The Effectiveness of Gender Diversity Reforms and the Impact of a Familial Culture: A Spillover Effect on Board Independence

Jannine Poletti-Hughes and Dilrukshi Dimungu-Hewage

University of Liverpool Management School, Chatham Street, Liverpool, L69 7ZH, UK
Corresponding author: email: jpoletti@liverpool.ac.uk

This study examines the impact of board gender diversity reforms (i.e. voluntary and regulatory) on both their effectiveness in increasing independent female directors on boards and board independence in a sample of 41 countries (10,313 unique firms and 82,613 firm-year observations). In an initial analysis, we find that voluntary self-regulation via a comply-or-explain reform decreases the number of independent female directors on boards and board independence. However, after incorporating the moderating effect of national culture, we find that such comply-or-explain reforms are ineffective only in countries where the inclusion/role of women in labour markets is limited (i.e. familial culture). By contrast, quota reforms boost the appointment of independent female directors and board independence despite the cultural setting, signifying positive actions towards good corporate governance practices.

Introduction

Corporate governance reforms have encouraged changes in the composition of boards of directors for the last two decades (Fauver *et al.*, 2017) and have been highly recognized by regulators and corporations to strengthen investors' confidence (Burunciuc and Gonenc, 2020). Extant research has suggested that these reforms are associated with corporate outcomes, such as monitoring power (Hillier and McColgan, 2006), firm performance (Price, Román and Rountree, 2011), dividend policy (Bae *et al.*, 2021), bank versus public debt choice (Ben-Nasr, Boubaker and Sassi, 2021), corporate risk-taking behaviour (Koirala *et al.*, 2020) and cash holdings (Chen *et al.*, 2020), among others. A significant reform that influences the composition of boards is with regard to gender diversity, since a growing body of studies have indicated positive corporate outcomes from firms with gender-diverse boards,

such as improved performance (Erhardt, Werbel and Shrader, 2003), less asymmetric information (Gul, Srinidhi and Ng, 2011), enhanced problem-solving and board advisory effectiveness (Hillman and Dalziel, 2003), enriched legitimacy of corporate practices (Hillman, Shropshire and Cannella, 2007), increased monitoring of managerial performance (Kramer, Konrad and Erkut, 2006), among others. Also, gender differences on boards have shown societal improvements through ethical standards and corporate social responsibility (Cohen, Pant and Sharp, 1998; Ibrahim, Angelidis and Tomic, 2009; Nave and Ferreira, 2019), which ultimately decrease the probability of corporate financial malpractice/fraud (Cumming, Leung and Rui, 2015; Dimungu-Hewage and Poletti-Hughes, 2022; Wahid, 2019; Wang, Yu and Gao, 2021) and increase environmental and social performance (Orazalin and Baydauletov, 2020).

In this respect, Norway has pioneered the introduction of a proportional gender quota since

2003,[1] followed by other countries, either by establishing legal rules or recommendations in codes of good corporate practice (Mensi-Klarbach and Seierstad, 2020). Countries that have followed voluntary practice for gender-diverse boards through the comply-or-explain principle provide flexibility on practice to either follow the recommendation or justify the reasons for not adopting such practice (Klettner, Clarke and Boersma, 2016). In some countries, coercive regulation via legislative quotas has been implemented, over-riding voluntary gender diversity in search of more effectively levelling the playing field (Sojo *et al.*, 2016). Legal quotas are more common in countries that favour gendered policies as their institutional framework (Terjesen, Aguilera and Lorenz, 2015). Although they might result in lower corporate performance because the excess demand for more female directors can create a shortage of women with sufficient experience, there is no consensus in the literature on the degree to which board gender diversity and firm performance are associated (Labelle, Francoeur and Lakhal, 2015). In this respect, whether a voluntary principle for board gender diversity or a regulation-based quota influence the effective inclusion of female directors on boards, and whether such reforms are weighted by market characteristics in the shaping of board composition, are still open questions that call for more research.

The motivation for our study centres on both the low inclusion of female directors on boards across the world – despite the advances of gender reforms (Gabaldon and Gimenez, 2017) – and the notion that informal institutional factors might influence the adoption or avoidance of certain corporate behaviours (Pucheta-Martinez, Gallego-Alvarez and Bel-Oms, 2021). In particular, we consider the importance of the familial culture as an informal institutional factor to disentangle the effectiveness of voluntary and legislative reforms for gender diversity on boards and its spillover effect on board independence. A familial culture represents a societal behaviour and tradition of a country, which defines the types of institutions that persist in that society (Lim, Kahai and Khun, 2021). Family firms are often governed by familial cultures

(Berrone *et al.*, 2020), wherein organizational arrangements mirror societal attitudes and expectations of the wider familial role of women as carers and men as breadwinners (Gale and Cartwright, 1995). Therefore, a familial culture not only measures the family ties at a corporate level that would be more relevant for family firms, but also refers to the behaviour and traditions of a society where women perform home activities as opposed to participating in the labour market (Alesina and Giuliano, 2010). With this in mind, we reason that a strong familial culture might impede the involvement of outside females in leadership positions under a voluntary setting (i.e. comply-or-explain) because target levels on codes of corporate governance are commonly vague and are not legally binding (i.e. as opposed to specific quotas). That is, a familial culture may influence the appointment of an inside female director as opposed to female talent outside the firm when aiming to comply with gender diversity reforms to signal compliance with the market, which may impact as a result on board independence. The reluctance to appoint external female directors might also arise from factors that disadvantage women in the market for senior positions, such as gender stereotyping and ingroup/outgroup biases (Glass and Cook, 2016), which might explain the slow advance of board gender diversity in meaningfully capitalizing on the surge for board reforms (Geletkanycz, 2020).

The purpose of this study is to examine the effect of gender diversity reforms on both the proportion of independent female directors on boards and board independence, comprising both gender reforms such as comply-or-explain and regulation-based (i.e. quotas). We empirically test whether voluntary gender reforms are ineffective at increasing female independent directors on boards. Also, and possibly as a result of market-based pressures (Konrad, Kramer and Erkut, 2008), we hypothesize that a familial culture differentiates the relationship between voluntary gender reforms and the inclusion of independent female directors. We discuss as an explanation that the inclusion of an inside female director on the board would signal to the market that the company complies with the recommendation of voluntary regulation, especially when there are no sanctions or concrete targets of achievement. By contrast, regulatory reforms (i.e. quotas) force companies to reach out to the external market in search of talent to fulfil the quotas.

---

[1]Israel introduced a non-proportional gender quota requiring one female board director for publicly traded companies since 1999 (Part VI, ch. 1, art. E(d), Companies Law 5759-1999).

To investigate the impact of gender diversity reforms on the proportion of independent female directors and board independence, we use a sample of 82,613 observations (10,313 firms) over the period 2000−2019 from 41 countries. We use difference-in-differences (DiD) as the method of analysis, which captures exogenous variation in board diversity controlling for time, firm and country effects. The main findings show that the appointment of independent female directors decreases with comply-or-explain reforms, suggesting that voluntary diversity reforms might not be an effective mechanism to increase the inclusion of outside female talent on boards, but instead they might promote the appointment of a female director from inside the firm. We distinguish that this effect is a function of a country's strength of familial culture as an informal institutional factor. Our results are economically significant and robust to different measures of familial culture. Following Chen *et al.* (2020), we perform several robustness tests to confirm the validity and consistency of the results. First, we study the dynamic effect of board gender reforms by analysing individual years (from t−2 to t+2) to confirm that gender reforms on boards are not the result of external economic factors. Second, a placebo test is performed using random gender diversity reform years and we find no indication of changes in female proportion and board independence during the post-reform period, confirming the validity of our baseline model. Third, we rerun our main models with a reduced sample selected by propensity score matching to confirm that our treatment group is similar to the benchmark group in firm-level control variables, also confirming the robustness of the results.

This paper contributes to the literature on gender board reforms in two ways. First, we distinguish that the effect of comply-or-explain gender diversity reforms might encourage the appointment of an inside female director to signal compliance with the market. In this respect, we justify how the use of comply-or-explain gender-diverse policies decreases the inclusion of independent female directors, which consequently impacts negatively on board independence. When it comes to gender diversity reforms, this finding differs from the notion that comply-or-explain reforms discipline firms through strong normative pressures to comply because of industry standards and stakeholder expectations (Aguilera and Cuervo-

Cazurra, 2009) and instead evidences that in countries with a familial culture, gender quotas are even more relevant to promote a fair-play inclusion of women on boards that would enhance board effectiveness and legitimacy (Hillman, Shropshire and Cannella, 2007).

Second, we develop our empirical analysis from an institutional perspective, where behavioural patterns develop from cultural ideas external to the individual, which consequently require policies that account for cultural values to be effective (Elam and Terjesen, 2010). Therefore, institutions are social structures where societal normative pressures are relevant in terms of compliance (Aguilera, Judge and Terjesen, 2018). In this sense, we rationalize the impact of the familial culture, as an informal institutional factor in the successful implementation of gender diversity reforms. Since pre-quota legislation percentages of women on boards are modelled by the current participation of women in the labour force (Terjesen and Singh, 2008), and country gendered policies (Terjesen, Aguilera and Lorenz, 2015), we incorporate the familial culture as an informal institutional factor to explain the success of both types of gender diversity reforms. Familial culture is generally featured in collectivism, which gives priority to group goals (e.g. family objectives) and is based on relationships rather than educational and professional qualifications (Lyu, Yuen and Zhang, 2017). In this setting, appointments for senior leadership roles are based on relationships rather than the available pool of talent outside the corporate unit, providing directorship opportunities to female inside members rather than outside female talent, hence limiting board independence. Therefore, we argue that a familial culture restricts the effectiveness of the comply-or-explain gender diversity reforms, which trigger pressure in appointing one single female director (insider if possible) to signal to stakeholders that the recommendation has been followed. The empirical evidence in this study informs the current global debate over the business-case justifications for mandating board gender quotas to achieve a meaningful board gender diversity. Therefore, by empirically testing whether the effectiveness of gender diversity reforms is different in countries with a familial culture, we advance the work of Terjesen, Aguilera and Lorenz (2015), which provides conceptual arguments for the association of national culture and gender legislations, and also

that of Grosvold and Brammer (2011), which finds that the cultural environment impacts on board gender diversity. In this sense, our findings provide a strong case to call for gender quota reforms on boards, in particular in countries with a familial culture, to genuinely advantage firms with the corporate governance benefits that arise from a gender-diverse board and board independence.

The rest of the paper is organized as follows. The next section reviews the literature and proposes our hypotheses. The third section discusses the methodology. The fourth section presents the empirical analysis and robustness tests. The fifth section discusses and concludes.

