external process*”, given that 60% of female boardroom appointments in their sample were in family firms. In the Canadian case, this is about 12.6% (Burke, 1997) and in the Italian case 55% (Bianco et al., 2015). In France, 35 (26%) of 137 female directors have close family relationships with the company's founder/CEO; an heir (daughter, granddaughter, sister, or niece), or a spouse/partner (Singh et al., 2015). Sheridan and Milgate (2005) indicate that, in Australia, family relationship with the company owner is an important determinant of board membership of women. Therefore, although the studies show country-specific characteristics, it is seen that the appointment of women to boards depends on the ownership/founding families and the ownership structure of the firms.

There are also arguments in the literature that not only merit but also kinship appointments to key management positions result in worse board performances (including Claessens et al., 2000;

Howorth et al., 2010; Bianco et al., 2015). Bianco et al. (2015) and Nekhili and Gatfaoui (2013) point to better education, while McGuinness (2018) highlights greater expertise of women on the boards in non-family firms. Alonso-Almeida et al. (2015) could not find a relationship between professional background and CSR but found that there is a relationship between women's education level and CSR awareness. Women directors of family firms are not necessarily less educated, but women have a more favorable environment for appointment to director positions than non-family businesses (Chadwick & Dawson, 2018). In non-family firms, when promoting to top positions, women need to outperform and even be more capable than their male counterparts (Chadwick & Dawson, 2018; Nekhili et al., 2018). However, while women's competencies remain part of a long-standing debate, a completely overlooked aspect is that women fit into a male-dominated environment where the performance criteria that assess these competencies are determined by masculine values (McAdam et al., 2020).

Women's contributions to operations in family firms are often not recognized as much as their male relatives, causing women's influence to be underestimated (Jimenez, 2009). In family firms, the competencies of male directors are not under scrutiny as much as female directors. Such a gendered perspective and stereotypes only serve to reinforce existing structures (Howorth et al., 2010). While it is common to underestimate the influence of women in all types of ownership structures, the numerical superiority of women in family-firms is evident. Jimenez (2009) mentions the importance of women's contributions to family firms, highlighting the unique management styles shaped by socialization and psychological determinants, despite gender-related structural barriers that cause women to start one step behind. Depending on the social role theory and the planned behavior theory, traditional organizational structures and managerial attitudes are more likely to make women invisible, especially in family businesses, but women are more confident to act and men are more accepting of women's inputs on social issues. Furthermore, Cruz et al. (2019) show that female directors, both family, and non-family members, have positive effects on corporate social performance and that only one insider has enough power to influence other board members. Although we expect the OC to negatively affect BGD and thus affect CSR, considering the positive effect of family shareholding on BGD, we argue that family shareholding has a moderating role in this relationship. Hence, we propose:

**Hypothesis 2.** Family shareholding moderates the relationship between OC and BGD so the negative association between OC and BGD weakens when family shareholding increases.

#### 4. The moderated mediation model

Ownership structure plays a significant role in BGD (e.g., Ben-Amar et al., 2013), and through the composition of boards, group dynamics in decision-making become decisive in the performance of the boards (McGuinness, 2018; McGuinness et al., 2017; Nielsen & Huse, 2010). Despite the increasing trend in female representation on the board, women's minority status remains (Kanadli et al., 2018). The male majority of corporate boards generally view women (minorities) as out-group members in a traditionally characterized 'old boys' club' (Nielsen & Huse, 2010), consistent with social identity theory (Hogg & Terry, 2000). Based on social identity theory, in the family-firm case, there is a more dominant social structure: the family as the (primary) social group. In family firms, individuals are likely to categorize themselves as family members rather than gender (Leonardelli & Toh, 2015; Schmidts, 2013). Thus, the gender minority effects disappear when non-

family board members are a minority (Nekhili et al., 2018), and women are in-group with other family members.

Given the in-group status of female board members in family shareholding, the above arguments represent an integrated framework in which BGD mediates the negative relationship between OC and CSR, while family shareholding moderates the relationship between OC and BGD. Considering that family shareholding moderates the relationship between OC and BGD, and BGD is positively associated with CSR, it is reasonable to suggest that family shareholding also moderates the strength of the mediating mechanism of BGD in the relationship between OC and CSR, a moderated mediation model. Therefore, the aforementioned negative relationship between OC and BGD is less strong in family firms. Hence, the indirect effect of OC on CSR is less powerful in family firms. Consequently, when a firm is controlled by a family, OC is less powerful for BGD, and the indirect negative impact of OC on CSR should be weaker. Hence, we propose:

**Hypothesis 3.** Family shareholding moderates the mediation effect of BGD in the relationship between OC and CSR, such that the indirect effect of OC on CSR through BGD is weaker for family firms.

#### 5. Research methodology

In this context, in Fig. 1, we present a moderated mediation model that positions BGD as a mediator of the relationship between ownership structure and CSR and positions family shareholding as a moderator of these effects.

##### 5.1. Sample

Following Ioannou and Serafeim (2012), Rees and Rodionova (2015), Kyaw et al. (2017), Biswas et al. (2018), in this study, we draw our sample from Thomson Reuters ASSET4.<sup>3</sup> Our sample covers all firms in the full international universe of the ASSET4 database with available environmental and social performance over the period 2002–2017. The initial sample has a population of 125,552 firm-years. After eliminating firms with missing data for any of the independent, mediating, and controlling variables in year t-1, we have a final sample of 4,479 firms and 26,029 firm-year observations from 44 countries.

##### 5.2. Empirical models

Following Baron and Kenny (1986), to examine Hypothesis 1, we use the following models:

$$CSR_{it} = \beta_0 + \beta_1 OC_{it-1} + \beta_2 \text{Firm-specific controls}_{it-1} + (\text{Auditor, Industry, Year and Country dummies}) + \varepsilon \quad (1)$$

$$BGD_{it-1} = \beta_0 + \beta_1 OC_{it-1} + \beta_2 \text{Firm-specific controls}_{it-1} + (\text{Auditor, Industry, Year and Country dummies}) + \varepsilon \quad (2)$$

$$CSR_{it} = \beta_0 + \beta_1 BGD_{it-1} + \beta_2 OC_{it-1} + \beta_3 \text{Firm-specific controls}_{it-1} + (\text{Auditor, Industry Year and Country dummies}) + \varepsilon \quad (3)$$

Where  $CSR_{it}$  is a percentage reflecting a firm-level score in year t measuring the level of firms' respect for CSR. To measure  $CSR_{it}$ , as Ioannou and Serafeim (2012), we use the natural logarithm of an equal-weighted average of environmental and social performance

<sup>3</sup> Thomson Reuters-ASSET4 database provides environmental, social and governance (ESG) firm-level information based on more than 250 key performance indicators (KPIs) and 750 individual data points. See <http://extranet.datastream.com/data/ASSET4%20ESG/Index.htm>.

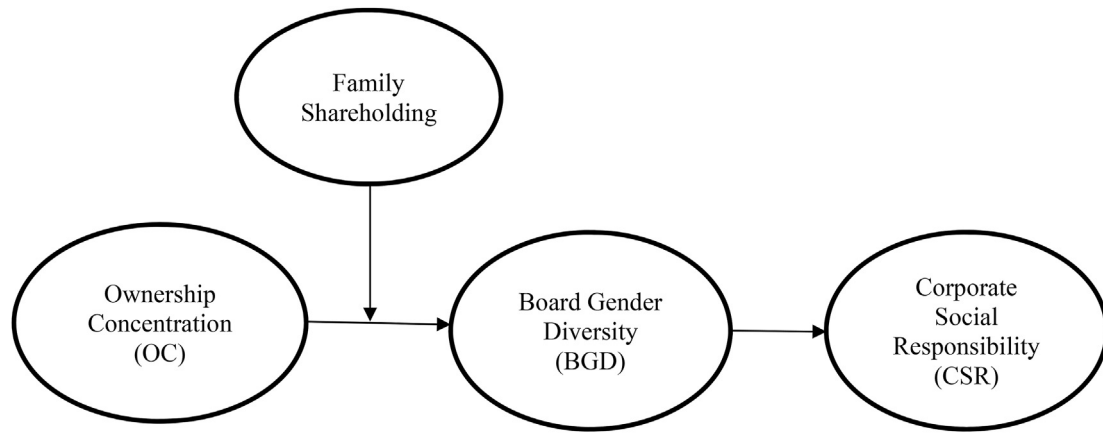


Fig. 1. The conceptual model of the study.

as provided by Asset4. The environmental performance reflects the level of the company's best management practices to avoid environmental risks and capitalize on environmental opportunities to generate long-term shareholder value. The social performance reflects the company's reputation and the health of its license to operate, which are the key factors in determining its ability to generate long-term shareholder value. We computed  $CSR_{it}$  by adding environmental and social scores and dividing the sum by 2.

