J Bus Ethics (2013) 118:227–249
DOI 10.1007/s10551-012-1576-z

Are Demographic Attributes and Firm Characteristics Drivers of Gender Diversity? Investigating Women's Positions on French Boards of Directors

Mehdi Nekhili · Hayette Gatfaoui

Received: 13 February 2012 / Accepted: 16 November 2012 / Published online: 2 December 2012

Abstract In this article, we examine the factors determining the representation of women on boards of directors by considering three main questions. The first question deals with the relationship between characteristics of ownership and governance on one side, and female directorship on the other. The second major question concerns the demographic attributes of women directors, such as nationality, foreign experience, educational level, business expertise, and connections to external sources. The third important question refers to women in senior positions on French boards (e.g., as independent members or board subcommittee members) in relation to firm characteristics and women's demographic attributes. Our study focuses on French large- and mid-capitalized companies belonging to the SBF120 stock market index during a 5-year period running from 2000 to 2004. First, our results give evidence that the appointment of women directors is strongly related to family ownership and board or firm size. Second, the appointment of women directors is related to their professional services, valuable skills, and network links. Furthermore, we show that women face a double glass-ceiling problem, and note that French firms rely more on the demographic attributes of their women directors when they are appointed to senior board positions. Our study sheds light on issues concerning the law that comes into force in 2016, which imposes quotas of women members on boards of directors in French companies.

Keywords Board of directors · Corporate governance · Demographic attributes · Ethics · Gender diversity · Ownership structure

M. Nekhili (✉)
Université de Reims, Reims, France
e-mail: mehdi.nekhili@univ-reims.fr

M. Nekhili · H. Gatfaoui
Rouen Business School, 1, Rue du Maréchal Juin, BP 215, 76130 Mont-Saint-Aignan, France
e-mail: hayette.gatfaoui@rouenbs.fr

Introduction

Corporate governance and company performance have been major business issues during the last two decades. Indeed, corporate governance constitutes a major driver of a firm's performance (Bhagat and Bolton 2008; Bhagat et al. 2008; Gompers et al. 2003). The board of directors is critical to governance, as it makes essential strategic, operational, and financial decisions. The significance of corporate boards of directors stems from their central role in establishing the business strategy (in co-operation with the management team) and setting the policy objectives, while also being involved in planning and managing resources. In this light, the boards' characteristics are central because they play a significant and crucial role within governance. Examples of these characteristics are: the independence of the board members (see Hermalin and Weisbach 2003), the ownership of stock by directors (see Beasley 1996), and whether the Chairman and CEO positions are occupied by the same person (see Brickley et al. 1997).

Recently, the current debate on competence has focused on women directors and officers in regard to their selection merits, roles in corporate decision-making, and contributions to corporate governance (Peterson and Philpot 2007). Efficiency is then related to boardroom diversity (Harrison and Klein 2007). Diversity refers to any kind of difference between members and is assumed to add value to the firm

(Arfken et al. 2004). Hence, diversity is valued and represents a strategic corporate issue (Campbell and Minguez-Vera 2008). Various researchers have studied the impact of gender diversity on both company performance (Campbell and Minguez-Vera 2008; Rose 2007) and improvement in corporate governance (Arfken et al. 2004; Farrell and Hersch 2005; Francoeur et al. 2008; Peterson and Philpot 2007; Ruigrok et al. 2007).

Following the Norwegian model, in January 2011 France adopted a law which established that by 2016 40 % of executive board members of the largest listed or non-listed companies (those with more than 500 employees and with a turnover exceeding 50 million Euros) should be women.[1] Through enacting this law, the French government is becoming aware of the obstacles that women face in reaching certain key positions within the corporate governance structure. At this level, many studies show that women face the well-known glass ceiling (Arfken et al. 2004; Bergeron et al. 2006; Terjesen et al. 2009) and are subject to discrimination (Broome 2008). There are several obstacles to the appointment of women on boards. Among the recognized obstacles, Burke (2000), Holton (2000), and Mattis (1993) highlight the selection process for directors, which is strongly dependent on the tough conservatism of boardrooms and the corresponding "network of men." These recruitment processes are often opaque and require candidates with experience in the governance of large public companies. Indeed, there exists a systematic gender bias in the appointment of directors. Candidates must have certain skills if they are to be considered for directorships (Kesner 1988). Incidentally, this assertion is even stronger for women than for men (Hillman et al. 2000; Singh et al. 2008). Moreover, ownership structure and corporate governance play an important role in the decision to appoint women to boards. Given the importance of gender diversity in supporting good corporate governance practices (Institute of Business Ethics 2011), investors, managers, and board members are obviously sensitive to the gender diversity issue. Nonetheless, the importance attached to diversity varies across firms according to their ownership structure (Ben Amar et al. 2012).

