"If You Like It Green, Put a Ring on It":
Married Women Directors and Environmental Performance in Family and Non-Family Businesses

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Abstract

This paper investigates whether the marital status of women directors predicts firm environmental performance in family and non-family businesses. We argue that rather than simply reflecting gender juxtaposition, the marital status of female directors can explain heterogeneity in firms' environmental performances by triggering gender role attributions that lead to women board members enhancing their firms' contributions to environmental sustainability. Building on social role theory and the socioemotional wealth perspective, we advance that gender role attributions unfold differently in family versus non-family firms. Leveraging a dataset of Italian-listed companies from 2003 to 2019, we find that the greater presence of married female directors enhances environmental performance. However, while this result holds more strongly for non-family firms, a positive contribution of married female directors only manifests in family businesses when they belong to the controlling family. This paper advances the discussion of women's participation on corporate boards in family firms and firms' contributions to addressing environmental issues by shedding light on the individual traits and firm characteristics that shape social expectations and women's behavior on boards.

Keywords. Marital status; women directors; environmental performance.

Introduction

Addressing societal maladies such as environmental degradation and pollution has become paramount for many business organizations, which routinely disclose policies and objectives to achieve improved sustainability. Along with the corporate discourse on these matters, management scholars have shown a growing interest in identifying the most effective governance structures to support this new cohort of non-economic objectives (Walls et al., 2012). Following the growing attention among policymakers and the public on gender quotas within governance bodies (e.g., Lewellyn & Muller-Kahle, 2020; Mensi-Klarbach & Seierstad, 2020), the role of women directors in corporate sustainability has increasingly become an object of scholarly investigation (Bear et al., 2010; Byron & Post, 2016; Marano et al., 2022).

Prior research has suggested that women directors have different views than their male counterparts (Rixom et al., 2022). Moreover, due to social expectations, they possess caring and communal attributes and greater sensitivities towards sustainability (Rodríguez-Ariza et al., 2017). Nonetheless, attempts at exploring the relationship between women directors and environmental performance have been inconclusive (Ardito et al., 2021). One possible explanation is that in highly professionalized contexts such as corporate boards, gender differences per se might be insufficient to elicit systematic behavioral preferences and the subsequent effect on firm outcomes (Nielsen & Huse, 2010). However, previous literature has stopped short of investigating other individual characteristics underlying women directors' contributions to environmental sustainability. Concurrent with this void is a relative inattention to how the influence of such traits unfolds differently in the family business context, where non-economic and economic goals coexist (Gomez-Mejia et al. 2018), and the pursuit of socioemotional wealth (SEW)—i.e., the stock of family members' affect-related value (Gomez-Mejia et al., 2007; 2014)—represents the key reference point for decision-making (Berrone et al., 2012; Combs et al., 2023). For example, there is evidence that SEW guides family firms to engage in a community logic, increasing their proclivity to conform to pro-environmental norms compared to institutional and state-owned companies (Berrone et al., 2023).

This paper investigates whether married female directors in family versus non-family firms affect firm environmental performance differently. Building on social role theory (Eagly, 1987; Eagly

et al., 2020) and the SEW perspective (Gomez-Mejia et al., 2007; 2011), we advance that the marital status of women directors engenders traditional social roles that influence the pursuit of pro-environmental goals and that gendered expectations unfold differently in family and non-family firms. At the core of our argument is the notion that being married—especially given that it is no longer perceived as a prerequisite for cohabiting—is a significant individual trait that can be interpreted as a clear desire to have children, which poses conforming expectations of feminine traits and behavior upon married women on corporate boards. Specifically, women directors' intentions to form a family—expressed by their marital status—function as a cue for gender stereotypes for traditional caring and communal attributes, fostering actions that enhance a firm's environmental performance. Moreover, we theorize that gender stereotypes and role expectations will be greater due to the salience of familial and non-economic goals in family firms, thus reinforcing married female directors' contributions to the environmental agenda. The concern for the business's reputation is particularly relevant in family firms, given the blurred boundaries between the family and firm (Berrone et al., 2022) and the family's intention to make the firm sustainable over time (Zellweger et al., 2013). Thus, family-centered goals such as enhancing social legitimacy (Berrone et al., 2022; Dekker & Hasso, 2016) and reputation capital in the long-term (Dou et al., 2019) might reinforce pro-environmental goals. Following this logic, we hypothesize that in family firms, the effect of married women directors on environmental performance will hold more strongly for married female directors who belong to the owning family than for those who do not.

We tested our hypotheses on a sample of Italian-listed firms for the 2003–2019 period. Our results show that companies with a greater presence of married female directors benefit from higher environmental performance. In addition, contrary to our hypothesis, we find that married female directors in non-family firms positively affect environmental performance, while the opposite effect is found in family businesses. However, further analysis shows that the negative effect on environmental performance only occurs when married female directors do not belong to the controlling family. Thus, our results suggest that gender role expectations about women are relaxed for those female directors belonging to the controlling family.

This study advances the literature on business ethics, corporate governance, and family business. We show the importance of social roles and fundamental individual traits that elicit their activation in explaining results in a firm's environmental performance. While previous literature has advanced that women directors help to improve environmental performance (Bear et al., 2010; Byron & Post, 2016; Marano et al., 2022), our findings suggest that gender alone might not elicit significant behavioral differences in executing board functions unless other individual characteristics activate (gendered) role expectations. Thus, we extend the debate in corporate governance (e.g., Bauweraerts et al., 2022a; Calabrò et al., 2021; Debellis et al., 2022) by offering a more nuanced view of women directors, showing how marital and family member status function as informal mechanisms in governing the business. On the one hand, we contribute to corporate governance literature by highlighting the controversial effect of the presence of married female directors on environmental performance. On the other hand, our findings contribute to the family business literature by explaining how gender role expectations shape directors' behavior in accomplishing non-economic goals, considering their family member status. In doing so, we unfold the ethical dilemma associated with appointing women to the board of directors (Terjesen & Sealy, 2016). Indeed, while firms can benefit from improved environmental performance, this appears to happen based on societal stereotypes that shape the beliefs and expectations concerning what women bring to the board.

Literature review and hypotheses development

Women directors and environmental performance

The scholarly debate focused on corporate governance and in particular the board of directors has shown increased interest in understanding the effects of gender diversity on environmental sustainability and performance (e.g., Ben-Amar et al., 2016; Campopiano et al., 2023; Rao & Tilt, 2016). There is evidence showing positive effects, adducing the importance of female representation on boards of directors to respond to environmental challenges (Liao et al., 2014) and engage in sustainability practices (Ben-Amar et al., 2016), although other studies have found no relationship between gender diversity on the board and greenhouse gas emissions (Prado-Lorenzo & Garcia-Sanchez, 2010).