$OC_{it-1}$  reflects closely-held shares in year t-1, which is the natural logarithm of the percentage measured by dividing a total number of closely held shares by common shares outstanding. It represents shares held by insiders, other corporations and financial institutions, and individual blocks holding over 5 percent. Following Rees and Rodionova (2015), we derived the data for closely-held shares from Worldscope (WC08021).

$BGD_{it-1}$  is measured as the natural logarithm of the percentage of women on the board of directors (CGBSO17V from Asset4) in year t-1. In addition to the percentage, we use the *BGD dummy*, a binary variable that takes the value of 1 if there is a firm with at least one female board member, and 0 otherwise.

We also control all our models for firm-specific determinants, which may have an impact on the CSR activities of firms. More specifically, we control all our models for *Firm size* $_{it-1}$  measured as the natural logarithm of total assets (WC02999 from Worldscope) in year t-1, *Leverage* $_{it-1}$  indicating the natural logarithm of the percentage for the total debt to total equity in year t-1 (WC08231 from Worldscope), *MV* $_{it-1}$  which is the natural logarithm of the market capitalization in year t-1 (WC07210), *CAPEX* $_{it-1}$  indicating the natural logarithm of the funds used to acquire fixed assets other than those associated with acquisitions in year t-1 (WC04601 from Worldscope), *EBIT* $_{it-1}$  reflecting the natural logarithm of earnings before interest and tax in year t-1 (WC18191 from Worldscope), calculated by taking the pre-tax income and adding back interest expense on debt and subtracting interest capitalized. Also, we consider the potential impact of firm-level corporate governance practices on CSR and control our models for *Shareholdersright* $_{it-1}$ , which is the natural logarithm of the performance score of the firm for shareholders' rights. It reflects the performance of firms in ensuring minority shareholders' equal rights and privileges, and by limiting the use of anti-takeover devices in year t-1 (CGSR from Asset4), *CEO BOD\_Dummy* $_{it-1}$ , an indicator variable taking the value of 1 if the CEO is a board member in year t-1, 0 otherwise (CGBSDP061 from Asset4), *CEO Comp\_Comm\_Dummy* $_{it-1}$ , an indicator variable taking the value of 1 if the company has a compensation committee in year t-1, 0 otherwise (CGCPDP041 from Asset4), and *Reputation\_dummy* $_{it-1}$ , an indicator variable taking the value of 1 if the company monitors its reputation or its relations with communities in year t-1, 0 otherwise (SOCODP021 from Asset4), and *CSR\_Audit\_dummy* $_{it-1}$ , an indicator variable taking the

value of 1 if CSR/Sustainability report in year t-1 is audited, 0 otherwise (CGVSDP033 from Asset4). Finally, we also consider firms' exposure to a mandatory practice and use *GenderQuota* $_{t-1}$ , an indicator variable taking the value of 1 if the company is operating in a country where the appointment of females is mandatory in year t-1, 0 otherwise. We downloaded all our control variables from Thomson Reuters Datastream, Asset4, and Worldscope databases. All firm-specific control variables were measured each year separately.

According to Baron and Kenny (1986), in mediation analysis, first, the dependent variable ( $CSR_{it}$ ) is regressed on the independent variables ( $OC_{it-1}$ ) to measure the direct effect. Therefore, in Equation (1), our variable of interest is the coefficient of  $OC_{it-1}$ . We expect a negative and significant coefficient, indicating that when ownership is more concentrated,  $CSR_{it}$  decreases. The second step involves regressing the mediator ( $BGD_{it-1}$ ) on the independent variables ( $OC_{it-1}$ ) to test the path from the independent variable to the mediator variable. Thus, in Equation (2), we are interested in the coefficient of  $OC_{it-1}$ . We expect a negative and significant coefficient, indicating that when ownership is more concentrated,  $BGD_{it-1}$  decreases. The last step of the analysis requires regressing the dependent variable ( $CSR_{it}$ ) on the independent variables ( $OC_{it-1}$ ) and the mediator ( $BGD_{it-1}$ ). Accordingly, in Equation (3), our variables of interest are both the coefficient of  $BGD_{it-1}$  and  $OC_{it-1}$ . To run the regression analysis in this step, the coefficient estimates of the initial analysis should be significant in all previous steps, and adding the mediator ( $BGD_{it-1}$ ) reduces (or nullifies) the association between  $CSR_{it}$  and  $OC_{it-1}$ . In Equation (3), we expect the coefficient of  $OC_{it-1}$  to be smaller in terms of magnitude relative to the coefficient in Equation (1) and significant (insignificant), indicating that  $BGD_{it-1}$  partially (fully) mediates the impact of  $OC_{it-1}$  on  $CSR_{it}$ .

Furthermore, to examine Hypothesis 2, we use the following model:

$$BGD_{it-1} = \beta_0 + \beta_1 OC_{it-1} + \beta_2 \text{Family Shareholding}_{it-1} + \beta_3 OC_{it-1} \times \text{Family Shareholding}_{it-1} + \beta_4 \text{Firm-specific controls}_{it-1} + (\text{Auditor, Industry, Year and Country dummies}) + \varepsilon \quad (4)$$

Where *Family Shareholding* $_{it-1}$  is the natural logarithm of the percentage that represents strategic equity of 5% or more held by employees or (typically) family members in year t-1, following Rees and Rodionova (2015), we derived the data for the family shareholding from Datastream (NOSHEM).

Of interest in Equation (4) is the coefficient of the interaction term  $OC_{it-1} \times \text{Family Shareholding}_{it-1}$ , which indicates how the impact of closely held shares on  $BGD_{it-1}$  changes when family shareholding increases. We expect that the coefficient of the interaction term is positive and significant, implying that the negative impact of  $OC_{it-1}$  on  $BGD_{it-1}$  is lower when *Family*

**Table 1**  
Summary statistics.

Variable	Full Sample (N = 26,029)				BGD dummy = 1 (N = 17,729)	BGD dummy = 0 (N = 8300)	Univariate test (t-test statistics to test mean difference) Ha:A≠B	
	Mean	Std. Dev.	Min	Max	(A) Mean	(B) Mean	(A-B) Difference	t-values
$CSR_{it}$	53.669	28.222	6.695	95.965	55.941	48.817	7.124	*** 18.682
$BGD_{it-1}$	11.690	11.143	0.000	44.440	16.915	0.529	16.386	*** 2.1e+0
$OC_{it-1}$	23.366	23.822	0.020	91.650	20.204	30.121	-9.917	*** -32.200
$Family\ Shareholding_{it-1}$	4.484	12.151	0.000	66.000	4.395	4.673	-0.278	** -1.727
$Firm\ Size_{it-1}\ (mil.\ \$)$	27,800	66,300	8,356	388,000	31,800	19,300	12,500	*** 16.776
$Leverage_{it-1}$	1.174	1.903	0.000	13.441	1.227	1.062	0.164	*** 6.822
$MV_{it-1}\ (mil.\ \$)$	10,435	16,239	9,330	82,816	11,991	7,113	4,878	*** 26.535
$CAPEX_{it-1}\ (mil.\ \$)$	589	1099	0.000	5789	607	551	55	*** 3.843
$EBIT_{it-1}\ (mil.\ \$)$	1226	2121	0.000	11,100	1393	867	526	*** 21.059
$Shareholdersright_{it-1}$	51.180	29.484	1.100	97.470	56.432	39.961	16.471	*** 43.225
$CEO\ BOD\_Dummy_{it-1}$	0.876	0.328	0	1	0.877	0.875	0.001	0.354
$Comp\_Comm\_Dummy_{it-1}$	0.834	0.371	0	1	0.937	0.613	0.324	*** 57.375
$Reputation\_dummy_{it-1}$	0.197	0.398	0	1	0.225	0.136	0.089	*** 18.235
$CSR\_Audit\_dummy_{it-1}$	0.285	0.451	0	1	0.287	0.280	0.007	1.108
$GenderQuota_{t-1}$	0.138	0.344	0	1	0.163	0.084	0.079	*** 19.149

\*\*\*, \*\*, and \* denote the significance level at 1%, 5%, and 10%. All variables presented in Table 1 represents the raw values, winsorized at 1%. In the analyses, we used the natural logarithm of all continuous variables.