Hypothesis development

Independent female directors and gender reforms

The benefits of board effectiveness are framed by agency theory, where conflicts of interest between shareholders and management can lead to expropriation of resources from minority investors (Jensen and Meckling, 1976). Therefore, corporate governance reforms are an external mechanism to protect shareholders at the country level, which in turn expands financial markets, facilitates external financing of new firms and improves the efficiency of investment allocation (La Porta *et al.*, 2000). Board gender diversity might contribute to board effectiveness by bringing different professional experiences and perspectives, and improving strategic actions that promote firm performance (Catalyst, 2011; Poletti-Hughes and Briano-Turrent, 2019), enhancing independence (Adams and Ferreira, 2009) and improving legitimacy (Hillman, Shropshire and Cannella, 2007). As a disciplining external governance mechanism, gender diversity reforms aim to bring societal benefit through enhanced corporate transparency and accountability, arising because of the lower cohesion and cognitive conflict in board dynamics (Forbes and Milliken, 1999), increased efforts towards governance challenges (Adams and Ferreira, 2009) and improvement of strategic and other monitoring decisions from a broader skillset (Ahern and Dittmar, 2012). Wahid (2019) finds that, based on such mechanisms, corporations with gender-diverse boards are associated with less financial misconduct, which motivates regulation to establish processes that reduce negative accounting outcomes.

To date, female representation remains in the minority on corporate boards (Brieger *et al.*, 2019; Carrasco *et al.*, 2015). Indeed, the slow rise of women on boards suggests that the corporate benefits of gender diversity are yet to induce changes in board composition and corporate culture (Klettner, Clarke and Boersma, 2016).

A surge of public pressure for gender diversity in boardrooms has contributed to an increase of such recommendations in national codes of corporate governance (Gabaldon and Gimenez, 2017). Although comply-or-explain gender reforms, which are non-binding and mostly vague, can still be a strong incentive to set norms in the industry, gender quotas force firms to respond faster and towards larger targets to comply with the appointment of female directors on boards. Some countries have moved from voluntary self-regulation, such as comply-or-explain reform, towards legislative quotas (Labelle, Francoeur and Lakhal, 2015). For instance, nine European countries (Austria, Belgium, France, Germany, Iceland, Italy, Netherlands, Portugal and Spain) turned comply-or-explain reforms on gender diversity to mandatory quotas by 2018. Their primary motivation to adopt gender quotas is the proven ineffectiveness of raising gender diversity to target levels by comply-or-explain reforms (Grosvold, Brammer and Rayton, 2007).

Nelson and Levesque (2007) argue that firms consider regulatory reforms as a greater opportunity to design a governance structure which responds to public concerns. In this respect, the expectation of gender diversity reforms is the contribution to board independence, because women are not part of the 'old boy' network, which allows the provision of independent decision-making (Grosvold and Brammer, 2011). Also, some firms might aim to appoint independent female directors to comply, in parallel with board independence and gender diversity, either with regulations or recommendations (Bohren and Staubo, 2016).

We follow Elam and Terjesen (2010) to frame our study from an institutional perspective where formal policies and beliefs interact to build patterns of practice with the aim of achieving both social and economic strengths (Powell and DiMaggio, 1991). In this setting, legitimacy plays an important role to signal that the actions of an organization are 'appropriate within some socially constructed system of norms, values, beliefs, and

definitions' (Suchman, 1995). Therefore, legitimacy is achieved by firms as a process of collaboration to comply with regulations in response to external formal or informal pressures (Suddaby, Bitektine and Haack, 2017). These aspects trigger voluntary self-regulation (Mensi-Klarbach, Leixnering and Schiffinger, 2019), but risk the effective implementation of such reforms, which might lead to tick-box practices with the inclusion of an inside female director as a response to outside pressures (Smith and Parrotta, 2018) rather than for the intrinsic corporate benefits that gender diversity could bring to the boardroom. Self-regulation can be symbolic to dissipate criticism (Arya and Salk, 2006), limiting the benefits from the outside female talent (Field, Souther and Yore, 2020). Since board independence is affected by regulatory and non-regulatory determinants (Bohren and Staubo, 2016), and the appointment of directors to the board is not gender-neutral (Farrell and Hersch, 2005), voluntary recommendations to include women on boards might result in bureaucratic actions to signal compliance with the market rather than to accomplish any higher motives. Therefore, by appointing an inside female director to signal compliance with comply-or-explain regulation, the number of independent directors would be proportionally reduced. The discussion above leads to the following hypotheses:

H1a: Comply-or-explain gender diversity reforms decrease the proportion of independent female directors on boards.
H1b: Board independence decreases after a comply-or-explain gender reform.

Familial culture and gender diversity reforms

A national culture influences the appointment of female directors on boards (Pucheta-Martinez, Gallego-Alvarez and Bel-Oms, 2021). Indeed, an important factor in determining female participation in the labour force is the cultural setting of familial ties that impact on several economic outcomes at the household level, including home production (e.g. child care, caring for the elderly, etc.) and family size (Alesina and Giuliano, 2010). A familial culture stresses family loyalties and authority, which defines the strength of the ties among members of a family and the allocation of gender roles, discouraging egalitarian employment opportunities and limiting women's participation in businesses (Lim, Kahai and Khun, 2021). This means that institutions are dominated by male societies, which is a dimension of masculinity (Grosvold and Brammer, 2011). These aspects in turn might influence the effectiveness of self-regulation of gender diversity reforms, especially when specific measurable targets are not accounted for, which contrasts with quotas from regulation-based reforms (Mensi-Klarbach, Leixnering and Schiffinger, 2019).

Firms in countries with a strong familial culture distrust outsiders (Reher, 1998), resulting in preferential treatment for family members and insiders towards senior positions within the firm (Dyer, 1988). In this setting, women have to overcome barriers to reach a board appointment, because national culture influences the social roles of men and women, gender inequality and stereotyped perceptions of their advisory and leadership abilities (Carrasco *et al.*, 2015), which is impactful for both family and non-family firms. Therefore, when complying with regulations towards board gender diversity, family and non-family firms would give more opportunities to female talent within the organization or related to the family rather than appointing independent female directors. The motives for such actions might be different for family and non-family firms.

For family firms, the role of family-affiliated female directors is to represent the controlling family through board activities (Ruigrok, Peck and Tacheva, 2007), which follows pro-family strategies to avoid a loss, especially when it refers to their socioemotional wealth (Poletti-Hughes and Briano-Turrent, 2019). By involving family-affiliated directors, family owners can influence the firm's behaviour and decision-making (Evert *et al.*, 2018), which aim towards non-financial goals such as preserving family control, employing family members, preserving the family identity and keeping the family business as a going concern for future generations (Gomez-Mejia *et al.*, 2011). As such, family-affiliated female directors would play a key role in the protection of family wealth (Mulholland, 1996) and simultaneously would proxy for the quality of corporate governance in reassuring investors and other stakeholders that compliance with 'good practice' is being achieved (Lara *et al.*, 2017).

For non-family firms, strong family ties relate to the entrenchment of traditional gendered roles

of women in society, where barriers to access senior and leadership positions are large (Glass and Cook, 2016) and gender bias in boardrooms that places women at a disadvantage in obtaining board appointments is predominant (Zhu, Shen and Hillman, 2014). Therefore, when concrete and legally binding gender diversity targets are not established (i.e. under comply-or-explain regulation), the appointment of a female director might follow the inclusion of a non-independent female director to fulfil the aimed visibility that arises from external pressures (Singh *et al.*, 2015; Torchia, Calabro and Huse, 2011), as opposed to reaching out to external female talent.

The gender balance of boards in countries with a familial culture might also spill over towards board independence. A society with stronger family ties tends to be more passive on initiatives of an individual nature (Reher, 1998), and more oriented towards social collectivism (Lyu, Yuen and Zhang, 2017), increasing not only corporate ownership concentration and control, but also cohesion among corporate insiders to the detriment of board independence (Chau and Grey, 2010). The presence of independent directors on the board strengthens internal corporate governance, especially in the context of a familial culture (Corbetta and Salvato, 2004), which in turn reduces agency costs in protection of all stakeholders. Board independence is particularly important for firms in less developed capital markets, in support of international expansion and organizational capability (Kor and Misangyi, 2008). Considering that the inclusion of outside female talent in leadership roles aligns with an egalitarian environment (Byron and Post, 2016), it follows that the effectiveness and legit adoption of corporate governance reforms that do not conform to the dominant governance logic in a particular country (Aguilera, Judge and Terjesen, 2018) will be contingent on the extent to which regulation is enforced, leading to the next hypotheses:

H2a: The negative impact of comply-or-explain gender diversity reforms on the proportion of independent female directors is greater in countries with a familial culture.

H2b: There is a negative spillover effect of comply-or-explain gender diversity reforms on board independence in countries with a familial culture.

Methodology

Data and model

We collected financial data from the Thomson Financials DataStream and Worldscope database for all non-financial sectors (i.e. excluding classification codes from 6000 to 6999). Data on board gender diversity and independence are obtained from the Boardex database. Data on country-level corporate governance reforms are obtained from Mensi-Klarbach and Seierstad (2020), the Corporate Governance and Directors' Duties Global Guide under Thomson Reuters Practical Law and other sources (see Table 1 for detailed source information). Observations with incomplete data and with negative sales or negative equity are excluded. Financial variables are winsorized at the 1% and 99% levels to control for the influence of outliers. The final sample consists of 82,613 firm-years for 10,313 unique firms over the period 2000−2019, from 41 countries (considering the state of California as an independent country since its gender quota reforms are different from the rest of the United States).