Several theoretical lenses have been used to explain how gender diversity enhances board effectiveness in the adoption of sustainability initiatives (Byron & Post, 2016). For example, socialization has been considered as a relevant perspective to discuss the differences between male and female leaders in addressing societal and stakeholders' claims (Glass et al., 2016). In most cases, the relationship between women directors and a firm's commitment to sustainability is argued based more on previous evidence than a clear theoretical lens; unless there is also a claim about the number of women directors on the board, which is discussed in the light of critical mass theory (e.g., Post et al., 2011).

However, one well-received perspective is social role theory, which suggests that women directors might self-impose compliance with a female gender role stereotype concerning environmental issues, to cope with the tension between a managerial and gender role stereotype (Boulouta, 2013). This theoretical perspective has been used to explain the effect of gender diversity on a firm's adoption of LGBT-friendly policies (Cook & Glass, 2016). Moreover, it helps to explain how gender-leader role incongruence might be a challenge for women in such positions (Monzani et al., 2015).

According to social role theory, gender stereotypes originating from the traditional division of labor define the psychological traits and societal expectations of women's and men's roles (e.g., Eagly & Wood, 1999; Kite et al., 2008). Women are expected to take on roles aligned with "feminine" traits, namely a general concern about the welfare of others, being communal (i.e., other-oriented), cooperative, and caring. By contrast, men display agentic and task-oriented traits labeled as "masculine," including assertiveness, ambition, aggressiveness, and competitiveness.

Gender stereotypes have descriptive value in consensually describing what women and men do and the qualities they possess, while they also carry injunctive expectations about the activities and characteristics assigned to the two genders, characterized by pervasive power and implicit attributions (Eagly & Karau, 2002). Consequently, failing to align with such stereotypical roles results in social sanctions, such as economic penalties (Moss-Racusin et al., 2010) and even derision (Heilman et al., 2004). Accordingly, while the literature has not reached a consensus (Ardito et al., 2021), management scholars have typically associated women directors with firms being less involved in environmental

controversies and promoting actions to enhance environmental performance (e.g., Burkhardt et al., 2020).

However, Nielsen and Huse (2010) note that understanding women's behavior on the board of directors might require "going beyond the surface" of gender juxtaposition. Given that women and men directors currently share similar career paths and responsibilities, gender per se might be less of a contributing factor, as indicated by the mixed evidence on women's contributions to economic (Pucheta-Martínez et al., 2018; Schmid & Urban, 2022) and non-economic goals (Liu et al., 2020; Rodríguez-Ariza et al., 2017). In other words, while gender stereotypes remain present in work contexts (Heilman, 2012), their enforcement in highly professionalized environments such as governance boards might ultimately depend on directors' other traits determining their salience and normative reach.

Married women directors and environmental performance

We propose here that women directors' marital status is an individual trait enacting self-fulfilling gender stereotypes, which can push women sitting on boards towards enhancing their firms' environmental performances. Indeed, research shows that although women with top careers are generally less inclined to marry (Friedman & Greenhaus, 2000), when they do, they are subject to discrimination and conforming expectations of nurturing and communal traits and behavior (Bursztyn et al., 2017; Dessy & Djebbari, 2010). For instance, while men are socially praised when they work to support their families, positive perceptions of women emerge when they are willing to leave their jobs to support their husbands or care for their families (Eagly, 1987). Similarly, while married men are socially supported, having fewer conflicts between work and family roles, women's marital status carries higher social responsibilities (Hoobler et al., 2009; Nadler & Stockdale, 2012), in line with conventional attributions for family (vs. work) roles and the corresponding psychological traits (Nadler & Kufahl, 2014).

Gendered stereotypes are highly pervasive in society, represented in media such as television, where married women have traditionally been portrayed with fewer job options than single women (depicted in gender-neutral or traditionally male jobs) and married men, whose marital status is unrelated to their job (Signorielli & Kahlenberg, 2001). In line with the message provided by the media

"that women cannot have higher status and better-paying jobs and maintain a successful marriage" (Signorielli & Kahlenberg, 2001, p. 20), research also shows that married women are seen as less suitable for employment and less dedicated to their work (Jordan & Zitek, 2012). In addition, if marital status is perceived as an intention to have children, women can also suffer from further penalties (Jordan & Zitek, 2012), including being perceived as less productive (Arceo-Gomez & Campos-Vazquez, 2014) or even being viewed with hostility when applying for jobs (Hebl et al., 2007).

Thus, this set of societal biases against married women can trigger the enactment of prototypical feminine traits and communal behaviors (Fiske & Taylor, 1991; Jordan & Zitek, 2012). Accordingly, married women might act cogently with stereotypically communal traits to avoid gender-role clashes and perceptions of a lack of fit. In the context of governance boards, married women could assign themselves to corporate objectives and policy dimensions of corporate sustainability, requiring feminine qualities such as cooperation and care for the well-being of others (including future generations). As women directors influence corporate outcomes through their contribution to board strategic decision-making (Nielsen & Huse, 2010; Westphal & Milton, 2000) and their characteristics determine such influence (Nielsen & Huse, 2010), when married, they can enhance environmental performance by—for instance—bringing the board's attention to the environmental consequences of decisions and promoting sustainability initiatives.

In light of the foregoing, we propose the following hypothesis:

Hypothesis 1. The greater the presence of married female directors on governance boards, the greater the firm's environmental performance.

The type of business in which women directors work might shape gender role expectations and thus women's behavioral preferences. The comparison between boards in family and non-family firms provides a relevant context to theorize on the social role of married female directors. Previous research has shown that family firms differ due to their mix of family and business logics (Gomez-Mejia et al., 2018). Various aspects make business ethics in family firms unique, including the involvement of the owning family, the pursuit of socioemotional wealth, and typical social interactions (Vazquez, 2018). For instance, the desire to pass the business on to future generations and ensure the quality of products associated with the family name implies a greater commitment to ensuring the viability of the business

in the long run (Bingham et al., 2011; Miller & Le Breton-Miller, 2005). In addition, concern for the environment might be motivated by the family's desire to enhance its reputation (Deephouse & Jaskiewicz, 2013), especially in the area to which it belongs (Bau et al., 2019).