Shareholding<sub>it-1</sub> increases.

Furthermore, to test Hypothesis 3, we use the following model:

$$CSR_{it-1} = \delta_0 + \delta_1 BGD_{it-1} + \delta_2 OC_{it-1} + \delta_3 Family\ Shareholding_{it-1} + \delta_4 OC_{it-1} \times Family\ Shareholding_{it-1} + \delta_5 Firm\text{-}specific\ controls_{it-1} + (Auditor, Industry, Year and Country dummies) + \varepsilon \quad (5)$$

In Equation (5), we are interested in the conditional indirect effect of  $OC_{it-1}$ , which is  $[\delta_1 \times (\beta_1 + \beta_3)]$ . In other words, the conditional indirect effect of  $OC_{it-1}$  is equal to the coefficient of  $BGD_{it-1}$  ( $\delta_1$ ) in Equation (5) multiplied by the sum of the coefficients of  $OC_{it-1}$  and  $OC_{it-1} \times Family\ Shareholding_{it-1}$  ( $\beta_1 + \beta_3$ ) in Equation (4).

We winsorize all continuous variables at 1% and 99% levels. In all models, we include auditor, industry, year, and country dummies in the analysis to control for the auditor, general industry classification, year, and country fixed effects. We use Huber/White/sandwich standard error estimates clustered by firms to correct potential heteroscedasticity and within-cluster correlation.

## 6. Results

### 6.1. Summary statistics and univariate analysis

Table 1 presents the summary statistics for the full sample and the samples decomposed by the existence of female board members. In the full sample, the mean value of the  $CSR_{it}$  is 53.66%.  $BGD_{it-1}$  is 11.69%. On average,  $OC_{it-1}$  and  $Family\ Shareholding_{it-1}$  are 23.36 and 4.48, respectively. If the sample is decomposed by the existence of female board members ( $BGD\ dummy$ ),  $CSR_{it}$  is higher in firms with gender diversity ( $\mu = 55.94$ ). In line with our expectations, on average  $OC_{it-1}$  is higher in firms with no gender diversity ( $\mu = 30.12$ ). Additionally, regarding the firm and country-specific characteristics, firms with female board members are relatively bigger in size both in terms of total assets and market value, having higher leverage, and performing better. As expected, firms with gender diversity have higher shareholders' rights and are more likely to monitor their reputation. Also, firms with gender diversity are from countries with gender quotas. Univariate tests show that firms with women on the board and with no women on the board differ from each other in the majority of the characteristics, and this difference is statistically significant. Overall descriptive statistics suggest that firms in our sample show strong variations regarding  $CSR_{it}$ ,  $OC_{it-1}$ ,  $Family\ Shareholding_{it-1}$ , and  $BGD_{it-1}$ .

Table 2 presents the correlation matrix. According to the results,  $CSR_{it}$  has a strong correlation with all independent and control variables. Thus, the inclusion of those variables is important for the robustness of the analysis.

### 6.2. Results of Hypothesis 1

Table 3 shows that the coefficient of  $OC_{it-1}$  is negative and significant both in Model-1 ( $\beta = -0.070$ ,  $p < 0.01$ ) and Model-2 ( $\beta = -0.061$ ,  $p < 0.01$ ), indicating that  $OC_{it-1}$  decreases both  $CSR_{it}$  and  $BGD_{it-1}$ , which is in line with our expectations. Furthermore, in Table 3 Model-3, the coefficient of  $OC_{it-1}$  is negative and significant ( $\beta = -0.063$ ,  $p < 0.01$ ) and smaller in magnitude relative to the coefficient in Model-1 ( $\beta = -0.070$ ,  $p < 0.01$ ). The results indicate a partial mediation effect of  $BGD_{it-1}$  on the relationship between  $OC_{it-1}$  and  $CSR_{it}$ , supporting Hypothesis 1.

In economic terms, Table 3 Model-1 shows that if OC increases by 1 percent, this causes a direct effect of a 7.958 percent decrease in the average CSR.<sup>4</sup> On the other hand, as it is presented in Table 3 Model-3, after considering the mediating role of BGD, if OC increases by 1 percent, this leads to a 7.192 percent decrease in the average CSR.<sup>5</sup> This means that the mediating impact of BGD lowers the negative effect of OC on CSR by 10.65 percent.<sup>6</sup>

<sup>4</sup> To compute the percentage change, we first calculate the unstandardized coefficient of  $OC_{t-1}$  in Table 3. The unstandardized coefficient of  $OC_{t-1}$  is computed as  $-0.083$  ( $-0.070$  (the coefficient on  $OC_{t-1}$  in Table 3, Model-1) multiplied by 28.222 (the standard deviation of CSR, see Table 1) and divided by 23.822 (the standard deviation of  $OC_{t-1}$ , see Table 3)). Further, as we use the natural logarithm of our continuous variables, we also convert the coefficients. The percentage effect on the dependent variable is 7.958 and computed as  $(e^{x-1})$ , where  $e$  is 2.71828 and  $x$  is  $-0.083$ , the unstandardized estimated coefficient for  $OC_{t-1}$  (see Wooldridge (2009), p. 232).

<sup>5</sup> Similarly, to compute the percentage change in CSR after the mediating effect of BGD, we first calculate the unstandardized coefficient of  $OC_{t-1}$  in Table 3. The unstandardized coefficient of  $OC_{t-1}$  is computed as  $-0.075$  ( $-0.063$  (the coefficient on  $OC_{t-1}$  in Table 3, Model-3) multiplied by 28.222 (the standard deviation of CSR, see Table 1) and divided by 23.822 (the standard deviation of  $OC_{t-1}$ , see Table 3)). Further, as we use the natural logarithm of our continuous variables, we also convert the coefficients. The percentage effect on the dependent variable is 7.192 and computed as  $(e^{x-1})$ , where  $e$  is 2.71828 and  $x$  is  $-0.075$ , the unstandardized estimated coefficient for  $OC_{t-1}$  (see Wooldridge (2009), p. 232).

<sup>6</sup> It is computed as  $([(7.958/7.192) - 1] * 100)$ .

**Table 2**  
Correlation matrix.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
CSR <sub>it</sub>	[1]	1.000													
BGD <sub>it-1</sub>	[2]	0.153	1.000												
OC <sub>it-1</sub>	[3]	0.010	-0.187	1.000											
Family Shareholding <sub>it-1</sub>	[4]	-0.084	0.004	0.301	1.000										
Firm Size <sub>it-1</sub>	[5]	0.236	0.105	-0.045	-0.072	1.000									
Leverage <sub>it-1</sub>	[6]	0.041	0.040	-0.008	-0.032	0.340	1.000								
MV <sub>it-1</sub>	[7]	0.447	0.118	-0.065	-0.070	0.473	0.068	1.000							
CAPEX <sub>it-1</sub>	[8]	0.303	0.007	-0.002	-0.064	0.349	0.068	0.523	1.000						
EBIT <sub>it-1</sub>	[9]	0.330	0.116	-0.056	-0.059	0.719	0.193	0.674	0.633	1.000					
Shareholdersright <sub>it-1</sub>	[10]	0.083	0.205	-0.287	-0.071	0.011	-0.021	0.101	0.049	0.082	1.000				
CEO BOD_Dummy <sub>it-1</sub>	[11]	-0.053	-0.046	-0.144	-0.078	-0.019	-0.041	0.025	0.039	0.014	0.020	1.000			
Comp_Comm_Dummy <sub>it-1</sub>	[12]	-0.021	0.289	-0.155	-0.010	0.051	0.033	0.052	0.011	0.070	0.312	0.037	1.000		
Reputation_dummy <sub>it-1</sub>	[13]	0.483	0.141	0.031	-0.024	0.167	0.015	0.230	0.186	0.218	0.074	-0.044	0.026	1.000	
CSR_Audit_dummy <sub>it-1</sub>	[14]	0.435	0.050	0.107	-0.017	0.239	0.041	0.309	0.243	0.287	-0.045	-0.125	-0.058	0.269	1.000
GenderQuota <sub>t-1</sub>	[15]	0.076	0.146	0.033	0.081	0.061	0.047	-0.017	0.029	0.014	0.084	-0.064	0.105	0.121	0.096