Based on previous literature, the study classifies gender reforms under two mutually exclusive categories as non-regulated (i.e. comply-or-explain) reforms and regulation-based reforms (i.e. quotas). These gender diversity reforms offer quasi-natural experiments which lessen the concerns of endogeneity by isolating the causal effects of gender diversity reforms on female directors' appointments and board independence. We use board gender diversity and board independence as dependent variables and examine the effect of board gender reforms using a DiD analysis on the following models:

$$Y_{i,c,t} = \beta_1 Post_{c,t} + \sum\nolimits^{\beta m} CFL_{i,t} + \sum\nolimits^{\beta n} CCL_{c,t} + \varepsilon_{i,c,t} \tag{1}$$

$$Y_{i,c,t} = \beta_1 Post_{c,t} + \beta_2 Post_{c,t} * Fam_c \\ + \sum\nolimits^{\beta m} CFL_{i,t} + \sum\nolimits^{\beta n} CCL_{c,t} + \varepsilon_{i,c,t} \tag{2}$$

where $Y_{i,c,t}$ is the dependent variable representing the proportion of female directors (i.e. ratio of all female board members to number of directors on the board), the proportion of independent female directors (i.e. ratio of independent non-executive female directors to number of directors on the

Table 1. Description of corporate board gender reforms worldwide

Country	Gender policy reform	Year	Quota	Source
Argentina	No policy	–	–	Country CG Code (2012); Barco and Briozzo (2020)
Australia	Comply-or-explain	2010	–	Australian Securities Exchange Corporate Governance Council (2010)
	Comply-or-explain	2012		Workplace Gender Equality Act (2012); Sultana, Cahan and Rahman (2020)
Austria	Comply-or-explain	2009		Labelle, Francoeur and Lakhal (2015); Mensi-Klarbach and Seierstad (2020)
	Quota (soft law)	2017	30%	
Belgium	Comply-or-explain	2008		
	Quota (hard law)	2011	33%	
Brazil	Comply-or-explain	2016	–	Country CG Code (2016)
Canada	Comply-or-explain	2015	–	Canadian Securities Laws (2014/12)
China	No policy	–	–	China's State Laws and Companies Law
Colombia	No policy	–	–	Country CG Code (2007) OECD (2017)
Chile	Comply-or-explain	2015	–	Thomson Reuter Practical Law (2021) – the SVS issued General Rule Nos 385 and 386
Denmark	Comply-or-explain	2010	–	Country CG Code (2010)
Egypt	No policy	–	–	Country CG Code (2005, 2011)
Finland	Comply-or-explain	2015	–	Country CG Code (2015)
France	Comply-or-explain	2010	–	Labelle, Francoeur and Lakhal (2015); Mensi-Klarbach and Seierstad (2020)
	Quota (hard law)	2011	40%	
Germany	Comply-or-explain	2010	–	
	Quota (hard law)	2015	30%	
Greece	Quota (soft law)	2020	25%	EU Shareholder Rights Directive II (SRD II)
Hong Kong	Comply-or-explain	2019	–	Country CG Code (2018)
Hungary	No policy	–	–	Country CG Code (2018); Thomson Reuter Practical Law (2021)
India	Quota (hard law)	2013	1	India Companies Act (2013); Staff (2015)
Indonesia	No policy	–	–	Country CG Code (2018); Understanding Indonesia Corporate Governance Manual and Roadmap
Israel	Quota (soft law)	1999	1	Terjesen, Aguilera and Lorenz (2015)
Italy	Quota (hard law)	2011	33%	Mensi-Klarbach and Seierstad (2020)
Japan	Comply-or-explain	2018	–	Country CG Code (2015, 2018-June)
Malaysia	Comply-or-explain	2012	–	Country CG Code (2012); Terjesen, Aguilera and Lorenz (2015)
Mexico	Comply-or-explain	2018	–	Thomson Reuters, Practical Law Database (2021)
Netherlands	Comply-or-explain	2008		Labelle, Francoeur and Lakhal (2015); Mensi-Klarbach and Seierstad (2020)
	Quota (soft law)	2011	30%	
Norway	Quota (hard law)	2003	40%	Mensi-Klarbach and Seierstad (2020)
Pakistan	Quota (soft law)	2017	⇒1	The Companies Act of 2017; Securities and Exchange Commission of Pakistan (SECP)
Peru	No policy	–	–	Country CG Code (2002)
Philippines	Comply-or-explain	2017	–	Country CG Code (2016)
Poland	Comply-or-explain	2010	–	Terjesen, Aguilera and Lorenz (2015)
Portugal	Comply-or-explain	2011	–	Mensi-Klarbach and Seierstad (2020)
	Quota (hard law)	2017	33%	
Singapore	Comply-or-explain	2018	–	Country CG Code (2018)
South Korea	Comply-or-explain	2017	–	Korea's Stewardship Code (2016)
Spain	Comply-or-explain	2006	–	Labelle, Francoeur and Lakhal (2015)
	Quota (soft law)	2007	40%	Mensi-Klarbach and Seierstad (2020)

Table 1. (Continued)

Country	Gender policy reform	Year	Quota	Source
Sweden	Comply-or-explain	2005	–	Country CG Code (2004)
Switzerland	Comply-or-explain	2015	–	Country CG Code (2014)
	Quota (soft law)	2022	–	Thomson Reuters, Practical Law Database (2021)
Thailand	Comply-or-explain	2017	–	Country CG Code (2017)
Turkey	Comply-or-explain	2014	–	Country CG Code (2012)
UK	Comply-or-explain	2012	–	Country CG Code (2012)
USA	Comply-or-explain	2010	–	Terjesen, Aguilera and Lorenz (2015)
California	Comply-or-explain	2010	–	Terjesen, Aguilera and Lorenz (2015)
	Quota (hard law)	2018	⇒1	Thomson Reuters, Practical Law Database (2021)

board) or board independence (i.e. ratio of independent non-executive directors to number of directors on the board) for firm i at time t in country c. In a further analysis, we use the proportion of inside female directors (i.e. ratio of non-independent executive female directors to board size). $Post_{c,t}$ is the DiD estimator ($Post_{After\ year\ of\ reform\ =\ 1} \times Treatment_{if\ reform\ =\ 1}$), representing the changes for the treatment group compared to the changes for the control group. Following Fauver *et al.* (2017), we address comparability with countries without any reform and generate $Post_{After\ =\ 1}$ for the control group to begin in 2010 as a benchmark. We choose 2010 because in that year, the European Commission announced a European Union-wide regulation of gender diversity on boards (Mensi-Klarbach *et al.*, 2020) and the United States (the largest economy in the sample) began to implement a voluntary gender reform.

Fam_c represents whether the country where the firm is located has a familial culture. $CFL_{i,t}$ and $CCL_{c,t}$ represent time-varying firm-level controls (i.e. return on assets – ROA, leverage, firm size, current ratio, sales growth, board size, CEO–Chair duality) and time-varying country-level controls (GDP growth, domestic credit, regulatory quality), respectively (see online Appendix 1 for variable definitions). $\varepsilon_{i,c,t}$ is an error term. All models use robust standard errors clustered by firm because the adoption of reforms is a firm-level decision.

Variables

Board gender reforms are categorized as (1) gender quotas or (2) comply-or-explain reforms. Gender quotas refer to specific regulations that have established a legally binding target to be achieved for gender diversity on boards. Comply-or-explain

reforms include recommendations that aim to influence the gender diversity on boards. These could range from specific statements that recommend including women on boards, to indirect measures that would address the components of gender diversity (e.g. disclosure of gender diversity attributes considered before the election of new board members for Chile). Each characteristic is coded as 1 from the following year in which the gender reform was announced (i.e. the year in which it became effective), and 0 otherwise. The analysis for quota reforms compares firms in countries with regulation versus non-regulation reforms (i.e. non-regulation includes countries with both voluntary and non-policy reforms). The analysis for comply-or-explain reforms compares firms in countries with voluntary versus non-policy reforms, therefore excluding those observations from countries that have introduced quotas. In cases where a comply-or-explain reform preceded a quota, the sample under analysis truncates from the year when the quota was introduced.

All models include firm- and country-level control variables to ensure that the effect of gender reforms on gender diversity and board independence is not driven by confounding factors (see online Appendix 1 for definitions of all variables). Specifically, we include firm size, leverage, current ratio and sales growth as firm-level controls. At the country level, we include domestic credit to control for a country's financial sector development, GDP growth rate to control for a country's economic development and regulatory quality that accounts for the government's ability to formulate and implement policies and regulations. We also control for internal corporate governance practices that could influence board composition, with board size and CEO–Chair duality.

We test our hypotheses regarding familial culture (Equation (2)) by including an interaction term between the post-period of reforms and a dummy variable that classifies a country as having a strong familial culture (Fam). Following Lim, Kahai and Khun (2021), familial culture is measured with data from the World Values Survey (WVS) and the European Values Survey (EVS),[2] which provide indices from 1 to 4 according to the level of agreement with regard to family-related views, indicating the perception of respondents towards its IMPORTANCE (importance of family in life), DUTY (duties and responsibilities of parents towards children) and LOVE (respect and love for one's own parents). We calculate a measure of the familial culture by extracting the first principal component from all three variables – IMPORTANCE, LOVE and DUTY (see online Appendix 2). A stronger familial culture is a dummy variable that equals 1 if the principal component score is above the country-level median, and 0 otherwise. Therefore, the familial culture is defined by the strength of the ties among family members (Lim, Kahai and Khun, 2021) – a higher score corresponds to a strong familial culture, and proxies the division of labour between men and women, as well as the reliance on family members as opposed to the external market in the labour force (Alesina and Giuliano, 2010). In further analyses we use other proxies of familial culture – in-group solidarity and family business prevalence (FBP) (defined in online Appendix 1).

Descriptive statistics

Table 2 summarizes the sample distribution by country (Panel A) and year (Panel B). In Panel A, the United States presents the largest number of observations at 19,737. Hungary has the fewest observations at 12. In Panel B, we find that the year 2000 has the fewest observations at 668, while the year 2017 has the most observations at 7313.

Table 3, Panel A, reports descriptive statistics for the main variables of the study. Our main dependent variables have a mean of 0.11, 0.08 and 0.53 for female ratio, female independent ratio and board independence, respectively. Post_Quota has

a mean of 0.13, denoting that 13.0% of observations had a board gender quota reform at some point during our sample period. Post_Comply has a mean of 0.36, denoting that 36% of observations had a comply-or-explain reform at some point during the sample period. Panel B provides univariate tests of non-gender reforms versus gender reforms during the 2016–2019 period to show a summary that allows sufficient time to adopt gender reforms. Panel C reports univariate differences in means of gender diversity reforms by comply-or-explain and quotas. Panel D provides Pearson correlation coefficients between the main variables of interest. Since the correlation coefficients between the key variables of the study are low, multicollinearity is not likely to be driving our results. We run variance inflation factors for all explanatory variables and find that, with the exception of regulatory quality, all the factors are less than 10. To account for this, we perform checks (unreported) in our regressions – excluding regulatory quality – and confirm that multicollinearity does not impact on our findings.