Moreover, the fact that the boundaries between family, firm, and society at the local level are blurred (Lester & Cannella, 2006) makes family owners particularly attentive to the company's reputation and to take action to improve it (Zellwegeret et al., 2013). Therefore, it is crucial for family firms to create social legitimacy to preserve SEW, including through proactive environmental strategies that extend beyond compliance with environmental regulations (Berrone et al., 2022; Cui et al., 2018), especially in the local community where firms often have strong social embeddedness (Dekker & Hasso, 2016). Due to their long-term orientation, family businesses might thus have a higher propensity to adopt pro-environmental strategies to create reputation capital (Dou et al., 2019).

Various authors have tried to assess whether family firms adopt more pro-environmental strategies than non-family firms, finding mixed results (e.g., Berrone et al., 2010; Craig & Dibrell, 2006; Dekker & Hasso, 2016; Uhlaner et al., 2012). Therefore, it becomes important to investigate and shed light on the various sources of heterogeneity that might explain why some family firms are more prone to adopt pro-environmental strategies. In particular, it is critical to analyze whether there are positive attitudes towards environmental preservation among decision-makers in the company (Sharma & Sharma, 2011).

The commitment of family businesses to ensure their firms' sustainability for future generations might thus offer support for the positive effect of married women directors on these firms' environmental performances. Nevertheless, the role of women directors in this process has been under-investigated (Cruz et al., 2019). Family firms are a particular context in which being a married female director can have a different meaning and influence on decision-making. We claim that the expectations of a communal and caring role might be even stronger on the family business board. As the family's values and traditions permeate the board of directors (Corbetta & Salvato, 2004), married women might feel especially confident about promoting environmental sustainability. The social role of individuals who care about future generations would align with the social role of directors in a firm, where they

might feel even further called to contribute to environmental performance to preserve a sustainable ecosystem for future generations.

Accordingly, as family firms tend to create wealth and safeguard community welfare more than non-family firms (Gallo, 2004; Vazquez, 2018) and the characteristics of married female directors equally push for the same goals, we expect a stronger positive effect on the environmental performance of these directors' firms in the case of family businesses. Therefore, we posit:

Hypothesis 2: The positive relationship between married female directors on governance boards and a firm's environmental performance is stronger in family than non-family firms.

Another critical aspect to consider is whether married female directors belong to the owning family. Family affiliation strongly influences directors' power and legitimacy to influence corporate decisions. Indeed, while some might have power, others might be viewed more as "tokens" with little influence on business decisions (Torchia et al., 2011). Recent research has shown that the effect of female directors in family firms is not homogeneous (e.g., Herdhayinta et al., 2021). Women directors who are family might be appointed for SEW motivations, such as preserving family control, binding social ties, and maintaining family identity and harmony (Gomez-Mejia et al., 2014; Samara et al., 2019). By contrast, non-family female directors are generally appointed through a process based on professional experience (Herdhayinta et al., 2021), and expectations of their role might be mostly related to economic results.

Therefore, when non-family directors want to push the firm's agenda towards non-economic goals, there is a risk of inconsistency between the reasons why they were appointed and the choices they aim to make. Given that non-family directors are expected to benefit the company by pursuing its economic goals (Molly et al., 2019), their prioritization of non-economic goals might be frowned upon by other directors, which would prevent them from fully exerting their influence on environmental performance. Indeed, when non-family directors aim to pursue non-economic goals in opposition to the typical rationale for their appointment—i.e., helping to achieve economic goals—this can engender a negative 'recategorization'' effect (Chow Yi Lin et al., 2023; Zhu et al., 2014). Thus, other board members will process information about such an individual in the context of pursuing economic goals, and the salience and legitimacy of non-family directors would be reduced when they do not do so. As

a result, non-family married women on boards would face obstacles when promoting pro-environmental strategies, and family members on the board could also be less willing to accept non-economic goals when dictated by non-family directors.

Conversely, when the directors have a family affiliation, their interests and objectives would more naturally be perceived as family ones, allowing them more room to make an impact (Bauweraerts et al., 2022b). Belonging to the controlling family implies developing beliefs and expectations about their social role as both board members and family members. Consequently, married female directors belonging to the controlling family would have more leeway to express communal and caring traits and contribute to a social goal, enhancing the firm's environmental performance. In addition, they would be more capable of aligning their interests with family interests, thus incorporating the firm's economic and non-economic goals into their behaviors and decisions on the board. Moreover, due to their family affiliation and emphasis on SEW, women directors who are family members are more likely to be heard in the board's decision-making process than non-family women directors (Bauweraerts et al., 2022b; Cruz et al., 2019).

Therefore, as married female directors belonging to the controlling family can leverage power from their affiliation to be heard and play a vital role in business decisions, with no incongruity between the reason for their appointment and their role on the board, we posit:

> *Hypothesis 3. In family firms, the positive relationship between married female directors on governance boards and a firm's environmental performance is stronger when women belong to the owning family than when they do not.*

Method

Data collection and sample

We constructed our sample by combining and matching data from various databases. First, we obtained the environmental, social, and governance (ESG) data of the industrial Italian-listed firms from Thomson Reuters Asset4 for the 2003–2019 period, resulting in a sample of 76 firms (525 firm-year observations). This timespan prevents our results from being affected by the presence of a strong exogenous shock such as the Covid-19 pandemic. Second, we used a unique hand-collected dataset

containing information on women directors' demographic and personal characteristics to investigate our research hypotheses. Data were collected manually by referring to the annual corporate governance reports on the firms' official websites and the Italian Stock Exchange website. We primarily relied on women directors' curriculum vitae to detect their civil status, as well as public information collected through company websites, executive and directors' profiles on their web pages, social networks (e.g., LinkedIn), and specialized press articles (Minichilli et al., 2016). After dropping observations with missing corporate governance data, the number of observations was reduced to 517 firm-year observations (75 firms). Finally, we merged the ESG and governance data with the financial control variables provided by Datastream, leading to a final sample of 497 firm-year observations (75 firms). As all firm-level controls were lagged by one year to avoid simultaneity problems and mitigate potential endogeneity issues, our final sample was reduced to 475 firm-year observations and 71 unique firms. The limited number of observations is mainly due to the low quantity of specific ESG data provided by Thomson Reuters Asset4 for listed companies (Arena et al., 2018; Cucari et al., 2018; Shaukat et al., 2016). Table 1 presents the sample distribution across eight industries according to the Italian Stock Exchange's industry classification.