Nevertheless, French law remains silent on the role assigned to women on boards. Moreover, women face a double glass-ceiling problem once they reach board-level positions, such as independent directorship or committee membership (Li and Wearing 2004; Vinnicombe et al. 2010). Such roles are considered to be senior positions in the boardroom due to the special expertise, skills, duties, and responsibilities they involve. When accessing committees, women directors are more likely to be allocated to public affairs or corporate social responsibility areas (Bilimoria and Piderit 1994). Subsequently, firms need to rely more on the skills and abilities of their women directors when they play a central role on boards and when they are appointed to the core committees dealing with governance issues (Bilimoria and Piderit 1994; Kesner 1988; Mattis 2000; Peterson and Philpot 2007).

As noted by Hillman et al. (2007), current scholarly knowledge is generally limited to studies which consider female representation on boards of directors to be exogenous. In this article, we examine the factors affecting the representation of women on boards of directors by asking three main questions: Do ownership structure and governance characteristics affect the representation of women in French boardrooms? Do women appointed to the board exhibit specific and particular skills? Do managerial skills help women access senior board positions? The first question concerns firm characteristics as determinants of women directorship, whereas the second and third questions examine the role of demographic attributes as determinants of women directors' appointment and promotion to senior positions.

Our study makes several interesting contributions to the existing literature dealing with the determinants of board diversity. More importantly, our study helps to structure reflections about the mandatory appointment system, introduced recently by the French Parliament as a response to the glass-ceiling problem faced by women in French boardrooms. We focus on French large- and mid-capitalization companies belonging to the SBF120 stock market index over the period 2000–2004. Our main findings are threefold with respect to gender diversity among French corporate boards of directors. First, directorship on French boards is related to family ownership and to board/firm size to a greater extent for women than for men. Our findings then call into question the application of ethical principles within the workplace. Second, the appointment of women as directors depends on their demographic attributes. Third, having valuable skills helps women break the second level of the glass ceiling by reaching senior positions in boardrooms, such as non-executive directorship and sub-committee membership.

The remainder of our article is organized as follows. The next section explains how the appointment of women to the board constitutes an ethical issue; and investigates the links between ownership and governance characteristics on one side and gender diversity on the other. In this section, we will also focus on the significance of women directors' demographic attributes in explaining the level of women's positions within

[1] The number of women directors is expected to rise in France after its parliament approved a law on January 13, 2011, which imposes quotas for the gender balance of company boards. Within the next 3 years, 20% of a firm's board members must be women, and this percentage should rise to 40 within the following 6 years. This law applies to firms belonging to the CAC 40 stock market index, or those with more than 500 employees, with a revenue exceeding €50 million over the previous 3 years. Sweden has also proposed a legal requirement that 25% of board seats should be taken by female directors, while Norway required 40% female representation by the end of 2008 and Spain requires 40% female representation by the end of 2015.

boardrooms. Then, we introduce the measurement tools of our analysis, and related results. Finally, we present a summary of the analysis and propose future research directions.

Ethics and the Appointment of Women to Boards

Although poor female representation on corporate boards of directors is a global phenomenon (Terjesen and Singh 2008), the importance of improving the gender balance of corporate boards is increasingly recognized across the world (World Development Report 2012). Such concern stems from the growing involvement of women in business and society (Burke 1997; Burke and Mattis 2000). Formerly considered as a male world (Broome 2008), boardrooms started opening to women during the 1990s (Farrell and Hersch 2005). Tracking this structural change, the ethics research stream, among others, investigated gender diversity and its links with corporate board governance. In particular, ethics researchers focused on the relationship between gender diversity and the monitoring function of corporate boards, as well as their regulatory compliance. However, research focusing on the linkages between diversity and corporate board governance is still in its infancy (Adams and Ferreira 2009). For Harrison and Klein (2007), diversity among directors targets three specific attributes, which characterize individual profiles. The three attributes correspond to variety, balance, and disparity among boards of directors. Specifically, variety refers to the categories that distinguish board members (e.g., gender, education, experience), whereas balance refers to the way board members are distributed across the referenced categories (e.g., uniformly distributed or clustered). Finally, disparity refers to the differences between the referenced categories (e.g., between male and female).