Empirical analysis

Gender diversity quotas versus comply-or-explain

Table 4 presents the initial results using DiD regressions. In columns 1 and 2, we use female proportion as the dependent variable and test for the effect of gender reforms. We find that both gender reforms are effective in increasing the ratio of female directors. In columns 3 and 5, we find that quota reforms increase the proportion of independent female directors and board independence. We test H1a in column 4, where we find that comply-or-explain reforms decrease the ratio of independent female directors, confirming their ineffectiveness at bringing external female talent into boards of directors. Column 6 reports that board independence also decreases with comply-or-explain reforms, in support of H1b. An explanation could be that comply-or-explain gender reforms might only increase the proportion of female directors that already hold executive positions and/or with family ties to the board (see Table 5, column 2, where we find a positive and significant estimator for a comply-or-explain reform on the proportion of female inside directors), being therefore an influential factor in decreasing board independence. We find significant and positive

---

[2]Available for two time periods (1999–2004) and (2005–2010) from https://www.worldvaluessurvey.org/wvs.jsp and https://europeanvaluesstudy.eu/

Table 2. Sample distribution

Panel A. Distribution by country

Country	Firms	Observations	Country	Firms	Observations
Argentina	12	81	Japan	433	2,623
Australia	560	4,226	Malaysia	156	952
Austria	37	338	Mexico	69	475
Belgium	53	610	Netherlands	72	869
Brazil	121	804	Norway	118	1,047
Canada	74	483	Pakistan	10	22
Chile	28	195	Peru	11	41
China	453	2,431	Philippines	55	272
Colombia	13	75	Poland	36	250
Denmark	57	409	Portugal	29	350
Egypt	9	39	Singapore	225	1,528
Finland	98	636	South Korea	42	178
France	361	3,714	Spain	95	1,035
Germany	325	3,146	Sweden	239	1,830
Greece	17	251	Switzerland	126	904
Hong Kong	433	2,497	Thailand	72	312
Hungary	3	12	Turkey	25	161
India	517	3,301	UK	827	10,181
Indonesia	88	395	California (USA)	1,329	13,514
Israel	194	1,474	USA	2,741	19,737
Italy	150	1,215	Total	10,313	82,613

Panel B. Distribution by year

Year	Observations	Year	Observations
2000	668	2010	4,769
2001	1,094	2011	5,065
2002	1,187	2012	5,162
2003	1,752	2013	5,837
2004	2,090	2014	6,181
2005	2,460	2015	6,888
2006	2,697	2016	7,055
2007	3,120	2017	7,313
2008	3,384	2018	7,064
2009	3,355	2019	5,472
		Total	82,613

estimators for ROA, firm size, GDP growth, domestic credit (except for board independence, possibly because the strength of internal governance mechanisms is not relevant when credit financing is more available and less dependent on shareholders' funds; Bruno and Claessens, 2010) and regulatory quality, whereas sales growth, board size (except for board independence) and CEO–Chair duality are negatively associated with female proportion on boards.

Dynamic effects of board gender reforms

Considering that companies in countries without reforms could follow international benchmarks for regulation on board composition, possibly influenced by Organisation for Economic Co-operation and Development (OECD) roundtables of corporate governance that have helped principles of good practice to be accepted globally (Ararat, Claessens and Yurtoglu, 2021), we test whether results are not driven by such pre-existing developments in improving board diversity and independence. In Figure 1, we present event study graphs with estimates from a dynamic treatment, with heterogeneous effects during leads and lags (−5 to +5). We use the average treatment effect (ATE) for groups, where the group is defined by the time period when companies are treated by reforms. This model assures that the lead and lag coefficients are

Table 3. Variables and statistics

Panel A. Descriptive statistics

Variable	Mean	Quantile 1	Median	Quantile 3	SD
Firm-level variables					
Female ratio	0.11	0.00	0.10	0.20	0.13
Female independent ratio	0.08	0.00	0.00	0.14	0.11
Board independence	0.53	0.33	0.56	0.75	0.28
Female inside	0.04	0.00	0.00	0.00	0.80
Post_Quota[a]	0.13	0.00	0.00	0.00	0.34
Post_Comply[a]	0.36	0.00	0.00	1.00	0.48
Firm size	8.74	5.86	8.12	11.41	3.90
Leverage	0.23	0.03	0.19	0.35	0.22
Current ratio	0.49	0.29	0.48	0.67	0.25
ROA	0.04	−0.02	0.09	0.17	0.85
Sales growth rate	0.18	−0.02	0.07	0.19	0.69
Board size	8.29	6	8	10	3.66
CEO–Chair	0.38	0.00	0.00	1.00	0.49
Country-level variables					
Regulatory quality	1.35	1.27	1.50	1.70	0.59
GDP growth rate	0.02	0.02	0.02	0.03	0.02
Domestic credit	1.46	1.16	1.62	1.83	0.47
Familial culture (dummy)	0.19	0.00	0.00	0.00	0.39
Solidarity	0.37	0.29	0.36	0.39	0.16
FBPI	0.38	0.33	0.33	0.44	0.12

Panel B. Annual univariate tests of gender diversity reforms in recent years (2016–2019)

Variables	Year	Mean Post = 0	Mean Post = 1	Difference in mean
Fem ratio	2016	0.124	0.186	0.062***
	2017	0.133	0.207	0.074***
	2018	0.149	0.214	0.065***
	2019	0.152	0.219	0.067***
Female independent	2016	0.142	0.090	−0.052***
	2017	0.152	0.105	−0.047***
	2018	0.129	0.066	−0.063***
	2019	0.119	0.073	−0.046***
Independence	2016	0.657	0.388	−0.268***
	2017	0.677	0.409	−0.267***
	2018	0.568	0.440	−0.127***
	2019	0.430	0.467	0.036*

Table 3. (Continued)

Panel C. Univariate tests: Gender diversity reforms (difference in means)

	Quota Post = 0	Quota Post = 1	Difference in mean	Comply-or-explain Post = 0	Comply-or-explain Post = 1	Difference in mean
Fem ratio	0.102	0.172	0.114***	0.130	0.138	0.007***
Female independent	0.071	0.102	0.076***	0.135	0.050	−0.085***
Board independence	0.370	0.571	0.201***	0.638	0.484	−0.153***

Panel D. Pearson correlation analysis

	ROA	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2 Leverage	0.095*															
3 Firm size	0.061*	0.072*														
4 Current ratio	−0.034*	−0.344*	−0.255*													
5 Sales growth	0.005	−0.015*	−0.038*	0.033*												
6 GDP growth	0.013*	−0.026*	0.036*	0.039*	0.043*											
7 Domestic credit	−0.029*	−0.018*	−0.196*	0.022*	0.007*	−0.259*										
8 Regulatory quality	−0.043*	−0.078*	−0.052*	0.0004	0.026*	−0.454*	0.493*									
9 Fem ratio	0.020*	0.034*	0.104*	−0.042*	−0.046*	−0.012*	−0.102*	0.010*								
10 Fem independent	0.016*	0.038*	0.073*	−0.066*	−0.043*	−0.024*	0.032*	0.044*	0.778*							
11 Board independence	−0.020*	−0.008*	−0.226*	−0.026*	−0.006	0.027*	0.395*	0.063*	0.111*	0.361*						
12 Inside female	0.013*	0.002	0.071*	0.021*	−0.018*	0.011*	−0.203*	−0.046*	0.548*	−0.090*	−0.302*					
13 CEO–Chair	0.014*	0.001	−0.061*	0.030*	−0.009*	0.064*	0.057*	−0.072*	−0.074*	−0.123*	−0.124*	0.048*				
14 Board size	0.064*	0.092*	0.328*	−0.158*	−0.075*	0.003	−0.174*	−0.159*	0.143*	0.119*	−0.088*	0.069*	0.110*			
15 Solidarity	0.036*	0.091*	0.007*	0.036*	−0.049*	0.041*	−0.088*	−0.302*	−0.142*	−0.131*	−0.142*	0.050*	0.129*	0.129*		
16 FBPI	0.032*	0.246*	0.037*	0.027*	−0.046*	−0.081*	−0.314*	−0.139*	−0.032*	−0.066*	−0.304*	0.144*	0.034*	0.190*	0.336*	
17 Familial culture	0.041*	0.097*	0.148*	−0.047*	−0.039*	0.173*	−0.625*	−0.551*	0.092*	−0.030*	−0.221*	0.191*	0.020*	0.192*	0.286*	0.317*

[a] Values do not include the comparability benchmark as described in the methods section.

***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

* $p < 0.5$. Bold highlights correlation coefficients >30%.

Table 4. Gender reforms and gender diversity

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Fem ratio		Fem indep		Board indep	
Post_quota	0.030***		0.005***		0.010**	
	(14.52)		(2.58)		(2.43)	
Post_comply		0.005**		−0.004**		−0.014***
		(2.27)		(−2.10)		(−3.48)
ROA	0.002**	0.002***	0.001***	0.002***	−0.003**	−0.002
	(4.11)	(3.49)	(2.89)	(3.61)	(−2.81)	(−1.62)
Leverage	−0.006***	−0.007***	−0.009***	−0.010***	−0.077***	−0.082***
	(−2.92)	(−3.49)	(−5.52)	(−5.83)	(−19.15)	(−18.64)
Firm size	0.006***	0.007***	0.009***	0.009***	0.021***	0.021***
	(30.30)	(29.45)	(48.40)	(47.59)	(46.80)	(43.50)
Current ratio	0.004*	0.004*	0.003**	0.004**	0.012***	0.018***
	(1.91)	(1.77)	(2.12)	(2.32)	(3.37)	(4.60)
Sales growth	−0.003***	−0.004***	−0.003***	−0.004***	−0.008***	−0.008***
	(−6.20)	(−6.78)	(−6.69)	(−7.94)	(−6.60)	(−6.77)
GDP growth	0.417***	0.319***	0.452***	0.407***	0.281***	0.307***
	(11.85)	(7.49)	(15.62)	(12.31)	(4.23)	(3.94)
Domestic credit	0.021***	0.005	0.026***	0.008***	−0.036***	−0.054***
	(6.17)	(1.24)	(9.67)	(2.67)	(−5.39)	(−6.81)
Regulatory quality	0.021***	0.043***	0.018***	0.036***	0.034***	0.039***
	(6.35)	(10.39)	(6.32)	(11.14)	(5.33)	(5.27)
Board size	0.013***	0.034***	0.013***	0.028***	−0.006**	−0.001
	(9.48)	(10.39)	(11.51)	(22.97)	(−2.08)	(−0.37)
CEO−Chair	−0.004***	−0.004***	−0.010***	−0.010***	−0.052***	−0.064***
	(−5.41)	(−4.68)	(−15.64)	(−14.67)	(−35.74)	(−39.39)
Observations	82,613	69,818	82,307	69,512	82,613	69,818
R^2	0.39	0.23	0.35	0.30	0.57	0.58

This table presents the results of the DiD regression models examining the gender diversity reforms on female proportion, female independent proportion and proportion of independent directors on the board. Variables are defined in online Appendix 1. We present robust t-statistics in parentheses, calculated based on standard errors double clustered by firm and year. Dummies for year, country and industry included.

*p < 0.10, **p < 0.05, ***p < 0.01.

free from any effects from other periods. We find clear-cut effects around the time of the reforms or after, whereas the behaviour of each of the dependent variables is more stable before the treatment periods.

The influence of the familial culture on board reforms

Table 6 presents results regarding the influence of the familial culture in the uptake of regulation-based and comply-or-explain reforms. Columns 1 and 3 suggest that quotas are effective in increasing the proportion of female and female independent directors on boards and a familial culture boosts the increase of such ratios. Columns 2 and 4 show that comply-or-explain reforms are negatively associated with the ratios of female and female independent directors only in countries with a fa-

milial culture (in support of H2a). An explanation might be that comply-or-explain is effective only at increasing female inside directors as a way to signal to the market that the recommendation is being followed, as opposed to reaching out to the external market for female talent (see Table 5, column 4, where we find a positive and significant estimator of a comply-or-explain reform on the ratio of female inside directors for companies in a country with a familial culture). Columns 5 and 6 present the results for board independence, suggesting a negative spillover effect that arises after a comply-or-explain gender reform (column 6) as a function of a country's familial culture (in support of H2b).