Insert Table 1 about here

Italy is an ideal context for our research for several reasons. First, family businesses are the backbone of the Italian national economy and represent a high portion of listed firms on the stock exchange market (Minichilli et al., 2010; Naldi et al., 2013). Furthermore, Italy has entered into numerous international agreements aimed at promoting environmentally friendly practices, including the 2016 Paris Agreement, which serves as an additional incentive for Italian companies to reduce their greenhouse gas emissions and adopt sustainable practices. Italy is therefore cultivating a supportive environment for corporate sustainability through legislative measures, awareness campaigns, financial incentives, and international commitments. Finally, and particularly importantly given our focus on women directors, Italy is characterized by law that guarantees reserved quotas for women to sit on the board of directors of companies listed on the stock exchange (Rigolini & Huse, 2021).

Dependent variable

The dependent variable is *emissions score* (ES), provided by Thomson Reuters Asset4 (now Refinitiv Eikon), a database widely used in the empirical literature on corporate social responsibility (e.g., Arena et al., 2018; Shaukat et al., 2016). Emissions score has been commonly used in recent empirical studies as an outcome to measure environmental performance as it reflects a firm's efforts to reduce its environmental impact (Albitar et al., 2023; Al-Najjar and Salama, 2022; Bedendo et al., 2023). This score measures a firm's commitment to and effectiveness in reducing environmental emissions in production and operational processes (Asset4 ESG Data Glossary). The score ranges between 0 and 100, with a higher score indicating a lower level of emissions.

Independent and moderating variables

We consider three female director variables and one moderating proxy to test our research hypotheses. The main independent variable is *female married*, reflecting the percentage of married female directors on the board of directors. To explore the family interaction effect, we use one interaction variable named *family firm*, computed as a dummy variable (equal to one) when one or two families hold at least 25% of the equity capital (Amore et al., 2011; Miller et al., 2013; Minichilli et al., 2016). Additionally, to investigate the joint effect of both family and non-family female married, we create *family female married* and *non-family female married* variables, as the percentages of married female directors belonging or not belonging to the family shareholder group, respectively.

Control variables

We include several financial and governance variables as controls in all regressions. *ROE* is computed as net income divided by stockholders' equity (Arrondo-García et al., 2016), and we expect a positive link between firms with better accounting performances and environmental activities (Cruz et al., 2019). *Firm size* is measured as the natural logarithm of total assets (Nekhili & Gatfaoui, 2013). We presume a positive influence of firm size on environmental performance (Drempetic et al., 2020). *Leverage* is calculated as total debt over total assets (Walls et al., 2012). In line with Clarkson et al. (2008), we envision the presence of better environmental performance in firms with higher leverage.

Cash holdings is the ratio of cash and cash equivalents to total assets (Cambrea et al., 2019), whereby we expect that firms with greater cash resources are more likely to approach environmental goals. *Capex* is a proxy for the firm's capital expenditures, computed as capital expenditures divided by total assets (Erhemjamts et al., 2013). We envision that an increase in capital expenditures—which means expanding corporate investments—will lead to a reduction in emissions score. *Cash flow* is the ratio between cash flow from operations and total sales (Arena et al., 2018). Given that higher cash flow might allow the firms to finance social responsibility projects without requiring external funding, we expect a positive relationship between cash flow and environmental activities. As governance variables, we use a dummy variable named *male family CEO* that takes a value equal to 1 when the CEO of the company is male and belonging to the controlling family shareholder. This is included to control for gender effects at the family firm leadership level. *Board size* is measured as the number of board members on the board of directors (Cabeza-García et al., 2018), and *male independent directors* is computed as the ratio of male independent directors on the board (Cambrea et al., 2019). For both board size and male independent directors, we envision a positive association with better environmental performance (De Villiers et al., 2011). Finally, we control for two other female directors' characteristics (Cruz et al., 2019), namely the average age of women directors (*females age*) and the average tenure of women directors (*females tenure*). Consistent with empirical research on these proxies (Elmagrhi et al., 2019; Homroy & Slechten, 2019), we expect that both older and more experienced women directors are associated with firms with superior emissions scores.

Model

To examine the impact of *female married* on the *emissions score*, we estimate the following empirical models:

(H1 and H2) $Emissions\ score_{i,t+1} = female\ married_{i,t} + control\ variables_{i,t} + year_t + industry_i + \varepsilon_{i,t}$

(H3) $Emissions\ score_{i,t+1} = family\ female\ married_{i,t} + non\text{-}family\ female\ married_{i,t} +$

$+ control\ variables_{i,t-1} + year_t + industry_i + \varepsilon_{i,t}$

where i indicates firms and t is a yearly time index, $year_t$ and $industry_i$ capture the year and industry effects, respectively, and $\varepsilon_{i,t}$ is the random disturbance. We control for industry dummies because several empirical studies indicate that industry conditions affect ESG activity (Berrone et al., 2010), determining a considerable variation in ESG investments in some energy-related sectors (i.e., polluting industries) with respect to other less energy-related sectors. Furthermore, industry effects control for time-invariant unobservable industry characteristics that might be correlated with the emissions score.

Additionally, as some studies hypothesize a reverse causality issue, following prior research (Bear et al., 2010; Cabeza-García et al., 2018), we mitigate endogeneity problems in all empirical models by lagging all the control variables by one year, except for the industry dummy variables. We test our hypotheses by using ordinary least squares (OLS) regressions and heteroscedasticity-adjusted standard errors. Several empirical studies investigating the effects of board diversity on ESG and corporate social responsibility (CSR) measures of performance have adopted this econometric methodology (e.g., Amore et al., 2019; Bear et al., 2010; Katmon et al., 2019).

Although our dataset is longitudinal, it could be affected by "the problem of rarely changing variables in panel data" (Plümper & Troeger, 2007, p. 126). Indeed, despite the fact that the board of directors is formally renewed every three years, corporate governance scholars recognize that the board of directors' composition is quite stable (Brown et al., 2011). Specifically, there is very minimal or no variation in the percentage of female directors on the boards in our dataset, except for 2012–2013 when the number of women directors increased due to the introduction of gender quotas. Given that the fixed effects or random effects estimates would not be efficient in the presence of a dataset suffering from slowly changing variables (Plümper & Troeger, 2007), we therefore opted to apply an OLS regression.

Results

Descriptive analysis

Table 2 reports the descriptive statistics for our sample of industrial Italian-listed companies, including the mean, standard deviation, and correlations for our study variables.

Insert Table 2 about here

The mean emission score is 58.361 on a scale between 0 and 100, with a standard deviation of 32.557. The mean number of married female directors is on average 9.2% of directors, with a standard deviation of 0.103. On average, boards have around eleven members. The average age of the women directors is almost 51 years, whereas their tenure is between three and four years.