**Table 3**  
Results of multivariate regressions for testing H1.

VARIABLES	Model-1 DV: CSR <sub>it</sub>	Model-2 DV: BGD <sub>it-1</sub>	Model-3 DV: CSR <sub>it</sub>
<b>BGD<sub>it-1</sub></b>			<b>0.112***</b> <b>(9.975)</b>
<b>OC<sub>it-1</sub></b>	<b>-0.070***</b> <b>(-6.504)</b>	<b>-0.061***</b> <b>(-5.409)</b>	<b>-0.063***</b> <b>(-5.987)</b>
Firm Size <sub>it-1</sub>	0.272*** (7.791)	0.039 (1.229)	0.268*** (7.687)
Leverage <sub>it-1</sub>	0.011 (0.785)	0.028** (2.044)	0.008 (0.567)
MV <sub>it-1</sub>	0.120*** (4.249)	0.131*** (4.770)	0.106*** (3.702)
CAPEX <sub>it-1</sub>	0.097*** (5.627)	-0.041*** (-2.850)	0.102*** (5.947)
EBIT <sub>it-1</sub>	0.053** (1.998)	0.069*** (3.387)	0.046* (1.665)
Shareholdersright <sub>it-1</sub>	0.065*** (6.763)	0.010 (0.993)	0.064*** (6.726)
CEO BOD_Dummy <sub>it-1</sub>	-0.001 (-0.023)	0.025 (0.629)	-0.004 (-0.098)
Comp_Comm_Dummy <sub>it-1</sub>	0.152*** (4.839)	0.067** (2.021)	0.145*** (4.560)
Reputation_dummy <sub>it-1</sub>	0.549*** (26.934)	0.108*** (4.511)	0.537*** (26.481)
CSR_Audit_dummy <sub>it-1</sub>	0.295*** (12.333)	0.043 (1.635)	0.291*** (12.219)
GenderQuota <sub>t-1</sub>	-0.095*** (-2.875)	0.517*** (10.854)	-0.152*** (-4.626)
Constant	-0.665*** (-7.221)	0.203** (1.996)	-0.688*** (-7.521)
Observations	26,029	26,029	26,029
R-squared	0.431	0.397	0.439
Auditor fixed-effect	Yes	Yes	Yes
Industry fixed-effect	Yes	Yes	Yes
Year fixed-effect	Yes	Yes	Yes
Country fixed-effect	Yes	Yes	Yes

\*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.10. Robust standard errors clustered by company. T-values are presented in parentheses. All continuous variables are standardized to have a mean of zero and standard deviation of one.

6.3. Results of Hypothesis 2

In Table 4, Model-2, the coefficient of the interaction term OC<sub>it-1</sub> x Family Shareholding<sub>it-1</sub> is positive and significant (β = 0.051, p < 0.01), implying that the negative impact of OC on BGD is lower when Family Shareholding<sub>it-1</sub> increases. This result indicates that in firms with higher family shareholding, the negative effect of OC<sub>it-1</sub> on BGD<sub>it-1</sub> is incrementally less compared to firms with lower

family shareholding, supporting Hypothesis 2. Also, in Fig. 2, we illustrate the moderating role of family shareholding on the relationship between OC and BGD. As it is shown in Fig. 2, if the family shareholding is low, firms with high OC have lower BGD. On the other hand, in firms with high family shareholding, BGD increases by OC because the concentrated shares are held by family members. These results indicate that family shareholding not only weakens the influence of OC on BGD, but BGD reverses OC's adverse effect.



**Table 4**  
Results of multivariate regressions for testing H2 and H3.

VARIABLES	Model-1 DV: CSRit	Model-2 DV: BGDit-1	Model-3 DV: CSRit
<b>BGD<sub>it-1</sub></b>			<b>0.111***</b> ( <b>9.980</b> )
<b>OC<sub>it-1</sub></b>	<b>-0.036***</b> ( <b>-3.100</b> )	<b>-0.042***</b> ( <b>-3.260</b> )	<b>-0.031***</b> ( <b>-2.743</b> )
<b>Family Shareholding<sub>it-1</sub></b>	<b>-0.083***</b> ( <b>-5.800</b> )	<b>-0.021</b> ( <b>-1.593</b> )	<b>-0.081***</b> ( <b>-5.699</b> )
<b>OC<sub>it-1</sub> x Family Shareholding<sub>it-1</sub></b>	<b>0.032**</b> ( <b>2.268</b> )	<b>0.051***</b> ( <b>3.619</b> )	<b>0.026*</b> ( <b>1.860</b> )
Firm Size <sub>it-1</sub>	0.260*** (7.492)	0.039 (1.210)	0.256*** (7.394)
Leverage <sub>it-1</sub>	0.011 (0.803)	0.028** (2.058)	0.008 (0.584)
MV <sub>it-1</sub>	0.124*** (4.391)	0.129*** (4.703)	0.109*** (3.852)
CAPEX <sub>it-1</sub>	0.096*** (5.638)	-0.040*** (-2.769)	0.100*** (5.956)
EBIT <sub>it-1</sub>	0.056** (2.103)	0.069*** (3.356)	0.048* (1.770)
Shareholdersright <sub>it-1</sub>	0.065*** (6.740)	0.011 (1.169)	0.064*** (6.688)
CEO BOD_Dummy <sub>it-1</sub>	0.002 (0.065)	0.023 (0.569)	-0.000 (-0.001)
Comp_Comm_Dummy <sub>it-1</sub>	0.152*** (4.855)	0.070** (2.137)	0.144*** (4.569)
Reputation_dummy <sub>it-1</sub>	0.547*** (27.113)	0.108*** (4.516)	0.535*** (26.649)
CSR_Audit_dummy <sub>it-1</sub>	0.286*** (12.069)	0.044* (1.694)	0.281*** (11.957)
GenderQuota <sub>t-1</sub>	-0.091*** (-2.770)	0.519*** (10.952)	-0.149*** (-4.523)
Constant	-1.019*** (-15.168)	0.234*** (3.417)	-1.045*** (-15.653)
Observations	26,029	26,029	26,029
R-squared	0.435	0.398	0.443
Auditor fixed-effect	Yes	Yes	Yes
Industry fixed-effect	Yes	Yes	Yes
Year fixed-effect	Yes	Yes	Yes
Country fixed-effect	Yes	Yes	Yes

\*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.10. Robust standard errors clustered by company. T-values are presented in parentheses. All continuous variables are standardized to have a mean of zero and standard deviation of one.

#### 6.4. Results of Hypothesis 3

To examine Hypothesis 3, we follow Hayes (2017, p. 398, Figure 11.1, Model-A). Table 4, Model-3, shows that the indirect effect of OC<sub>it-1</sub> on CSR<sub>it</sub> via BGD<sub>it-1</sub> is weaker as family shareholding increases ( $\beta = -0.031$ ,  $p < 0.01$ ). Also, in Table 5, we present the conditional indirect effect of OC<sub>it-1</sub>, which is ( $\beta = 0.001$ ,  $p < 0.455$ ) (=the coefficient of BGD<sub>it-1</sub> ( $\delta_1$ ) in Table 4, Model-3 multiplied by the sum of coefficients of OC<sub>it-1</sub> and OC<sub>it-1</sub> x Family Shareholding<sub>it-1</sub> ( $\beta_1 + \beta_3$ ) in Table 4, Model-2. Also, if we compare the impact of 1 standard deviation increase in Family Shareholding, we observe that the indirect effect of OC<sub>it-1</sub> on CSR<sub>it</sub> via BGD<sub>it-1</sub> is stronger for firms with lower family shareholding ( $\beta = -0.009$ ,  $p < 0.01$ ) than for firms with higher family shareholding ( $\beta = -0.00001$ ,  $p < 0.962$ ), thus supporting Hypothesis 3.