Endogeneity

Endogeneity concerns in this research are mitigated by the nature of governance reforms (our

Table 5. Female inside directors (non-independent executive female directors)

Variables	(1)	(2)	(3)	(4)
	Model as Table 4		**Model as Table 6**	
Post_quota	0.045***		0.045***	
	(46.20)		(58.60)	
Post_comply		0.009***		0.001
		(6.79)		(0.90)
Post_quota#Fam			−0.051***	
			(−6.52)	
Post_comply#Fam				0.029*
				(1.71)
Observations	82,307	69,512	82,307	69,512
R^2	0.23	0.12	0.23	0.16

This table presents the results of the DiD regression models examining gender diversity reforms in columns (1) and (2) and the moderating effect of familial culture over gender diversity reforms in columns (3) and (4) on the ratio of inside female directors on the board. Variables are defined in online Appendix 1. We present robust t-statistics in parentheses, calculated based on standard errors clustered by firm. Dummies for year, country and industry included.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

key explanatory variable of interest), which provide an exogenous intervention with regard to individual firms (Fauver *et al.*, 2017). However, we acknowledge that endogeneity concerns could still arise not only because our dependent variables and control variables could be equally associated with unobservable characteristics, but also because companies' behaviour towards board composition could be influenced by global perceptions prior to the exogenous shock from the reforms (Ararat, Claessens and Yurtoglu, 2021). Therefore, to test whether these missing factors have an impact on our estimated results, we perform a placebo test (Chen *et al.*, 2020; Liao *et al.*, 2021) by allocating to each firm a random gender reform year as the quasi-year and repeating the DiD analysis from Table 4 (see Table 7, Panel A). The non-significant estimators confirm the validity of our findings by indicating that unobserved factors or pre-existing global perceptions of board composition do not drive the estimated results.

In Panels B and C, we use propensity score matching (PSM) to pair observations with gender reforms to those without gender reforms. The matching was performed using a probit model with firm-level control variables as used in our baseline model. We match each board reform observation with the closest neighbour from a non-board reform observation and perform DiD analyses using the matched sample in Equations (1) and (2). The results are consistent with our previous findings.

Alternative measures of familial culture

In Table 8, we calculate alternative measures of a familial culture (from Berrone *et al.*, 2020) and perform DiD analyses using the baseline specification in Equation (2). First, we use the measure of in-group solidarity in a national culture as a proxy of familial culture, which represents a context where people only trust others they know personally and their families. In contrast, people do not trust others they meet for the first time, which reflects that societal values based on a familial culture are a vehicle for economic exchange.

Second, a familial culture is measured with a country's FBP score available from Berrone *et al.* (2020), which measures the ubiquity of family-controlled firms in a country that proxy 'the extent to which a national context is characterized by a distinctive set of social structure, relationships, and values that lend centrality to the family as the basic unit of economic production and to kinship ties as the predominant carrier of social and economic exchange'. Our results are robust when using these measures of familial culture.

Further analysis

Hard versus soft law. In our empirical framework, we have considered that quotas establish specific legally binding targets for diversity as opposed to guidance for inclusion as in voluntary codes of corporate governance. However, we

Table 6. Gender reforms and board independence in countries with a familial culture

	(1)	(2)	(3)	(4)	(5)	(6)
	Female		**Female indep**		**Board indep**	
Post_quota	0.118***		0.073***		0.013***	
	(113.58)		(76.00)		(6.89)	
Post_comply		0.004***		0.003***		0.004*
		(2.90)		(2.58)		(1.76)
Post_quota#Fam	0.037***		0.089***		0.040**	
	(3.98)		(11.65)		(2.28)	
Post_comply#Fam		−0.110***		−0.132***		−0.429***
		(−4.60)		(−8.26)		(−11.30)
ROA	0.002**	0.002***	0.001***	0.002***	−0.003***	−0.002*
	(4.03)	(3.45)	(2.85)	(3.57)	(−2.78)	(−1.68)
Leverage	−0.008***	−0.007***	−0.010***	−0.010***	−0.077***	−0.081***
	(−4.06)	(−3.23)	(−6.30)	(−5.75)	(−19.09)	(−18.54)
Firm size	0.006***	0.007***	0.009***	0.009***	0.021***	0.021***
	(28.57)	(29.65)	(48.16)	(48.04)	(46.89)	(44.00)
Current ratio	0.003	0.004*	0.003*	0.004**	0.012***	0.019***
	(1.48)	(1.87)	(1.90)	(2.43)	(3.38)	(4.75)
Sales growth	−0.004***	−0.004***	−0.003***	−0.004***	−0.008***	−0.008***
	(−6.68)	(−6.83)	(−7.14)	(−8.05)	(−6.53)	(−6.90)
GDP growth	0.439***	0.259***	0.461***	0.326***	0.279***	0.049
	(12.50)	(5.93)	(16.04)	(9.60)	(4.19)	(0.60)
Domestic credit	0.026***	0.004	0.026***	0.009***	−0.039***	−0.048***
	(7.61)	(0.95)	(9.63)	(3.24)	(−5.75)	(−6.38)
Regulatory quality	0.034***	0.042***	0.029***	0.033***	0.033***	0.029***
	(9.67)	(10.05)	(9.63)	(10.10)	(5.13)	(3.90)
Board size	0.017***	0.034***	0.015***	0.028***	−0.007**	−0.001
	(12.83)	(22.31)	(13.96)	(23.03)	(−2.41)	(−0.32)
CEO–Chair	−0.001*	−0.004***	−0.008***	−0.010***	−0.052***	−0.063***
	(−1.71)	(−4.50)	(−13.30)	(−14.64)	(−36.02)	(−39.36)
Observations	82,613	69,818	82,307	69,512	82,613	69,818
R^2	0.37	0.23	0.34	0.30	0.57	0.58

This table presents the results of the DiD regression models examining the moderating effect of familial culture over gender diversity reforms on female proportion, female independent proportion and proportion of independent directors on the board. Variables are defined in online Appendix 1. We present robust t-statistics in parentheses, calculated based on standard errors double clustered by firm and year. Dummies for year, country and industry included.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

acknowledge that the binding mechanisms in quotas for specific targets might only be accomplished if they are enforced by the existence of sanctions for non-compliance (Allemand *et al.*, 2021). By considering the binding mechanisms that enforce compliance with quotas, we reclassify the type of reform into hard versus soft law. In this way, hard law will contain the countries that have quotas and sanctions that enforce compliance (i.e. Belgium, California, France, Germany, India, Italy, Norway and Portugal). Soft law comprises all countries that follow voluntary codes (see Table 1) and those that have quotas without sanctions (i.e. Austria, Greece, Israel, Netherlands, Pakistan, Spain and Switzerland). A rationale to follow this reclas-

sification is that although some countries might be under a quota system (with legally binding targets to be achieved), enforcement mechanisms are not always present (e.g. the Spanish Equality Act and Dutch Civil Act offer clear legal targets but lack of enforcement mechanisms; Mensi-Klarbach and Seierstad, 2020). Those countries that do not have either a quota or a voluntary system are classified as laissez-faire (i.e. absence of a legislative or regulatory intervention) and treated as in the main analysis. The results from re-estimating the model in Equation (2) based on the new classification of gender diversity reform are presented in Table 9, Panel A. Our findings remain consistent with those from the main analyses.

Table 7. Endogeneity of board reforms

Panel A. Placebo test

| | Fem ratio | | Fem indep | | Board indep | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
Variables	Quota	Comply-or-explain	Quota	Comply-or-explain	Quota	Comply-or-explain
Post	0.005	0.003	0.006	0.004	0.013	−0.002
	(1.45)	(1.62)	(0.78)	(1.16)	(1.15)	(−0.71)
Observations	82,613	40,848	82,307	40,656	82,613	40,848
R^2	0.35	0.40	0.30	0.42	0.57	0.57

Panel B. Propensity score matching base model

| | Fem ratio | | Fem indep | | Board indep | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
Variables	Quota	Comply-or-explain	Quota	Comply-or-explain	Quota	Comply-or-explain
Post	0.018***	0.004	0.128***	−0.005*	0.009*	−0.017***
	(6.70)	(1.33)	(22.09)	(−1.84)	(1.93)	(−3.55)
Observations	55,423	44,583	51,580	44,368	55,423	44,583
R^2	0.30	0.19	0.26	0.31	0.60	0.61

Panel C. Propensity score matching model with familial culture

| | Fem ratio | | Fem indep | | Board indep | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
Variables	Quota	Comply-or-explain	Quota	Comply-or-explain	Quota	Comply-or-explain
Post_quota	0.065***		0.041***		0.018***	
	(48.07)		(33.41)		(5.96)	
Post_comply		0.003*		0.002		0.006***
		(1.80)		(1.19)		(2.34)
Post_quota# FC	0.038***		0.108***		0.037*	
	(2.84)		(10.39)		(1.69)	
Post_comply# FC		−0.098***		−0.130***		−0.421***
		(−3.01)		(−5.30)		(−8.36)
Observations	55,423	44,583	55,208	44,368	55,423	44,583
R^2	0.28	0.19	0.31	0.32	0.60	0.61