As for the bi-variate correlations, firms' efforts to reduce their environmental pollution appear to be positively correlated with firm size, debt levels, capital expenditures, R&D expenses, tangibility, and both married female independent and male independent directors. By contrast, the presence of a woman CEO and the stock of cash reserves are negatively correlated with the *emissions score* dependent variable. All variance inflation factors (VIFs)—whose average values are shown at the bottom of Tabled 3 and 4—are lower than the cut-off value of 10 (Kutner et al., 2004), suggesting that multicollinearity does not seem to be a methodological issue.

Hypotheses testing

We test our hypotheses using OLS regression analysis with year- and industry-fixed effects. The regression results are presented in Table 3.

Insert Table 3 about here

Model 2 provides the results of the main relationship between female married directors and *emissions score*. H1 predicted that a higher proportion of married female directors on the board is positively associated with reducing the firm's environmental burden expressed as polluting emissions. The coefficient for our *female married* leading independent variable (r = 0.282) is positive and significant ($p < 0.10$), offering support for this hypothesis.

Models 3 to 5 show the moderation analysis results, testing whether the effect of married female directors differs according to the type of firm (family versus non-family).

Precisely, model 3 displays the coefficient of the interaction variable between *female married* and *family firm,* which is not statistically significant (r = -0.2403, $p > 0.10$), thus not supporting H2. The same result is shown in models 4 and 5, which report the relationship between married female directors and emissions score within the family and non-family firms, respectively. For family firms,

the coefficient of the *female married* variable is not statistically significant. However, this coefficient is positive and statistically significant ($\beta = 0.4391$, $p < 0.01$) in the subsample of non-family firms and thus in contrast with our H2, we find that a positive link between a higher proportion of married female directors and firm environmental performance only exists in non-family firms.

Model 6 tests H3, suggesting that the relationship between the married female directors and a family firm's environmental performance is stronger when women belong to the owning family compared to when they do not. The coefficient of the *family female married* variable is positive and statistically significant (r = 1.6658, $p < 0.01$), whereas *non-family female married* is also statistically significant, albeit with a negative coefficient (r = -0.6244, $p < 0.05$). These results support our H3, proposing that having married women who belong to the family owner on boards positively affects the environmental performance of family companies.

Robustness tests

In this section, we perform additional analyses to ensure the robustness of our empirical findings.

Alternative dependent variable

Table 4 shows the empirical findings using a different dependent variable. Specifically, we employ the *environmental pillar score*, a proxy representative of three environmental categories, i.e., resource use, emissions, and innovation. The empirical findings shown in Table 4 largely confirm our main results, indicating that using a more comprehensive measure of environmental performance does not affect the validity of our outcomes.

Insert Table 4 about here

Two-stage least squares estimates

We used a two-stage least squares (2SLS) approach to deal with endogeneity issues arising from omitted variables and simultaneity (Erhemjamts & Venkateswaran, 2013). We tested the presence of potential endogeneity problems within the main empirical model (Column 2 in Table 3), which uses

only one independent variable, i.e., *female married*. Consequently, we need at least one instrumental variable (IV) to employ a 2SLS methodology.

Although many studies have investigated how gender diversity shapes different company outcomes (performance, ESG scores, R&D, risk, etc.), to the best of our knowledge, no empirical research in the management field has examined the association between married female directors and ESG performance. Consequently, it is unlikely that a useful IV will be found in previous literature that does not directly link the dependent variable. For this reason, we used the employment rate of married women as an IV for the percentage of married female directors, calculated as the married women's ratio divided by the total population ratio in Italy. We expect the IV to be positively correlated with our independent variable of female married directors. To check the validity of the IV employed, we ran the Kleibergen–Paap rk LM statistic (i.e., underidentification test), which is statistically significant ($p < 0.001$) (Kleibergen & Paap, 2006). Accordingly, we can reject the null hypothesis that our instrumental variable is under-identified. Additionally, the Cragg–Donald F statistic shows a p-value of 0.001, rejecting the null hypothesis that the instrument is weak.

Model 1 of Table 5 illustrates the first-stage regression results where the dependent variable is the percentage of married women directors. According to our provision, the employment rate of married women as our IV is positively and significantly correlated with the fraction of married female directors in family firms.

Insert Table 5 about here

Model 2 of Table 5 shows the results for the second-stage regressions in which the dependent variable is the emissions score. The empirical regression confirms the findings of Model 2 of Table 3, suggesting that potential endogeneity issues do not affect the relationships under investigation.

Propensity score matching

We employed a propensity score matching approach to mitigate endogeneity problems arising from potential selection issues and confounders (Amore et al., 2014). As several empirical studies have shown that family and non-family firms could differ in many financial and board features, our empirical

findings might depend on differences between the two groups of companies. We employed the propensity score matching (PSM) procedure to ensure that our results on the relationship between married female directors and emissions score are not driven by differences in unobservable characteristics between family and non-family firms (Rosenbaum & Rubin, 1983).

The procedure begins by matching a family company to a non-family one. Family firms are considered in the treatment group, while non-family firms are part of the control group. After performing one-to-one matching between each treatment firm (family firm) and a firm belonging to the control group (non-family firm), the PSM produced a matched sample comprising 130 cases, with 65 family firms and 65 non-family firms. Finally, we estimated our regressions presented in Column 3 of Table 3 based on the matched sample of firm-year observations. The results provided in Table 5 confirm our main findings, indicating that our empirical evidence is not driven by (observable) differences between family and non-family firms.

Insert Table 5 about here

Discussion

The results of this study offer novel insights into the debate on environmental sustainability in family and non-family businesses (e.g., Miroshnychenko et al., 2022), exploring the composition of the board and gender diversity (Bear et al., 2010; Byron & Post, 2016; Terjesen & Sealy, 2016). Our results highlight the importance of examining whether women might be differently perceived on the board of directors based on their marital status to better understand women directors' contributions to the sustainability agendas of their businesses. Our findings show that the effect of the percentage of women directors is not significant while that of married female directors has a positive effect on environmental performance, suggesting that being married might entail embracing a mindset oriented to protecting the common good for future generations (Bursztyn et al., 2017; Dessy & Djebbari, 2010). Specifically, being married can prompt women directors to balance their roles as experts who are called to contribute

to the strategies of the business and as individuals who commit to having a family and looking after future generations (Nadler & Kufahl, 2014).