### 7. Post-hoc analysis

#### 7.1. Gender egalitarianism

National culture is the key in understanding the cultural and moral values of a group/country. Both CSR and the number and quality of board members are affected by these cultural values. Therefore, gender rather than biological sex provides a sense of the effects of ethical orientation of board members (McCabe et al., 2006). While corporate decision-making is influenced by a country's culture (Nguyen et al., 2008), common cultural assumptions assign gender-specific social roles that promote gender stereotypes

(Carrasco et al., 2015). Such moral standards in turn affect behavior (Turiel, 1994, p. 187). To overcome the limitation of treating sex as a binary variable (McCabe et al., 2006), we consider the gender-egalitarian scores of societies as defined in the GLOBE project (House et al., 2002).

Gender egalitarianism is "the degree to which a collective minimizes gender inequality" (House et al., 2004, p. 30). In the GLOBE study, high (low) gender-egalitarian societies are characterized by less (more) gender gap. Women are expected to be strong in social and economic life in egalitarian societies (Terjesen et al., 2009). We expect high BGD in high-gender egalitarian societies.<sup>7</sup> We expect

<sup>7</sup> A company based in one country might be potentially owned or controlled by another company based in another country, consequently influenced by the parent company's culture. In our gender egalitarianism analyses, we assume that organizational culture is similar to national culture. With globalization, countries are exposed to foreign cultural norms as well as foreign goods and foreign capital. Organizational cultures do not significantly differ from national cultures and are unlikely to modify national cultures (Bery et al., 1992; Hofstede et al., 1990). In case of a conflict between national and organizational cultures, the national culture will override organizational culture (Laurent, 1986). The lesser the national cultural distance, the easier the transfer of management practices from the parent company to its subsidiary (Liu, 2004). In their study, Halkos and Tzeremes (2008) indicate that national culture shapes multinational corporations' management and administration. On the other hand, Kodama et al. (2018) state that foreign investors transfer their corporate culture to foreign affiliates. Still, this transition takes time and depends on the investors' degree of control. Moreover, although the findings confirm that foreign acquisitions are associated with an increase in the female share of workers, they are not associated with the likelihood of having female board members.

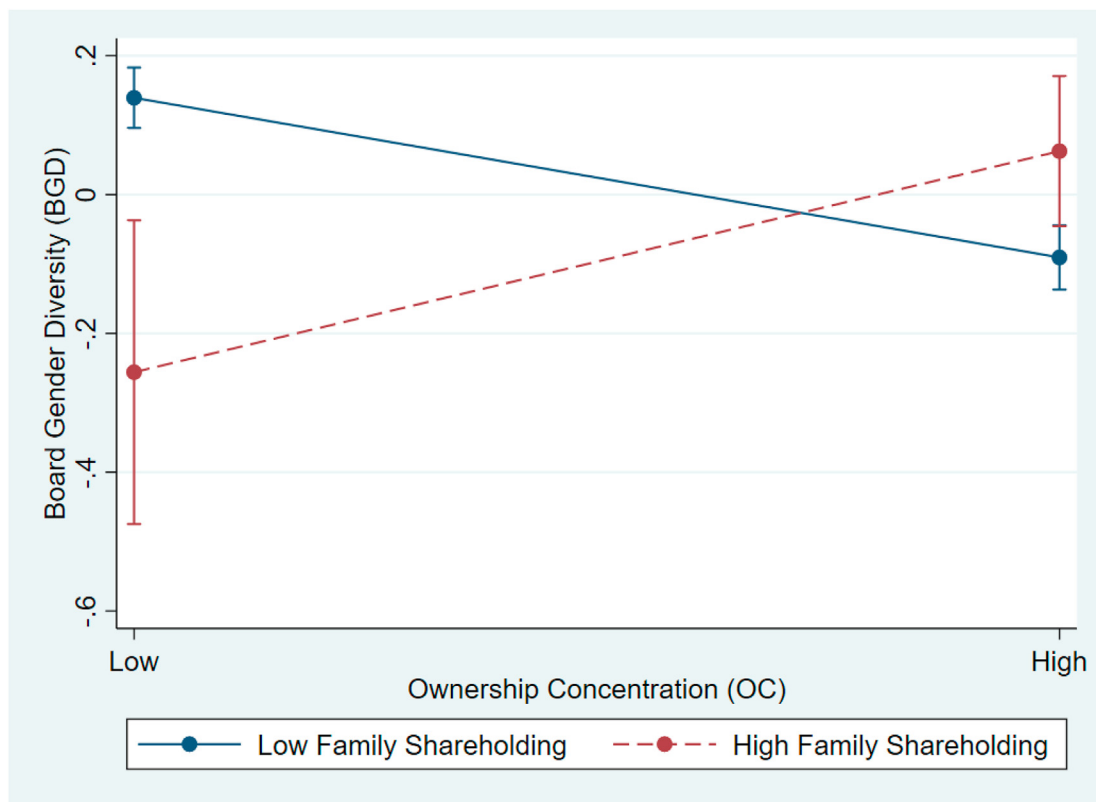


Fig. 2. The moderating role of family shareholding (H2).

Table 5  
Results of the moderated path analysis-H3.

$M = \beta_0 + \beta_1 X + \beta_2 W + \beta_3 XW + \text{Controls}$

**Equation-4:**  
 $BGD_{it} = \beta_0 + \beta_1 OC_{it-1} + \beta_2 \text{Family Shareholding}_{it-1} + \beta_3 OC_{it-1} \times \text{Family Shareholding}_{it-1} + \text{Controls}$   
 $Y = \delta_0 + \delta_1 M + \delta_2 X + \delta_3 W + \delta_4 XW + \text{Controls}$

**Equation-5:**  
 $CSR_{it} = \delta_0 + \delta_1 BGD_{it-1} + \delta_2 OC_{it-1} + \delta_3 \text{Family Shareholding}_{it-1} + \delta_4 OC_{it-1} \times \text{Family Shareholding}_{it-1} + \text{Controls}$   
 Conditional Indirect Effect of  $X = \delta_1 (\beta_1 + \beta_3 W)$   
 Conditional Indirect Effect of  $OC_{it-1} = \delta_1 (\beta_1 + \beta_3 \text{Family Shareholding}_{it-1})$

	P (M:X)	P (M:XW)	P(Y:M)	Conditional indirect effect of X
<b>Paths</b>	-0.042***	0.051***	0.111***	0.001 (0.75)
Simple paths for <i>Family Shareholding</i> [mean-s.d.]				-0.010*** (-9.82)
Simple paths for <i>Family Shareholding</i> [mean]				-0.005*** (-6.50)
Simple paths for <i>Family Shareholding</i> [mean + s.d.]				0.00001 (0.01)

\*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.10. Robust standard errors clustered by company. z-values presented in parentheses are generated using “nlcom” command in STATA. We use a moderated path analysis bootstrapping to compute bias-corrected confidence intervals. All continuous variables are standardized to have a mean of zero and standard deviation of one.

that the greater the gender egalitarianism, the higher the firms’ respect for CSR. Ringov and Zollo (2007) indicate a positive relationship between gender egalitarianism and firms’ being socially responsible. We also expect that high (low) gender-egalitarian societies have higher (lower) BGD, as in Carrasco et al. (2015). Carrasco et al. (2015) examine the impact of cultural values on BGD and find that boards have fewer females in masculine societies.