Each panel presents DiD regression models examining the gender diversity reforms on female proportion, female independent proportion and proportion of independent directors on the board. Only estimators from the key variables of interest are reported from regressions performed in full models. All variables are defined in online Appendix 1. Robust t-statistics in parentheses, calculated based on standard errors double clustered by firm and year. All models include dummies for year, country and industry.
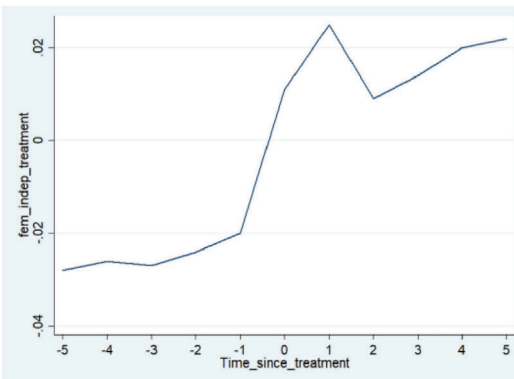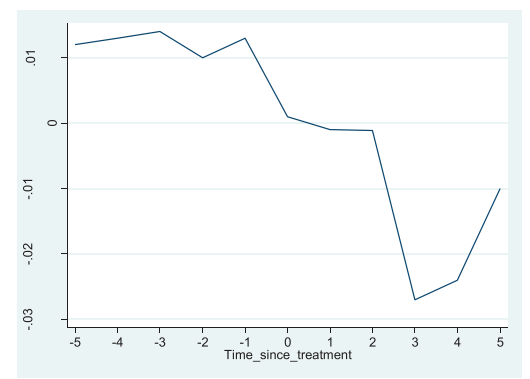*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.
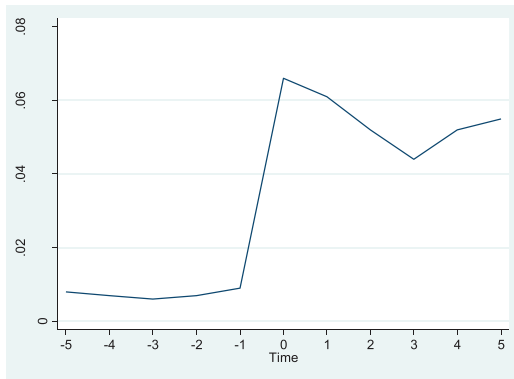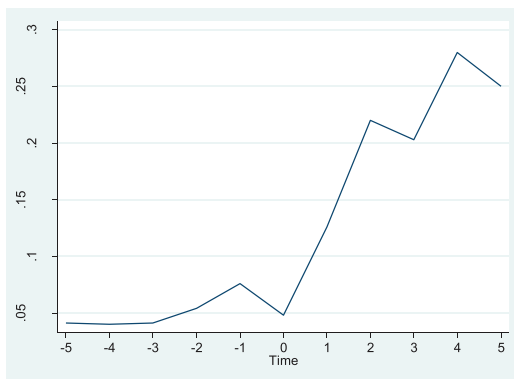
Quota Reform and Female Proportion
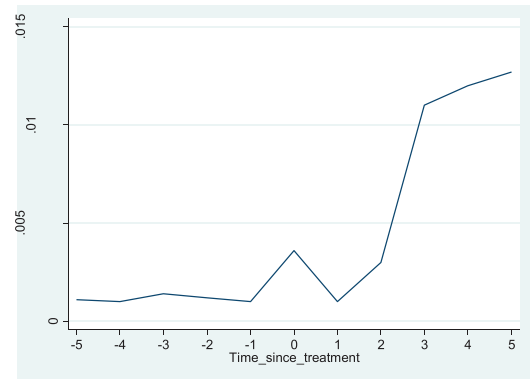
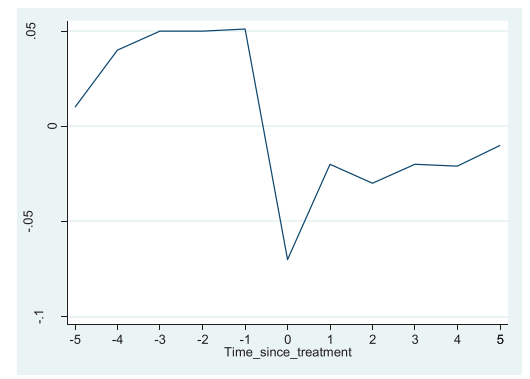**Comply-or-explain and Female Proportion**

Quota Reform and Female Independent

Comply-or-explain and Female Independent

Quota Reform and Independence

Comply-or-explain and Independence

Figure 1. Event study graph using estimator robust to heterogeneous treatment effects
* The estimators are robust to heterogeneous effects and to dynamic effects based on standard errors clustered by country.
[Colour figure can be viewed at wileyonlinelibrary.com]

Analysis by regions. In our previous analyses we have controlled for country-level characteristics that could influence firms' actions towards compliance with regulations (i.e. regulatory quality, GDP growth rate and domestic credit) and the impact of a familial culture for board gender diversity and its spillover effect on board independence. However, it could still be the case that there are unobservable macro characteristics that have an impact on our results. Cultural traits beyond the familial culture

Table 8. Alternative measures of familial culture

Panel A. In-group solidarity (fam)

Variables	(1)	(2)	(3)	(4)	(5)	(6)
			Collectivism			
	Fem ratio	**Fem ratio**	**Fem indep**	**Fem indep**	**Indep**	**Indep**
Post_quota	0.127***		0.081**		0.007***	
	(105.35)		(73.91)		(2.85)	
Post_comply		−0.002		0.003*		0.001
		(−0.92)		(1.91)		(0.32)
Post_quota# fam	0.054***		0.008*		0.017*	
	(40.00)		(1.79)		(1.68)	
Post_comply# fam		0.009		−0.014***		−0.028***
		(1.58)		(−2.71)		(−2.65)
Observations	82,613	69,818	82,307	69,512	82,613	69,818
R^2	0.38	0.23	0.35	0.30	0.57	0.57

Panel B. Family business prevalence score (fam)

Variables	(1)	(2)	(3)	(4)	(5)	(6)
			Family business prevalence			
	Fem ratio	**Fem ratio**	**Fem indep**	**Fem indep**	**Indep**	**Indep**
Post_quota	0.128***	—	0.083***	—	0.010***	—
	(108.95)	—	(76.35)	—	(4.28)	—
Post_comply	—	0.002	—	0.006***	—	0.013***
	—	(1.06)	—	(4.36)	—	(2.77)
Post_quota# fam	0.031***	—	0.004**	—	0.008*	—
	(14.75)	—	(2.44)	—	(1.89)	—
Post_comply# fam	—	−0.001	—	−0.009***	—	−0.026***
—	—	(0.24)	—	(−4.84)	—	(6.49)
Observations	82,613	69,818	82,307	69,512	82,613	69,818
R^2	0.39	0.23	0.35	0.30	0.57	0.58

Each panel presents DiD regression models examining the gender diversity reforms on female proportion, female independent proportion and proportion of independent directors on the board. Only estimators from the key variables of interest are reported from regressions performed in full models. All variables are defined in online Appendix 1. Robust t-statistics in parentheses, calculated based on standard errors clustered by firm. All models include dummies for year, country and industry.
*p < 0.10, **p < 0.05, ***p < 0.01.

could influence corporate behaviour towards different levels of women's representation on boards of directors (Pucheta-Martinez, Gallego-Alvarez and Bel-Oms, 2021). For instance, a patriarchal society may pose an obstacle to women's inclusion in senior roles (Adisa, Abdulraheem and Isiaka, 2019), whereas more progressive gender-egalitarian attitudes might increase women's representation on boards (Post and Byron, 2015). Also, other specific country characteristics might influence the balance of power between shareholders and directors through shareholder activism (Chung and Talaulicar, 2010), which is a powerful instrument of institutional change disciplining firms to achieve gender diversity on boards (Perrault, 2015).

To account for these unobservable characteristics, we further the empirical analysis by presenting findings based on Equation (1), distinguishing countries in different groups/regions (i.e. emerging markets, advanced economies, market-based and non-market-based economies).

See online Appendix 2B for the classification of countries to each of the groups. Emerging markets are classified according to the IMF World Economic Outlook.[3] Advanced economies are obtained from the World Fact Book. Non-market-based and market-based countries are those

---

[3]https://www.imf.org/en/Publications/FM/Issues/2021/10/13/fiscal-monitor-october-2021 (page 54).

Table 9. Further analyses

Panel A. Soft law versus hard law

Variables	(1) Fem ratio	(2) Fem ratio	(3) Fem indep	(4) Fem indep	(5) Indep	(6) Indep
Hard law	0.107***		0.106***		0.010***	
	(38.23)		(25.43)		(5.49)	
Soft law		0.005*		0.005		−0.004
		(1.70)		(1.30)		(−0.75)
Hard Law#fam	0.082***		0.120***		0.034***	
	(11.84)		(10.21)		(3.88)	
Soft Law#fam		−0.127***		−0.132***		−0.411***
		(−3.83)		(−6.68)		(−7.51)
Observations	82,613	72,768	82,307	66,670	82,613	72,768
R^2	0.37	0.32	0.31	0.30	0.57	0.57

Panel B. Emerging markets and advanced economies

Variables	Emerging markets			Advanced economies		
	Fem ratio	Fem indep	Indep	Fem ratio	Fem indep	Indep
Post_comply	−0.013	−0.015*	−0.009	0.003	−0.006***	−0.024***
	(−0.90)	(−1.66)	(0.36)	(0.66)	(−2.80)	(−5.91)
Observations	6,420	6,189	6,420	62,799	48,897	48,897
R^2	0.32	0.28	0.46	0.25	0.43	0.64

Panel C. Market-based and non-market-based

Variables	Non-market-based[a]			Market-based[a]		
	Fem ratio	Fem indep	Indep	Fem ratio	Fem indep	Indep
Post_comply	0.022	0.007	−0.068	0.001	−0.006***	−0.022***
	(1.05)	(0.56)	(1.18)	(0.27)	(−2.99)	(5.24)
Observations	3,062	2,756	3,062	48,728	48,728	48,728
R^2	0.26	0.24	0.61	0.32	0.39	0.49

Each panel presents DiD regression models examining the gender diversity reforms on female proportion, female independent proportion and proportion of independent directors on the board. Only estimators from the key variables of interest are reported from regressions performed in full models. All variables are defined in online Appendix 1. Robust t-statistics in parentheses, calculated based on standard errors clustered by firm. All models include dummies for year, country and industry.
[a] Quota-regulated countries were excluded from the non-market- and market-based cluster.
*p < 0.10, **p < 0.05, ***p < 0.01.

countries whose stock traded ratio[4] falls in the lower and upper quartiles in all periods of our analysis, respectively.

Table 9, Panels B and C, present the results, which are consistent with regard to the ineffectiveness of the comply-or-explain reform to increase the ratio of independent female directors, except for non-market-based countries (with a non-significant estimator), probably because the actions performed in these countries are not followed to satisfy market demands, but to capitalize on the implicit benefits of board composition. We find that board independence is consistently negative in all regions, but only significantly for market-based and advanced economies.