We claim that the expectations and social roles that bind women directors' contributions to the firm's sustainability agenda depend on the governance that determines the relevance of goals that the firm pursues, as in the case of family and non-family firms (Berrone et al., 2023; Cruz et al., 2019; Gomez-Mejia et al., 2007). Nonetheless, our findings show no significant differences when considering the relationship between married female directors and environmental performance in family and non-family firms. However, when we split the sample into family and non-family firms, the results indicate that the relationship between married female directors and environmental performance is only significant for non-family firms. This suggests that while the role of married women directors in non-family businesses leads to a focus more on pro-environmental goals, attention must also be paid to other characteristics in family businesses. Indeed, our results suggest that marital status alone is insufficient to describe the effect of women directors on environmental performance in family firms, as the primacy of non-economic goals—mainly protecting the affective endowment of the business for future generations, creating a family-like working environment, and supporting social ties (Berrone et al., 2012; Gomez-Mejia et al., 2011)—can downplay the different attitudes of married women directors, who might differ based on their family affiliation (Cruz et al., 2019; Samara et al., 2019).

Finally, within the group of family firms, being a member of the controlling family affects the relationship between married women directors and a firm's environmental performance. Indeed, the relationship with the firm's environmental performance is significant, albeit with opposite effects depending on whether married female directors are family members (positive relationship) or non-family members (negative relationship). This adds an additional nuance in terms of the social roles of board members, as they are (i) professionals who hired in top positions to contribute to the business (Nielsen & Huse, 2010), (ii) married women whose psychological and behavioral characteristics reflect the expectations that society imposes on them, and (iii) members of the controlling family, who align their interests with those of the family firm by contributing to the sustainability agenda of their family business. This conformity to a multiplicity of social roles for married women directors from the controlling family is consistent with previous findings differentiating between family and non-family

women directors, also considering other phenomena such as innovation (Bauweraerts et al., 2022b). In addition, these social roles can further the conversation on the community logic ascribed to SEW as a reference point when pursuing environmental performance (Berrone et al., 2023).

Conversely, married women who are not members of the controlling family but sit on the board of directors of a family business might perceive the expectation of behaving as a professional as superseding traditional stereotypes and gender roles. This finding suggests that such directors might be more concerned with the expectations that they primarily contribute to economic goals. Accordingly, in this case, social role theory would suggest that their attitudes lead to them downplaying their contributions to sustainability, in line with the findings of a negative relationship with the firm's environmental performance.

Contributions, practical implications, limitations, and future research directions

This study makes several contributions to the literature on business ethics, corporate governance, and family business. First, by investigating the role of women directors beyond the man/woman dichotomous view, we contribute novel insights into the ethical dilemma of appointing women directors (Terjesen & Sealy, 2016). We consider the social role of married female directors, discussing how their contribution to their firms' sustainability agendas relates to their responses to the gender expectations of married women whose actions are simultaneously scrutinized as professional board members. Their commitment to environmental sustainability reflects these societal expectations, given their overlapping roles as directors, wives, and family members (Byron & Post, 2016; Eagly & Karau, 2002; Samara et al., 2019). The ethical implications of this attitude relate to the informal governance mechanisms at play in one of the top governing bodies of a listed corporation (Nielsen & Huse, 2010).

Second, corporate governance literature benefits from this study demonstrating the value of breaking down the composition of the board of directors, considering other individual characteristics that—in line with a social role perspective—contribute to shaping the attitudes of female directors' individual commitment to the firm's different goals (Campopiano et al., 2023). Accounting for both women directors' marital status and the type of company (family versus non-family business) helps to

further understand the antecedents and contingencies of environmental sustainability, thus contributing to an ongoing debate in corporate governance (e.g., Bear et al., 2010; Byron & Post, 2016; Cabeza-García et al., 2018; Marano et al., 2022).

Third, this study offers insightful nuances to the family business debate on women directors (Cruz et al., 2019; Samara et al., 2019). By considering the marital status of women directors, we account for an additional element to explain the attitude and interest of family versus non-family firms in pursuing non-economic goals. Although this is framed as a response to stereotypical expectations that society imposes on women, in line with the predictions of social role theory, our findings provide further nuances to extant findings in general on the differences between family and non-family firms pursuing environmental performance (Berrone et al., 2023; Miroshnychenko et al., 2022), and in particular on variations in the family status of women directors (Bauweraerts et al., 2022b; Cruz et al., 2019). We thus examine the impact of three overlapping types of stereotypes in society: the gender stereotype on women, which has been the primary focus of existing literature with a dichotomous distinction between men and women; the legitimacy associated with being part of the family; and finally, the role of marital status, as a facet that—to the best of our knowledge—has never been explored in family business literature. Given the potential significance of marital status within the family context and its centrality in family businesses, our study can serve as a pioneering effort to encourage future research in considering this and other individual aspects of women to advance our understanding of their significance and contributions to various business objectives.

This study also offers managerial implications for companies and professionals interested in the social and environmental dimensions of corporate sustainability. Although married women directors support a positive role of companies in society, from an environmental standpoint, it is essential to note that this comes with the social cost of persisting stereotypical expectations for women directors. Mindful of this, companies should implement governance policies capable of bridging both social and environmental dimensions of sustainability to ensure that one does not come at the expense of the other.

This appears particularly relevant in family firms, where gendered expectations for married women directors belonging to owning families might become even more pressing. Firms should pay attention to balancing the board composition and the individual responsibilities of board members

across the different policy dimensions and associated specialized committees. Although more gender-neutral committees might reduce the positive effect on environmental performance shown in this study—at least in the short term—their introduction might sustain positive spillover effects among members and more inclusive participation in the firm's agenda, aligned with the overall goals of the firm's dominant coalition.

This study is not free from limitations, which offer promising avenues for future research. First, our being limited to the Italian context clearly constrains our study's generalizability and invites future research to expand the analysis to more countries. Future research could attempt to replicate our findings in other traditional and masculine countries such as Japan or Austria, or test our hypotheses in sociocultural contexts characterized by more symmetrical gender role attributions, such as Denmark or Sweden (Hofstede et al., 2010). Moreover, our focus on listed firms—for which sustainability data are more readily available—significantly restricted our sample size (Arena et al., 2018; Cucari et al., 2018; Shaukat et al., 2016). Indeed, private firms—especially in Italy—are typically characterized by more informal CSR approaches (Russo & Tencati, 2009), whose peculiarities our analysis cannot capture.

From a statistical standpoint, our restricted data do not allow us to further disentangle the effect of married women directors on firm environmental performance. Furthermore, it would be interesting to compare women directors' influence on environmental performance based on industry (e.g., high-polluting vs. low-polluting firms) or status (e.g., state-owned vs. public and private firms). Moreover, as previously mentioned, our sample is characterized by a low frequency of women in top positions. Despite being common beyond the Italian context, the relationship between women leaders and (environmental) performance could change if men's and women's leadership ratios were to be inverted or at least more balanced in the future.