We follow Hayes (2017, p. 398, Figure 11.1, Model-B) and test the conditional indirect effect of  $OC_{it-1}$  on  $CSR_{it}$  via  $BGD_{it-1}$ . Table 6, Model-1, shows that the conditional indirect effect decreases as the

country is more gender-egalitarian ( $\beta = -0.064, p < 0.01$ ) compared to the direct effect presented in Table 3, Model-1 ( $\beta = -0.070, p < 0.05$ ). The conditional indirect effect of  $OC_{it-1}$  is  $-0.008 (p < 0.01)$ . We computed the conditional indirect effect of  $OC_{it-1}$  by taking the coefficient of  $OC_{it-1}$  in Table 3, Model-2 multiplied by the sum of coefficients of  $BGD_{it-1}$  and  $BGD_{it-1} \times \text{Gender-egalitarianism}_{it-1}$  in Table 6, Model-1. It is computed as  $[-0.061 \times (0.107 + 0.034)]$ . Our results show that the conditional indirect effect of  $OC_{it-1}$  is weaker in high gender-egalitarian countries compared to others.

**Table 6**  
Results of multivariate regressions – *genderegalitarianism*.

VARIABLES	Model-1 DV: CSR <sub>it</sub>	Model-2 DV: CSR <sub>it</sub>
<i>BGD</i> <sub>it-1</sub>	<b>0.107***</b> (9.410)	<b>0.106***</b> (9.430)
<i>OC</i> <sub>it-1</sub>	<b>-0.064***</b> (-6.067)	<b>-0.032***</b> (-2.810)
<i>Family Shareholding</i> <sub>it-1</sub>		<b>-0.080***</b> (-5.678)
<i>OC</i> <sub>it-1</sub> × <i>Family Shareholding</i> <sub>it-1</sub>		<b>0.027*</b> (1.894)
<i>Genderegalitarianism</i>	<b>-0.468***</b> (-4.500)	<b>-0.470***</b> (-4.614)
<i>BGD</i> <sub>it-1</sub> × <i>Genderegalitarianism</i>	<b>0.034***</b> (3.398)	<b>0.033***</b> (3.296)
<i>Firm Size</i> <sub>it-1</sub>	0.266*** (7.653)	0.254*** (7.361)
<i>Leverage</i> <sub>it-1</sub>	0.007 (0.512)	0.007 (0.532)
<i>MV</i> <sub>it-1</sub>	0.105*** (3.677)	0.109*** (3.825)
<i>CAPEX</i> <sub>it-1</sub>	0.102*** (5.997)	0.101*** (6.007)
<i>EBIT</i> <sub>it-1</sub>	0.046* (1.666)	0.048* (1.770)
<i>Shareholdersright</i> <sub>it-1</sub>	0.064*** (6.739)	0.064*** (6.703)
<i>CEO BOD_Dummy</i> <sub>it-1</sub>	-0.004 (-0.095)	-0.000 (-0.001)
<i>Comp_Comm_Dummy</i> <sub>it-1</sub>	0.148*** (4.691)	0.148*** (4.699)
<i>Reputation_dummy</i> <sub>it-1</sub>	0.535*** (26.421)	0.533*** (26.595)
<i>CSR_Audit_dummy</i> <sub>it-1</sub>	0.291*** (12.247)	0.282*** (11.988)
<i>GenderQuota</i> <sub>t-1</sub>	<b>-0.165***</b> (-4.996)	<b>-0.161***</b> (-4.882)
Constant	<b>-1.017***</b> (-15.304)	<b>-1.014***</b> (-15.312)
Observations	26,029	26,029
R-squared	0.440	0.443
Auditor fixed-effect	Yes	Yes
Industry fixed-effect	Yes	Yes
Year fixed-effect	Yes	Yes
Country fixed-effect	Yes	Yes

\*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.10. Robust standard errors clustered by company. T-values are presented in parentheses. All continuous variables are standardized to have a mean of zero and standard deviation of one. CSR<sub>it</sub> is the percentage reflecting firm’s performance on environment and social activities; *Genderegalitarianism* is mean adjusted natural logarithm of GLOBE Project score which captures the degree to which a collective minimizes gender inequality (the GLOBE Project; House et al., 2004).

Following Hayes (2017, p. 398, Figure 11.1 Model-D), we examine the indirect effect of *OC*<sub>it-1</sub> on CSR<sub>it</sub> via *BGD*<sub>it-1</sub> conditional on family shareholding and gender egalitarianism. The results (Table 6, Model-2), show that the effect of *OC*<sub>it-1</sub> is lower ( $\beta = -0.032$ ,  $p < 0.05$ ) compared to the results presented in Table 4, Model-1 ( $\beta = -0.036$ ,  $p < 0.05$ ). The conditional indirect effect of *OC*<sub>it-1</sub> is insignificant ( $\beta = 0.0013$ , ( $p < 0.432$ )). We computed the conditional indirect effect of *OC*<sub>it-1</sub> by taking the sum of coefficients of *BGD*<sub>it-1</sub> and *BGD*<sub>it-1</sub> × *Genderegalitarianism*<sub>it-1</sub> in Table 6, Model-2 multiplied by the sum of coefficients of *OC*<sub>it-1</sub> and *OC*<sub>it-1</sub> × *Family Shareholding*<sub>it-1</sub> in Table 4, Model-2. It is computed as [(0.106 + 0.033) × (-0.042 + 0.051)]. Our results indicate that the conditional indirect effect of OC is weaker in high gender-egalitarian countries and high family shareholding compared to others.

## 7.2. Controlling for other country-level institutional settings

In all our analyses, we used country fixed effects to control for the potential impact of country-specific institutional settings. In an additional analysis, we further use four extra country-level variables the Global Competitiveness Index (GCI) and World Economic Forum (WEF) databases between the years 2006–2018; (1) Women’s Participation in the Labor force (*Womeninlaborforce*<sub>t</sub>) reflecting the natural logarithm of the ratio of women to men in the labor force (FEMLABOR from GCI database, source: International Labor Organization), (2) Legal Right Index (*Legalrightsindex*<sub>t</sub>) is the natural logarithm of the degree of the legal protection of borrowers’ and lenders’ rights (LEGRGHTIDX from GCI database, source: World Bank/International Finance Corporation), (3) Trust and Confidence in the system (*Trustandconfidence*<sub>t</sub>) indicating the natural logarithm of the degree of trust and confidence in the system and politics in a country (GCI.B.08.02 from GCI database), and (4) Political Empowerment of Women (*GenderGapPoliticalEmpowerment*<sub>t</sub>) measuring the natural logarithm of the gap between men and women at the highest level of political decision-making (source: WEF – Global Gender Gap Report). We believe that additional controls reflect the development of the country and respect for women in society.

In Table 7, we present the results of our main analyses after controlling for country-specific institutional settings. Results presented in Table 7 Models 1–6 are in line with our main results presented in Tables 3 and 4.

## 8. Robustness checks

### 8.1. Instrumental-variables regression

In our analyses, we apply a lead–lag approach to ensure that our results are robust to a potential reversal causality and endogeneity. In additional tests, we also utilize the instrumental variable regression approach. In a two-stage least squares model, we used the country-level *GenderGapPoliticalEmpowerment*<sub>t</sub> as an instrument of *BGD*<sub>it-1</sub>. We argue that *GenderGapPoliticalEmpowerment*<sub>t</sub> is a suitable instrument, which is correlated with the *BGD*<sub>it-1</sub> but is not directly associated with firms’ CSR<sub>it</sub> or *OC*<sub>it-1</sub>. If women in a given country have higher political empowerment, we expect the presence of women is accepted by society, which leads to a higher representation of women on corporate boards and a higher influence of women on managerial decisions. Two-stage regression results presented in Table 8 are consistent with our main analysis in Tables 3 and 4.

### 8.2. Propensity score matching (PSM)

To further ensure the validity of our findings and address potential endogeneity concerns, we utilize propensity score matching (PSM). In line with Shipman et al. (2016), we match firms with at least one woman on the board with firms that do not have women on the board based on firm-specific characteristics. Using a probit regression, we regress the probability of appointing at least one woman to the board based on firm-specific characteristics to estimate the propensity score for each firm. Next, we match each firm in our treatment sample (firms with at least one woman on the board) to a firm in our benchmark sample (firms with no women on the board), using the nearest neighbor matching approach without replacement, within a caliper of 0.001. The PSM results presented in Table 9 are consistent with our results reported in Tables 3 and 4.