Discussion and concluding remarks

This research highlights the impact of voluntary versus compulsory gender diversity reforms in influencing the proportion of independent female directors and board independence. Extant literature on gender diversity on boards has reported mixed evidence of a significant impact towards corporate outcomes (e.g. see Post and Byron, 2015 for a meta-analysis of the impact of diverse boards

---

[4]Obtained from http://www.dataworldbank.org/

on financial performance), for which most recent studies have mostly highlighted positive and significant impacts on both financial and non-financial performance (Nguyen, Ntim and Malagila, 2020). However, and despite the existence of gender reforms, the presence of female directors on boards is still below global targets (Klettner, Clarke and Boersma, 2016). To pursue this research, we follow the empirical design of Chen *et al.* (2020) using a DiD method and several robustness tests to examine whether gender reforms are effective in achieving meaningful changes in board composition. We develop our hypotheses with respect to independent female directors because outside female talent on the board aligns with the provision of independent decision-making (Grosvold and Brammer, 2011) and improved performance and transparency (Erhardt, Werbel and Shrader, 2003; Gul, Srinidhi and Ng, 2011). In other words, our argument centres on the logic that firms' actions towards appointing female directors to the board in a comply-or-explain setting might be driven to avoid a negative market outlook (Mensi-Klarbach, Leixnering and Schiffinger, 2019). In this respect, we distinguish that the appointment of female directors might be based on family ties as opposed to the external pool of talent. Firms find comply-or-explain gender diversity reforms to be a new governance model and focus on such reforms to align the board configuration (Triana, Miller and Trzebiatowski, 2014). Although corporate governance reforms on gender diversity are generally positive actions towards changes in corporate culture and the composition of boards of directors (Sojo *et al.*, 2016), it is still unclear whether such regulation is equally effective in a worldwide context. That is, institutional and cultural factors are relevant to the success of corporate governance reforms, such as the level of masculinity (Pucheta-Martinez, Gallego-Alvarez and Bel-Oms, 2021), labour markets (Terjesen, Sealy and Singh, 2009) and gendered policies (Terjesen, Aguilera and Lorenz, 2015), which highlight that the effectiveness of such reforms vary depending on institutional forces. We contribute to the extant literature in this respect and hypothesize that gender diversity reforms which mostly lack concrete targets of achievement on the corresponding codes of corporate governance and are not legally binding (i.e. comply-or-explain) might face obstacles in effectively increasing the proportion of independent female directors on boards,

and consequently negatively impact on board independence. Since gender diversity reforms aim to protect shareholders at country level and improve companies' economic prospects (La Porta *et al.*, 2000), we develop our empirical analysis with an institutional perspective (Elam and Terjesen, 2010) to incorporate the impact of a country's familial culture in the effectiveness of gender diversity reforms (i.e. comply-or-explain versus quota). The main findings suggest that only quota gender reforms encourage independent female appointments on boards. The appointment of independent female directors is impeded by non-regulation-based reforms, possibly because these reforms are not influenced by external authorities to achieve concrete targets leading to internal female directors' appointments rather than external (H1a), having also a negative impact on board independence (H1b). These behaviours are shown to be a function of the familial culture, suggesting that regulation-based reforms in such settings are the way forward to achieve positive corporate governance practices that add value to corporations. Our findings support such a notion, showing that regulation-based reforms boost the increased proportion of independent female directors in countries with a familial culture (H2a) and, in contrast, comply-or-explain reforms seem to be the trigger for the decrease in board independence (H2b). Considering that a familial culture is less flexible and more cohesive towards decision-making and strategy (Lim, Kahai and Khun, 2021), the importance of regulation-based reforms with specific legally binding targets is highlighted (Mensi-Klarbach, Leixnering and Schiffinger, 2019). This aspect is therefore a significant factor of concern according to cultural aspects of different countries.

While our analysis provides insights into the role of gender diversity reforms in improving independent female participation and independence of boards worldwide, a number of limitations and suggestions for future research directions are worth noting. First, we rely on Lim, Kahai and Khun's (2021) worldwide identification of familial culture, which focused on micro-level surveys to identify the strength of familial culture in national economies. In particular, recent research suggests that culture and institutional environment matter (Pucheta-Martinez, Gallego-Alvarez and Bel-Oms, 2021). Therefore, other measures that distinguish cultural traits of the region that could

jointly represent both micro and macro perspectives would be beneficial.

Second, we find the effect of reforms considering national familial culture as an informal institutional factor, however, we do not account for different ownership structures, such as family corporate control, which might be relevant in further explaining whether the effective adoption of voluntary gender reforms in a country with a familial culture interacts with the ownership structure. These issues would help us to a better understanding of how the institutional framework is influenced by cultural traits to advance an effective policy-making that considers the larger cultural environment.

Conflict of interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest, or non-financial interest, in the subject matter or materials discussed in this paper.

References

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

Adisa, T. A., I. Abdulraheem and S. B. Isiaka (2019). 'Patriarchal hegemony: investigating the impact of patriarchy on women's work–life balance', *Gender in Management: An International Journal*, **34**, pp. 19–33.

Aguilera, R., W. Judge and S. Terjesen (2018). 'Corporate governance deviance', *Academy of Management Review*, **43**, pp. 87–109.

Aguilera, R. V. and A. Cuervo-Cazurra (2009). 'Codes of good governance', *Corporate Governance: An International Review*, **77**, pp. 376–387.

Ahern, K. R. and A. K. Dittmar (2012). 'The changing of the boards: the impact on firm valuation of mandated female board representation', *The Quarterly Journal of Economics*, **127**, pp. 137–197.

Alesina, A. and P. Giuliano (2010). 'The power of the family', *Journal of Economic Growth*, **15**, pp. 93–125.

Allemand, I., J. Bédard, B. Brullebaut and J. Deschênes (2021). 'Role of old boys' networks and regulatory approaches in selection processes for female directors', *British Journal of Management*, **33**, pp. 784–805.

Ararat, M., S. Claessens and B. B. Yurtoglu (2021). 'Corporate governance in emerging markets: a selective review and an agenda for future research', *Emerging Markets Review*, **48**, art. 100767.

Arya, B. and J. E. Salk (2006). 'Cross-sector alliance learning and effectiveness of voluntary codes of corporate social responsibility', *Business Ethics Quarterly*, **16**, pp. 211–234.

Bae, K. H., S. El Ghoul, O. Guedhami and X. Zheng (2021). 'Board reforms and dividend policy: international evidence', *Journal of Financial and Quantitative Analysis*, **56**, pp. 1296–1320.

Barco, E. and A. Briozzo (2020). 'Código de Gobierno Societario en la Argentina: análisis del nivel de cumplimiento', *RETOS: Revista de Ciencias de la Administración y Economía*, **10**, pp. 45–63.

Ben-Nasr, H., S. Boubaker and S. Sassi (2021). 'Board reforms and debt choice', *Journal of Corporate Finance*, **69**, art. 102009.

Berrone, P., P. Duran, L. Gómez-Mejía, P. P. Heugens, T. Kostova and M. van Essen (2020). 'Impact of informal institutions on the prevalence, strategy, and performance of family firms: a meta-analysis', *Journal of International Business Studies*, **53**, pp. 1153–1177.

Bohren, O. and S. Staubo (2016). 'Mandatory gender balance and board independence', *European Financial Management*, **22**, pp. 3–30.

Brieger, S. A., C. Francoeur, C. Welzel and W. Ben-Amar (2019). 'Empowering women: the role of emancipative forces in board gender diversity', *Journal of Business Ethics*, **155**, pp. 495–511.

Bruno, V. and S. Claessens (2010). 'Corporate governance and regulation: can there be too much of a good thing?', *Journal of Financial Intermediation*, **19**, pp. 461–482.

Burunciuc, C. and H. Gonenc (2020). 'Reforms protecting minority shareholders and firm performance: international evidence', *Journal of Risk and Financial Management*, **14**, art. 5.

Byron, K. and C. Post (2016). 'Women on boards of directors and corporate social performance: a meta-analysis', *Corporate Governance: An International Review*, **24**, pp. 428–442.

Carrasco, A., C. Francoeur, R. Labelle, J. Laffarga and E. Ruiz-Barbadillo (2015). 'Appointing women to boards: is there a cultural bias?', *Journal of Business Ethics*, **129**, pp. 429–444.

Catalyst (2011–2012). *Increasing Gender Diversity on Boards: Current Index of Formal Approaches*. New York: Catalyst.

Chau, G. and S. J. Gray (2010). 'Family ownership, board independence and voluntary disclosure: evidence from Hong Kong', *Journal of International Accounting, Auditing and Taxation*, **19**, pp. 93–109.

Chen, R. R., O. Guedhami, Y. Yang and G. R. Zaynutdinova (2020). 'Corporate governance and cash holdings: evidence from worldwide board reforms', *Journal of Corporate Finance*, **65**, art. 101771.

Chung, H. and T. Talaulicar (2010). 'Forms and effects of shareholder activism', *Corporate Governance: An International Review*, **18**, pp. 253–257.

Cohen, J. R., L. W. Pant and D. J. Sharp (1998). 'The effect of gender and academic discipline diversity on the ethical evaluations, ethical intentions and ethical orientation of potential public accounting recruits', *Accounting Horizons*, **12**, pp. 250–270.

Corbetta, G. and C. A. Salvato (2004). 'The board of directors in family firms: one size fits all?', *Family Business Review*, **17**, pp. 119–134.

Cumming, D., T. Y. Leung and O. Rui (2015). 'Gender diversity and securities fraud', *Academy of Management Journal*, **58**, pp. 1572–1593.

Dimungu-Hewage, D. and J. Poletti-Hughes (2022). 'Does board diversity decrease corporate fraud? International evidence from family vs. non-family firms', *Review of Corporate Finance*, **2**, forthcoming.

Dyer, W. G. (1988). 'Culture and continuity in family firms', *Family Business Review*, **1**, pp. 37–50.

Elam, A. and S. Terjesen (2010). 'Gendered institutions and cross-national patterns of business creation for men and women', *The European Journal of Development Research*, **22**, pp. 331–348.

Erhardt, N. L., J. D. Werbel and C. B. Shrader (2003). 'Board of director diversity and firm financial performance', *Corporate Governance: An International Review*, **11**, pp. 102–111.

Evert, R. E., J. B. Sears, J. A. Martin and G. T. Payne (2018). 'Family ownership and family involvement as antecedents of strategic action: a longitudinal study of initial international entry', *Journal of Business Research*, **84**, pp. 301–311.

Farrell, K. A. and P. L. Hersch (2005). 'Additions to corporate boards: the effect of gender', *Journal of Corporate Finance*, **11**, pp. 85–106.

Fauver, L., M. Hung, X. Li and A. G. Taboada (2017). 'Board reforms and firm value: worldwide evidence', *Journal of Financial Economics*, **125**, pp. 120–142.

Field, L. C., M. E. Souther and A. S. Yore (2020). 'At the table but cannot break through the glass ceiling: board leadership positions elude diverse directors', *Journal of Financial Economics*, **137**, pp. 787–814.

Forbes, D. P. and F. J. Milliken (1999). 'Cognition and corporate governance: understanding boards of directors as strategic decision-making groups', *Academy of Management Review*, **24**, pp. 489–505.

Gabaldon, P. and D. Gimenez (2017). 'Gender diversity on boards in Spain: a non-mandatory quota'. In C. Seierstad, P. Gabaldon and H. Mensi-Klarbach (eds), *Gender Diversity in the Boardroom*, pp. 47–74. Cham: Palgrave Macmillan.

Gale, A. and S. Cartwright (1995). 'Women in project management: entry into a male domain? A discussion on gender and organizational culture–part 1', *Leadership & Organization Development Journal*, **16**, pp. 3–8.

Geletkanycz, M. A. (2020). 'Social movement spillover: barriers to board gender diversity posed by contemporary governance reform', *The Leadership Quarterly*, **31**, art. 101438.