Finally, to the best of our knowledge, our study is the first to investigate the role of women directors' marital status in the corporate ethical behavior domain. Perhaps enriched by evidence from qualitative studies, future research could provide a more refined overview of marital status, its social role attributions, and the psychological underpinnings and consequences for individuals in business organizations. Indeed, marital status and its relationship with firm-level outcomes might be contingent on personal values, beliefs, religion, and marriage characteristics, e.g., years of marriage and number

of previous marriages. Further, future research might explore how social role attributions influence the quality of firms' efforts towards more sustainable enterprise models, for instance, in symbolic and ceremonial actions vis-à-vis substantive, internally focused change initiatives (e.g., Combs et al., 2022). We thus encourage future research to advance our understanding of the implications of family-work roles and social attributions on firms' societal outcomes.

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Table 1. Sample composition by Italian Stock Exchange industry classification

Industry	Frequency	Percentage (%)
Oil and Gas	50	10.53%
Basic materials	3	0.63%
Industrials	110	23.16%
Consumer services	87	18.32%
Healthcare	14	2.95%
Consumer goods	68	14.32%
Telecommunications	21	4.42%
Utilities	110	23.16%
Technology	12	2.52%
Total	**475**	**100%**

Table 2. Correlation matrix

	Variables	Mean	SD	1	2	3	4	5	6	7
1	Emissions score	58.361	32.557	1						
2	Environmental pillar score	51.508	28.817	0.884***	1					
3	Family firms	0.495	0.500	-0.129*	-0.107	1				
4	Female directors	0.202	0.160	0.0201	-0.00581	0.643***	1			
5	Female married	0.092	0.103	-0.0595	-0.119	0.575***	0.784***	1		
6	Family female married	0.018	0.039	0.0428	-0.0706	0.345***	0.479***	0.611***	1	
7	Non-family female married	0.026	0.057	0.0401	-0.0195	0.284***	0.477***	0.695***	0.618***	1
8	ROE	0.120	0.109	0.115	0.0670	-0.0721	0.0602	0.0125	-0.0141	0.0674
9	Firm size	22.364	1.405	0.429***	0.465***	-0.622***	-0.534***	-0.500***	-0.351***	-0.263***
10	Leverage	0.322	0.157	0.142*	0.225***	-0.159**	-0.215***	-0.203***	-0.0610	-0.0477
11	Cash holdings	0.111	0.075	-0.246***	-0.212***	0.257***	0.294***	0.240***	0.138*	0.0670
12	Capex	4.630	7.672	-0.00733	-0.0104	-0.123*	-0.121*	-0.0821	-0.0522	-0.0332
13	Cash flow	17.987	14.913	0.266***	0.240***	-0.274***	-0.117	-0.214***	-0.162**	-0.116
14	Male family CEO	0.217	0.413	-0.0147	-0.0792	0.464***	0.229***	0.179**	0.0364	0.153*
15	Board size	11.387	2.933	-0.0164	0.0536	0.290***	0.0993	0.111	-0.0342	-0.0423
16	Independent male directors	0.366	0.202	0.184**	0.174**	-0.644***	-0.616***	-0.516***	-0.324***	-0.299***
16	Females age	50.930	6.399	-0.0487	-0.0591	0.753***	0.872***	0.770***	0.428***	0.417***
17	Females tenure	3.769	2.236	-0.0184	-0.0544	0.698***	0.859***	0.782***	0.512***	0.507***

		8	9	10	11	12	13	14	15	16	17	
8	ROE	1										
9	Firm size	0.0422	1									
10	Leverage	-0.00439	0.259***	1								
11	Cash holdings	0.177**	-0.344***	-0.390***	1							
12	Capex	0.138*	0.0783	0.0937	-0.123*	1						
13	Cash flow	0.271***	0.324***	0.427***	-0.224***	0.238***	1					
14	Male family CEO	-0.170**	-0.357***	-0.275***	0.239***	-0.0454	-0.213***	1				
15	Board size	-0.0930	0.0476	-0.000621	0.0797	-0.120	-0.0402	0.0228	1			
16	Independent male directors	0.0379	0.593***	-0.0338	-0.222***	0.0921	0.0241	-0.260***	-0.118	1		
16	Females age	0.00878	-0.520***	-0.211***	0.292***	-0.134*	-0.161**	0.288***	0.327***	-0.609***	1	
17	Females tenure	-0.0315	-0.536***	-0.258***	0.262***	-0.145*	-0.205***	0.265***	0.264***	-0.572***	0.918***	1

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3. Relationship between female married directors and emissions score

	Emissions Score					
VARIABLES	(1) Whole sample	(2) Whole sample	(3) Interaction	(4) Family firms	(5) Non-family firms	(6) Family firms
Female directors	0.283					
	(0.156)					
Female married		0.282*	0.3983**	0.0802	0.4391***	
		(0.070)	(0.0239)	(0.7212)	(0.0096)	
Family firm			0.0187			
			(0.6971)			
Female married*Family firm			-0.2403			
			(0.3593)			
Family female married						1.6658***
						(0.0000)
Non-family female married						-0.6244**
						(0.0223)
ROE	0.263**	0.301**	0.2970**	0.2637	0.0032	0.4159***
	(0.026)	(0.013)	(0.0120)	(0.1305)	(0.9843)	(0.0086)
Firm size	0.069***	0.064***	0.0614***	0.0606**	0.0735***	0.0831***
	(0.000)	(0.000)	(0.0000)	(0.0476)	(0.0000)	(0.0017)
Leverage	0.111	0.088	0.0867	0.6604***	-0.1984	0.6822***
	(0.274)	(0.397)	(0.4161)	(0.0001)	(0.2449)	(0.0000)
Cash holdings	-0.577***	-0.605***	-0.6023***	-0.0086	-0.6782**	-0.0037
	(0.001)	(0.001)	(0.0010)	(0.9713)	(0.0167)	(0.9879)
Capex	-0.002	-0.002*	-0.0023	-0.0000	-0.0044***	-0.0014
	(0.313)	(0.096)	(0.1201)	(0.9952)	(0.0000)	(0.7636)
Cash flow	0.001	0.001	0.0011	-0.0014	0.0051***	-0.0034
	(0.515)	(0.253)	(0.2791)	(0.6025)	(0.0004)	(0.1511)
Male family CEO	0.089***	0.084**	0.0817*	0.1301**	-	0.1088***
	(0.009)	(0.020)	(0.0542)	(0.0127)		(0.0089)
Board size	0.009**	0.009**	0.0095**	0.0273***	0.0217***	0.0256***
	(0.024)	(0.041)	(0.0442)	(0.0002)	(0.0049)	(0.0003)
Independent male directors	0.127*	0.111	0.1194	-0.3497*	0.0914	-0.2283
	(0.092)	(0.158)	(0.1442)	(0.0515)	(0.4777)	(0.1318)
Females age	-0.017	-0.005	-0.0084	-0.0465**	0.0301	-0.0449**
	(0.229)	(0.718)	(0.5498)	(0.0304)	(0.1583)	(0.0270)
Females tenure	0.020	-0.007	-0.0001	0.0259	-0.0878*	0.0451
	(0.506)	(0.813)	(0.9978)	(0.5300)	(0.0649)	(0.2967)
Constant	-1.169***	-1.047***	-0.9895***	-1.1739*	-1.2963***	-1.7065***
	(0.000)	(0.001)	(0.0015)	(0.0715)	(0.0032)	(0.0030)
VIF (average)	3.21	2.77	2.95	3.88	3.39	3.96
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.537	0.545	0.5464	0.5358	0.6923	0.5779
Observations	475	449	449	223	226	223