**Table 7**  
Results of Multivariate Regressions for Testing H1, H2 and H3— *controlled by country-specific institutional settings.*

VARIABLES	Model-1 DV: CSR <sub>it</sub>	Model-2 DV: BGD <sub>it-1</sub>	Model-3 DV: CSR <sub>it</sub>	Model-4 DV: CSR <sub>it</sub>	Model-5 DV: BGD <sub>it-1</sub>	Model-6 DV: CSR <sub>it</sub>
<b>BGD<sub>it-1</sub></b>			<b>0.098***</b> ( <b>8.091</b> )			<b>0.097***</b> ( <b>8.086</b> )
<b>OC<sub>it-1</sub></b>	<b>-0.046***</b> ( <b>-4.375</b> )	<b>-0.081***</b> ( <b>-6.843</b> )	<b>-0.038***</b> ( <b>-3.652</b> )	-0.011 (-0.971)	<b>-0.063***</b> ( <b>-4.696</b> )	-0.005 (-0.449)
<b>Family Shareholding<sub>it-1</sub></b>				<b>-0.082***</b> ( <b>-5.485</b> )	<b>-0.019</b> ( <b>-1.284</b> )	<b>-0.080***</b> ( <b>-5.371</b> )
<b>OC<sub>it-1</sub> × Family Shareholding<sub>it-1</sub></b>				<b>0.036**</b> ( <b>2.407</b> )	<b>0.052***</b> ( <b>3.307</b> )	<b>0.031**</b> ( <b>2.051</b> )
<i>Firm Size<sub>it-1</sub></i>	0.277*** (7.804)	-0.058 (-1.613)	0.282*** (7.986)	0.266*** (7.531)	-0.058 (-1.623)	0.272*** (7.718)
<i>Leverage<sub>it-1</sub></i>	0.011 (0.726)	0.063*** (4.083)	0.005 (0.308)	0.011 (0.779)	0.063*** (4.088)	0.005 (0.364)
<i>MV<sub>it-1</sub></i>	0.089*** (2.925)	0.164*** (5.369)	0.073** (2.379)	0.093*** (3.064)	0.162*** (5.302)	0.077** (2.523)
<i>CAPEX<sub>it-1</sub></i>	0.097*** (5.299)	-0.061*** (-3.777)	0.103*** (5.685)	0.095*** (5.252)	-0.060*** (-3.689)	0.101*** (5.633)
<i>EBIT<sub>it-1</sub></i>	0.033 (1.203)	0.115*** (5.536)	0.022 (0.784)	0.035 (1.273)	0.114*** (5.497)	0.023 (0.855)
<i>Shareholdersright<sub>it-1</sub></i>	0.044*** (4.300)	0.077*** (6.525)	0.037*** (3.563)	0.045*** (4.339)	0.078*** (6.645)	0.037*** (3.601)
<i>CEO BOD_Dummy<sub>it-1</sub></i>	0.019 (0.619)	0.086** (2.303)	0.011 (0.354)	0.019 (0.602)	0.086** (2.311)	0.010 (0.337)
<i>Comp_Comm_Dummy<sub>it-1</sub></i>	-0.041 (-1.292)	0.496*** (15.642)	-0.089*** (-2.739)	-0.039 (-1.252)	0.498*** (15.827)	-0.088*** (-2.715)
<i>Reputation_dummy<sub>it-1</sub></i>	0.591*** (28.814)	0.075*** (2.811)	0.583*** (28.549)	0.590*** (28.995)	0.075*** (2.818)	0.582*** (28.720)
<i>CSR_Audit_dummy<sub>it-1</sub></i>	0.371*** (15.368)	0.004 (0.140)	0.370*** (15.372)	0.363*** (15.245)	0.004 (0.140)	0.362*** (15.270)
<i>GenderQuota<sub>t-1</sub></i>	-0.094*** (-3.233)	0.036 (0.997)	-0.098*** (-3.437)	-0.084*** (-2.897)	0.035 (0.960)	-0.088*** (-3.088)
<i>Womeninlaborforce<sub>t</sub></i>	-0.087*** (-7.742)	0.149*** (9.510)	-0.101*** (-8.827)	-0.078*** (-7.046)	0.148*** (9.331)	-0.093*** (-8.150)
<i>Legalrightsindex<sub>t</sub></i>	-0.133*** (-8.371)	0.062*** (3.201)	-0.140*** (-8.778)	-0.128*** (-8.019)	0.062*** (3.168)	-0.134*** (-8.427)
<i>Trustandconfidence<sub>t</sub></i>	0.122*** (7.268)	0.003 (0.170)	0.122*** (7.308)	0.116*** (6.877)	0.004 (0.221)	0.115*** (6.906)
<i>GenderGapPoliticalEmpowerment<sub>t</sub></i>				0.082*** (8.114)	0.202*** (17.289)	0.062*** (6.058)
Constant	-0.368*** (-4.889)	-0.708*** (-8.085)	-0.298*** (-4.033)	-0.673*** (-11.323)	-0.385*** (-5.935)	-0.635*** (-10.745)
Observations	21,800	21,800	21,800	21,800	21,800	21,800
R-squared	0.426	0.331	0.433	0.430	0.332	0.437
Auditors fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes

\*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.10. Robust standard errors clustered by company. T-values are presented in parentheses. All continuous variables are standardized to have a mean of zero and standard deviation of one.

**9. Discussion and conclusion**

Using a sample of 26,029 firm-year observations over the period 2002–2017 from 4,479 firms and 44 countries, we document that firms with higher OC have lower CSR, and BGD partially mediates the negative effect of OC on CSR. In economic terms, a 1 percent increase in OC leads to a 7.958 percent decrease in the average CSR. On the other hand, after considering the mediating role of BGD, a 1 percent increase in OC leads to a 7.192 percent decrease in the average CSR. This means that the mediating impact of BGD lowers the decreasing effect of OC on CSR by 10.65 percent. Moreover, our findings indicate that in firms with higher family shareholding, both the direct negative effect of OC on BGD and its indirect effect on CSR is incrementally lower. Finally, in the post hoc analysis, we also document that the effect of board gender diversity is more prevalent in high gender-egalitarian societies, where women are more involved in decision-making. From a gender perspective, we have corroborated the premise that women board members are globally influential in CSR issues and the culture, specifically the

egalitarian stance, and family shareholding empowers women in the board of directors in CSR on an international scale.

Female directors are expected to behave under expected gender roles. In turn, much more socially-oriented, ethical, and caring actions will likely lead to better CSR. However, organizational settings affect their impact and efforts. Based on the assigned social roles, women act more comfortably on social issues (Fernandez et al., 2018). Therefore, being a woman and being a family member for family-owned firms (being a member of the majority group) provide an expanded power and influence for women. We suggest that social role theory and theory of planned behavior explain the obvious influence of female board members on CSR. Besides, women become stronger in CSR issues in line with the majority effect. Moreover, the effects of OC on CSR differ significantly, depending on the egalitarian stance of countries and the family shareholding of companies. The impact of OC becomes weaker with the higher egalitarian culture and the higher family shareholdings.

Rao and Tilt (2015) emphasized the need for further and in-depth research associating BGD and CSR. The importance and

**Table 8**  
Results of multivariate regressions – *instrumental-variable regression*.

VARIABLES	Model-1 DV: $CSR_{it}$	Model-2 DV: $CSR_{it}$
$BGD_{it}$	<b>0.618***</b> (3.500)	<b>0.617***</b> (3.480)
$OC_{it-1}$	<b>-0.032**</b> (-2.545)	0.004 (0.300)
<b>Family Shareholding<math>_{it-1}</math></b>		<b>-0.089***</b> (-10.688)
<b><math>OC_{it-1} \times</math> Family Shareholding<math>_{it-1}</math></b>		<b>0.026**</b> (2.504)
$Firm\ Size_{it-1}$	0.241*** (12.514)	0.230*** (11.963)
$Leverage_{it-1}$	0.001 (0.155)	0.001 (0.073)
$MV_{it-1}$	0.037 (1.233)	0.041 (1.368)
$CAPEX_{it-1}$	0.120*** (10.734)	0.119*** (10.701)
$EBIT_{it-1}$	0.018 (1.058)	0.020 (1.204)
$Shareholdersright_{it-1}$	0.054*** (7.994)	0.054*** (7.963)
$CEO\ BOD\_Dummy_{it-1}$	-0.006 (-0.252)	-0.001 (-0.034)
$Comp\_Comm\_Dummy_{it-1}$	0.070*** (2.595)	0.069** (2.546)
$Reputation\_dummy_{it-1}$	0.475*** (20.986)	0.471*** (20.771)
$CSR\_Audit\_dummy_{it-1}$	0.263*** (16.213)	0.251*** (15.345)
$GenderQuota_{t-1}$	-0.330*** (-3.708)	-0.332*** (-3.707)
Constant	-1.145*** (-16.708)	-1.139*** (-16.842)
Observations	21,017	21,017
R-squared	0.307	0.312
Auditor fixed-effect	Yes	Yes
Industry fixed-effect	Yes	Yes
Year fixed-effect	Yes	Yes
Country fixed-effect	Yes	Yes