Glass, C. and A. Cook (2016). 'Leading at the top: understanding women's challenges above the glass ceiling', *The Leadership Quarterly*, **27**, pp. 51–63.

Gomez-Mejia, L. R., C. Cruz, P. Berrone and J. De Castro (2011). 'The bind that ties: socioemotional wealth preservation in family firms', *Academy of Management Annals*, **5**, pp. 653–707.

Grosvold, J. and S. Brammer (2011). 'National institutional systems as antecedents of female board representation: an empirical study', *Corporate Governance: An International Review*, **19**, pp. 116–135.

Grosvold, J., S. Brammer and B. Rayton (2007). 'Board diversity in the United Kingdom and Norway: an exploratory analysis', *Business Ethics: A European Review*, **16**, pp. 344–357.

Gul, F. A., B. Srinidhi and A. C. Ng (2011). 'Does board gender diversity improve the informativeness of stock prices?', *Journal of Accounting and Economics*, **51**, pp. 314–338.

Hillier, D. and P. McColgan (2006). 'An analysis of changes in board structure during corporate governance reforms', *European Financial Management*, **12**, pp. 575–607.

Hillman, A. J. and T. Dalziel (2003). 'Boards of directors and firm performance: integrating agency and resource dependence perspectives', *Academy of Management Review*, **28**, pp. 383–396.

Hillman, A. J., C. Shropshire and A. Cannella Jr (2007). 'Organizational predictors of women on corporate boards', *Academy of Management Journal*, **50**, pp. 941–952.

Ibrahim, N., J. Angelidis and I. M. Tomic (2009). 'Managers' attitudes toward codes of ethics: are there gender differences?', *Journal of Business Ethics*, **90**, pp. 343–353.

Jensen, M. C. and W. H. Meckling (1976). 'Theory of the firm: managerial behaviour, agency costs and ownership structure', *Journal of Financial Economics*, **3**, pp. 305–360.

Klettner, A., T. Clarke and M. Boersma (2016). 'Strategic and regulatory approaches to increasing women in leadership: multilevel targets and mandatory quotas as levers for cultural change', *Journal of Business Ethics*, **133**, pp. 395–419.

Koirala, S., A. Marshall, S. Neupane and C. Thapa (2020). 'Corporate governance reform and risk-taking: evidence from a quasi-natural experiment in an emerging market', *Journal of Corporate Finance*, **61**, art. 101396.

Konrad, A. M., V. Kramer and S. Erkut (2008). 'The impact of three or more women on corporate boards', *Organizational Dynamics*, **37**, pp. 145–164.

Kor, Y. Y. and V. F. Misangyi (2008). 'Outside directors' industry-specific experience and firms' liability of newness', *Strategic Management Journal*, **29**, pp. 1345–1355.

Kramer, V., A. Konrad and S. Erkut (2006). *Critical Mass on Corporate Boards: Why Three or More Women Enhance Governance*. Wellesley, MA: Wellesley Centers for Women.

Labelle, R., C. Francoeur and F. Lakhal (2015). 'To regulate or not to regulate? Early evidence on the means used around the world to promote gender diversity in the boardroom', *Gender, Work and Organization*, **22**, pp. 339–363.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer and R. Vishny (2000). 'Investor protection and corporate governance', *Journal of Financial Economics*, **58**, pp. 3–27.

Lara, J. M. G., B. G. Osma, A. Mora and M. Scapin (2017). 'The monitoring role of female directors over accounting quality', *Journal of Corporate Finance*, **45**, pp. 651–668.

Liao, C. H., A. Tsang, K. T. Wang and N. Z. Zhu (2021). 'Corporate governance reforms and cross-listings: international evidence', *Contemporary Accounting Research*, **39**, pp. 537–576.

Lim, S., S. K. Kahai and C. Khun (2021). 'Culture and income across countries: evidence from family ties', *Journal of Economic Studies*, **49**, pp. 213–226.

Lyu, C., D. C. Y. Yuen and X. Zhang (2017). 'Individualist-collectivist culture, ownership concentration and earnings quality', *Asia-Pacific Journal of Accounting & Economics*, **24**, pp. 23–42.

Mensi-Klarbach, H., S. Leixnering and M. Schiffinger (2019). 'The carrot or the stick: self-regulation for gender-diverse boards via codes of good governance', *Journal of Business Ethics*, **170**, pp. 577–593.

Mensi-Klarbach, H. and C. Seierstad (2020). 'Gender quotas on corporate boards: similarities and differences in quota scenarios', *European Management Review*, **17**, pp. 615–631.

Mulholland, K. (1996). 'Gender power and property relations within entrepreneurial wealthy families', *Gender, Work & Organization*, **3**, pp. 78–102.

Nave, A. and J. Ferreira (2019). 'Corporate social responsibility strategies: past research and future challenges', *Corporate Social Responsibility and Environmental Management*, **26**, pp. 885–901.

Nelson, T. and L. L. Levesque (2007). 'The status of women in corporate governance in high-growth, high-potential firms', *Entrepreneurship Theory and Practice*, **31**, pp. 209–232.

Nguyen, T. H. H., C. G. Ntim and J. K. Malagila (2020). 'Women on corporate boards and corporate financial and non-financial performance: a systematic literature review and future research agenda', *International Review of Financial Analysis*, **71**, art. 101554.

OECD (2017). *Corporate Governance in Colombia*. Paris: OECD Publishing.

Orazalin, N. and M. Baydauletov (2020). 'Corporate social responsibility strategy and corporate environmental and social performance: the moderating role of board gender diversity', *Corporate Social Responsibility and Environmental Management*, **27**, pp. 1664–1676.

Perrault, E. (2015). 'Why does board gender diversity matter and how do we get there? The role of shareholder activism in deinstitutionalizing old boys' networks', *Journal of Business Ethics*, **128**, pp. 149–165.

Poletti-Hughes, J. and G. C. Briano-Turrent (2019). 'Gender diversity on the board of directors and corporate risk: a behavioural agency theory perspective', *International Review of Financial Analysis*, **62**, pp. 80–90.

Post, C. and K. Byron (2015). 'Women on boards and firm financial performance: a meta-analysis', *Academy of Management Journal*, **58**, pp. 1546–1571.

Powell, W. W. and P. DiMaggio (1991). *The New Institutionalism in Organizational Analysis*. Chicago, IL: University of Chicago Press.

Price, R., F. J. Román and B. Rountree (2011). 'The impact of governance reform on performance and transparency', *Journal of Financial Economics*, **99**, pp. 76–96.

Pucheta-Martinez, M. C., I. Gallego-Alvarez and I. Bel-Oms (2021). 'Cultural environments and the appointment of female directors on boards: an analysis from a global perspective', *Corporate Social Responsibility and Environmental Management*, **28**, pp. 555–569.

Reher, D. S. (1998). 'Family ties in Western Europe: persistent contrasts', *Population and Development Review*, **24**, pp. 203–234.

Ruigrok, W., S. Peck and S. Tacheva (2007). 'Nationality and gender diversity on Swiss corporate boards', *Corporate Governance: An International Review*, **15**, pp. 546–557.

Singh, V., S. Point, Y. Moulin and A. Davila (2015). 'Legitimacy profiles of women directors on top French company boards', *Journal of Management Development*, **34**, pp. 803–820.

Smith, N. and P. Parrotta (2018). 'Why so few women on boards of directors? Empirical evidence from Danish companies in 1998–2010', *Journal of Business Ethics*, **147**, pp. 445–467.

Sojo, V. E., R. E. Wood, S. A. Wood and M. A. Wheeler (2016). 'Reporting requirements, targets, and quotas for women in leadership', *The Leadership Quarterly*, **27**, pp. 519–536.

Staff, R. (2015). Company directors face penalties for not having women on board - SEBI. Available at https://www.reuters.com/article/india-boards-sebi-idINKBN0MZ1LN201

Suchman, M. C. (1995). 'Managing legitimacy: strategic and institutional approaches', *Academy of Management Review*, **20**, pp. 571–610.

Suddaby, R., A. Bitektine and P. Haack (2017). 'Legitimacy', *Academy of Management Annals*, **11**, pp. 451–478.

Sultana, N., S. F. Cahan and A. Rahman (2020). 'Do gender diversity recommendations in corporate governance codes matter? Evidence from audit committees', *Auditing: A Journal of Practice & Theory*, **39**, pp. 173–197.

Terjesen, S., R. V. Aguilera and R. Lorenz (2015). 'Legislating a woman's seat on the board: institutional factors driving gender quotas for boards of directors', *Journal of Business Ethics*, **128**, pp. 233–251.

Terjesen, S., R. Sealy and V. Singh (2009). 'Women directors on corporate boards: a review and research agenda', *Corporate Governance: An International Review*, **17**, pp. 320–337.

Terjesen, S. and V. Singh (2008). 'Female presence on corporate boards: a multi-country study of environmental context', *Journal of Business Ethics*, **85**, pp. 55–63.

Torchia, M., A. Calabro and M. Huse (2011). 'Women directors on corporate boards: from tokenism to critical mass', *Journal of Business Ethics*, **102**, pp. 299–317.

Triana, M. D. C., T. L. Miller and T. M. Trzebiatowski (2014). 'The double-edged nature of board gender diversity: diversity, firm performance, and the power of women directors as predictors of strategic change', *Organization Science*, **25**, pp. 609–632.

Wahid, A. S. (2019). 'The effects and the mechanisms of board gender diversity: evidence from financial manipulation', *Journal of Business Ethics*, **159**, pp. 705–725.

Wang, Y., M. Yu and S. Gao (2021). 'Gender diversity and financial statement fraud', *Journal of Accounting and Public Policy*, **41**, art. 106903.

Workplace Gender Equality Act (2012). Australian Government, Federal Register of Legislation.

Zhu, D. H., W. Shen and A. J. Hillman (2014). 'Recategorization into the in-group: the appointment of demographically different new directors and their subsequent positions on corporate boards', *Administrative Science Quarterly*, **59**, pp. 240–270.

Jannine Poletti-Hughes is a Senior Lecturer (Associate Professor) at the Management School, University of Liverpool. She holds a PhD in Economics from the University of York and, before joining the academic sector, she worked as a financial analyst at the National Commission of Banking and Securities, Mexico. Her current research is focused on corporate governance and family firms. Her research has been published in the *International Review of Financial Analysis*, *European Journal of Finance* and *Management Accounting Research*, among others.

Dilrukshi Dimungu-Hewage is a PhD candidate in Accounting and Finance at the Management School, University of Liverpool. Her current research projects focus on board diversity, diversity policy evaluations and their effects on organizational outcomes (corporate governance and corporate performance). She has completed the MSc in Business Statistics. Prior to academia, she served as Assistant Director, Research Division, Ministry of Tourism in Sri Lanka.

Supporting Information

Additional supporting information can be found online in the Supporting Information section at the end of the article.