Notes: Robust p-value in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 4. Different dependent variable – Environmental pillar score

	Environmental Pillar Score					
VARIABLES	(1) Whole sample	(2) Whole sample	(3) Interaction	(4) Family firms	(5) Non-family firms	(6) Family firms
Female directors	0.224					
	(0.147)					
Female married		0.185	0.4171***	-0.1042	0.3881**	
		(0.140)	(0.0074)	(0.5878)	(0.0163)	
Family firm			0.0235			
			(0.5499)			
Female married*Family firm			-0.4666**			
			(0.0389)			
Family female married						0.6340*
						(0.0568)
Non-family female married						-0.6069**
						(0.0173)
ROE	0.076	0.133	0.1300	-0.0760	-0.0526	-0.0243
	(0.409)	(0.154)	(0.1439)	(0.5275)	(0.6961)	(0.8275)
Firm size	0.065***	0.063***	0.0568***	0.1176***	0.0436***	0.1277***
	(0.000)	(0.000)	(0.0000)	(0.0000)	(0.0008)	(0.0000)
Leverage	0.248***	0.214**	0.2180**	0.5276***	-0.1156	0.5850***
	(0.003)	(0.012)	(0.0108)	(0.0003)	(0.3325)	(0.0000)
Cash holdings	-0.293**	-0.318**	-0.3110**	0.3017	-0.8493***	0.3880*
	(0.043)	(0.038)	(0.0413)	(0.1503)	(0.0007)	(0.0531)
Capex	-0.001	-0.001	-0.0011	0.0136***	-0.0029***	0.0117***
	(0.687)	(0.391)	(0.4936)	(0.0009)	(0.0000)	(0.0029)
Cash flow	-0.000	0.000	0.0001	-0.0013	0.0017	-0.0015
	(0.802)	(0.842)	(0.9437)	(0.5745)	(0.1469)	(0.4697)
Male family CEO	0.036	0.014	0.0148	0.0796**	-	0.0735*
	(0.210)	(0.651)	(0.6579)	(0.0437)		(0.0509)
Board size	0.015***	0.015***	0.0164***	0.0224***	0.0180***	0.0189***
	(0.000)	(0.000)	(0.0000)	(0.0001)	(0.0066)	(0.0021)
Independent male directors	0.141**	0.102	0.1134*	-0.1421	-0.0483	-0.0452
	(0.031)	(0.125)	(0.0998)	(0.3187)	(0.6387)	(0.7519)
Average age females	-0.003	0.011	0.0031	-0.0407**	0.0203	-0.0585***
	(0.774)	(0.313)	(0.7822)	(0.0209)	(0.2541)	(0.0010)
Average tenure females	-0.039*	-0.065***	-0.0493**	-0.0075	-0.0560	0.0539
	(0.095)	(0.006)	(0.0485)	(0.8076)	(0.2419)	(0.1169)
Constant	-1.303***	-1.251***	-1.1260***	-2.5632***	-0.6359*	-2.8018***
	(0.000)	(0.000)	(0.0000)	(0.0000)	(0.0528)	(0.0000)
VIF (average)	3.21	2.77	2.95	3.88	3.15	3.96
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.593	0.604	0.6105	0.6163	0.6944	0.6389
Observations	475	449	449	224	226	223

Notes: Robust p-value in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 5. Two-stage least square

VARIABLES	Female married	Emissions score
	(1) First-stage	(2) Second-stage
Employment rate married women	3.685***	
	(0.007)	
Female married		3.372**
		(0.027)
ROE	-0.074**	0.529***
	(0.039)	(0.004)
Firm size	0.021***	0.001
	(0.000)	(0.980)
Leverage	-0.011	0.121
	(0.732)	(0.391)
Cash holdings	0.055	-0.774***
	(0.360)	(0.004)
Capex	0.001	-0.005***
	(0.327)	(0.005)
Cash flow	-0.001*	0.003*
	(0.073)	(0.069)
Male family CEO	-0.008	0.110**
	(0.493)	(0.043)
Board size	-0.005***	0.026**
	(0.001)	(0.015)
Independent male directors	-0.106***	0.439**
	(0.000)	(0.030)
Females age	0.014***	-0.050*
	(0.000)	(0.072)
Females tenure	0.027**	-0.090
	(0.012)	(0.125)
Constant	-1.756***	0.371
	(0.001)	(0.543)
Industry effects	Yes	Yes
Year dummies	Yes	Yes
R-squared	0.524	0.039
Observations	449	449

Notes: Robust p-value in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 6. Propensity score matching

VARIABLES	(1) Interaction
Female married	1.3745***
	(0.0000)
Family firm	0.1765**
	(0.0172)
Female married*Family firm	-1.9605***
	(0.0000)
ROE	0.1200
	(0.6064)
Firm size	0.0031
	(0.9310)
Leverage	0.1230
	(0.5982)
Cash holdings	0.7368*
	(0.0726)
Capex	0.0186*
	(0.0717)
Cash flow	-0.0001
	(0.9556)
Male family CEO	0.0233
	(0.7631)
Board size	0.0456***
	(0.0001)
Independent male directors	0.0374
	(0.8166)
Females age	0.0128
	(0.6885)
Females_tenure	-0.0189
	(0.7677)
Constant	-0.1974
	(0.7896)
Year dummies	Yes
Industry dummies	Yes
R-squared	0.7150
Observations	130

Notes: Robust p-value in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$