\*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.10. Robust standard errors clustered by company. T-values are presented in parentheses. All continuous variables are standardized to have a mean of zero and standard deviation of one.  $CSR_{it}$  is the percentage reflecting firm's performance on environment and social activities;  $BGD_{it}$  is instrumented using women political empowerment (WPE) index provided by World Bank.

benefits of gender diversity have been a focus for some time. However, gender was mostly treated as sex, and women's contributions were assessed according to male-dominated standards as if they had gone through the same processes in a male-dominated business environment. This study provides a gender perspective on the ownership–CSR relationship under the influence of BGD and contributes to the strategic role of women on boards to improve firms' respect for CSR.

The findings have important implications for both regulators and administrative practitioners. Understanding the importance of women on boards is important for firms' CSR concerns. BGD is one of the tools that mitigate the controlling shareholders' discretion. Non-financial goals (as CSR) are more compatible with the strategic goal of a controlling family, and it seems that women appear to be more effective in decisions about CSR (Chadwick & Dawson, 2018). Also, there is considerable public attention on corporate boards' socially responsible decision-making behaviors (Bernardi et al., 2006). More power-balanced boards provide more contributions from different voices. To increase the effectiveness of boards, family businesses need to pay more attention to balance an informal family hierarchy that neutralizes women's contribution to CSR and the power issues associated with it. We also show the moderating role of country-level institutional developments regarding women on the mediating role of women in OC–CSR relations. Therefore, we

argue that to enhance women's empowerment, regulators should consider the potential country-level institutional differences while setting regulations related to BGD. More specifically, we suggest that regulators in less egalitarian countries should find alternative enforcement mechanisms to improve women's decision-making rights.

A significant caveat of our study is how the debates in the gender–CSR relationship go on a knife edge. In general, the success of women in CSR and the failures in financial measures in family-firms are frequently emphasized. Parallel to women's roles in society, women's success in enhancing CSR will strengthen women's appointment to boards and lessen gender stereotypes. Aware that the phenomenon of socially constructed gender is becoming more important, not only the ultimate consequences but also the reasons behind it and what can be done to achieve absolute equality must be considered. This study may contribute to awakening board members to socially constructed norms/roles and their impact on individuals' perceptions of what others can do. In this way, as also highlighted in Chadwick and Dawson (2018), it may provide an insight that women can also contribute significantly to financial performance if circumstances allow. Considering it as a small step to acknowledge women's contributions to boards, especially in CSR, we hope that this work can support gender equality and equal opportunity efforts on a global scale.

**Table 9**  
Results of multivariate regressions for testing H1, H2 and H3 – *matched sample*.

VARIABLES	Model-1 DV: CSR <sub>it</sub>	Model-2 DV: BGD <sub>it-1</sub>	Model-3 DV: CSR <sub>it</sub>	Model-4 DV: CSR <sub>it</sub>	Model-5 DV: BGD <sub>it-1</sub>	Model-6 DV: CSR <sub>it</sub>
<b>BGD<sub>it-1</sub></b>			<b>0.112***</b> (11.799)			<b>0.113***</b> (11.926)
<b>OC<sub>it-1</sub></b>	<b>-0.054***</b> (-5.230)	<b>-0.060***</b> (-4.711)	<b>-0.047***</b> (-4.667)	-0.018 (-1.460)	<b>-0.046***</b> (-3.059)	-0.012 (-1.043)
<b>Family Shareholding<sub>it-1</sub></b>				<b>-0.086***</b> (-6.516)	<b>-0.009</b> (-0.616)	<b>-0.085***</b> (-6.463)
<b>OC<sub>it-1</sub>xFamily Shareholding<sub>it-1</sub></b>				<b>0.041***</b> (2.844)	<b>0.050***</b> (2.818)	<b>0.036**</b> (2.448)
Firm Size <sub>it-1</sub>	0.293*** (9.455)	0.126*** (3.768)	0.278*** (8.949)	0.282*** (9.205)	0.129*** (3.883)	0.267*** (8.688)
Leverage <sub>it-1</sub>	-0.002 (-0.161)	-0.000 (-0.030)	-0.002 (-0.158)	-0.001 (-0.046)	-0.000 (-0.019)	-0.001 (-0.044)
MV <sub>it-1</sub>	0.218*** (7.843)	0.255*** (8.501)	0.189*** (6.736)	0.219*** (7.977)	0.251*** (8.395)	0.191*** (6.868)
CAPEX <sub>it-1</sub>	0.099*** (5.890)	-0.074*** (-4.506)	0.107*** (6.427)	0.097*** (5.844)	-0.072*** (-4.404)	0.105*** (6.386)
EBIT <sub>it-1</sub>	-0.039 (-1.352)	0.035 (1.366)	-0.043 (-1.452)	-0.039 (-1.374)	0.034 (1.317)	-0.043 (-1.472)
Shareholdersright <sub>it-1</sub>	0.064*** (6.709)	-0.009 (-0.871)	0.065*** (6.859)	0.066*** (6.964)	-0.009 (-0.799)	0.067*** (7.109)
CEO BOD_Dummy <sub>it-1</sub>	-0.046 (-1.478)	-0.001 (-0.036)	-0.046 (-1.482)	-0.044 (-1.393)	-0.004 (-0.104)	-0.044 (-1.387)
Comp_Comm_Dummy <sub>it-1</sub>	0.146*** (5.297)	0.079** (2.449)	0.137*** (4.978)	0.147*** (5.346)	0.080** (2.492)	0.138*** (5.020)
Reputation_dummy <sub>it-1</sub>	0.591*** (31.279)	0.176*** (6.166)	0.571*** (30.246)	0.588*** (31.281)	0.176*** (6.168)	0.568*** (30.220)
CSR_Audit_dummy <sub>it-1</sub>	0.281*** (13.808)	0.064** (2.576)	0.274*** (13.517)	0.271*** (13.377)	0.068*** (2.743)	0.263*** (13.067)
GenderQuota <sub>it-1</sub>	-0.098** (-2.033)	0.220*** (3.364)	-0.122** (-2.570)	-0.096** (-2.019)	0.226*** (3.466)	-0.121*** (-2.582)
Constant	0.351*** (3.424)	-2.417*** (-19.460)	0.623*** (6.026)	-1.028*** (-17.192)	-0.425*** (-5.865)	-0.981*** (-16.583)
Observations	7960	7960	7960	7960	7960	7960
R-squared	0.453	0.227	0.462	0.456	0.228	0.466
Auditor fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes

\*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.10. Robust standard errors. T-values are presented in parentheses. All continuous variables are standardized to have a mean of zero and standard deviation of one.

Increasing the education level of women and enabling women to increase and diversify their experience by taking a more active role in their working life points to deeper long-term and structural problems. It becomes evident that governments should increase their efforts to create egalitarian cultures, revealing that there are significant differences between countries and within cultural structures. In today's world where equality efforts are handled as a global issue and equality efforts are supported at the highest level, it is clear that all governments should produce policies that take these results into account.

An inherent limitation of our study is the lack of analysis that tests women's power at the firm level. Future research may consider the mediating impact of women's power at the firm-level, such as female remuneration or the number of female key directorships. Measuring BGD with the percentage of women can be considered as a limitation. To understand its impact, a more comprehensive measure could be used, including the personal traits of female board members and their relationship with the organization. However, it was not possible to conduct such qualitative research with 44 countries. Future research may consider this limitation to develop a better measurement.

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