Gender diversity and the related gender gap raise several questions in terms of ethical issues, implications, and challenges. The poor representation of women on boards (Burgess and Tharenou 2002) illustrates several hindrances in the corporate world. Some of the existing obstacles to gender diversity violate ethical principles. Indeed, the under-representation of women in senior management, such as in boardrooms, raises ethical issues with respect to equality and discrimination in employment. In particular, such issues raise questions about influential groups, which attempt to bypass certain (ethical) standards, on one side. But they also raise the issue of ethics and morality within firms or organizations on the other side (Newman and Fuqua 2006). As noted by McNulty et al. (2011), influence and power games within corporate boards need to be viewed in the light of the boards' nomenclature (executives versus non-executives), and origin (insiders versus outsiders), among other things. For example, male-dominated boards hinder women's access to top corporate positions (Brammer et al. 2007). Moreover, organizational leaders such as CEOs ensure diversity management processes and related practices are put into operation (Ng and Sears 2012). Other barriers to women on boards include the balance between work and personal life (Falkenberg and Monachello 1990), the trade-off between the male-based cultural environment (Singh et al. 2002) and the absence of female networks (Burke and McKeen 1990), and maternity leave. Attention should also be paid to gender stereotyping as a traditional bias and to male conservatism, which reinforces the recruitment and promotion of males by other males (Gregory 1990; Oakley 2000; Singh and Point 2006). Hence, fairness in recruitment, treatment of employees, and promotion practices should be encouraged (Alder and Gilbert 2006). In other words, discrimination such as gender inequality should be prohibited all the more firmly because it usually results from subjective criteria, which have very little to do with skills, experience, performance, or appropriateness to job profiles among other attributes (Singh et al. 2001).

Nonetheless, gender diversity among board members helps enforce ethical behavior and therefore corporate governance (Franke et al. 1997; Labelle et al. 2010). In this respect, the benefits of gender diversity are manifold. Gender diversity supports good corporate governance practices, which are a prerequisite for establishing a resilient ethical culture within organizations while promoting social tenets such as fairness and respect (Institute of Business Ethics 2011). In particular, female directors reduce malpractices as they pay more attention to ethical concerns (Rodriguez-Dominguez et al. 2009). As an example, the level of reported earnings is closely linked to managers' ethical behavior. Specifically, management compensation schemes and existing litigations (e.g., conflict of interests) improve or reduce the earnings reported by managers. Altering the quality of earnings strongly affects the way people view the firm's economic activity and how fairly it is reported. In this light, Krishnan and Parsons (2007) and Labelle et al. (2010) highlight the positive link between earnings quality and gender diversity in senior management (i.e., fairness in reporting key indicators of the firm's economic activity and also the information provided to the firm's stakeholders). In the same way, Gul et al. (2011) and Srinidhi et al. (2011), focusing on the US data, provide evidence that having women on the board is associated with higher earnings quality (more reasonable and sustainable levels of profit) and lower earnings management (less need to smooth earnings up or down to match a target).

By enriching directorship resources, female representation enhances the decision-making process, especially in situations of stress (De Cabo et al. 2012; Francoeur et al. 2008). In particular, as the proportion of women directors on a corporate board increases, the more influence they have on that board's decision-making process (Elstad and

Ladegard 2010). Such a pattern results from the moral dimension, i.e., the moral influence of human systems. Indeed, the structure and the organization of a given firm's leadership can help to optimize moral influences within the firm (Fuqua and Newman 2006). Focusing on ethical and moral behavior as well as moral considerations, relevant questions often weigh "mandatory" ethics against "aspirational" or even "virtue" ethics (Kitchener and Anderson 2011; Newman et al. 1996). Mandatory ethics refers to the linkages between ethics and law (e.g., the professional code of ethics proposed by the Code of Conduct of the American Psychological Association), while aspirational ethics refers to the linkages between ethics and fairness, or equivalently, justice.[2] Indeed, ethical and moral sensitivity (e.g., level of moral reasoning) varies among individuals, who need to balance mandatory with aspirational ethics. In this context, the decision-making issues are twofold. First, the decision-maker should know about ethical decision-making. Second, the decision-maker should be wise and prudent enough to apply such knowledge in the right way. Hence, the decision-making process requires both the knowledge and the ability to apply ethical decision-making.

In this light, males and females exhibit different moral reasoning and also handle ethical decision-making differently (Akaah 1989; Bernardi and Arnold 1997). Such differences can help to improve and to promote more productive discussions within gender-diverse boards. In particular, gender-diverse boards usually consider a wider range of alternatives or perspectives (i.e., a broader collection of possibilities and elucidations of corporate issues) so that the quality of decision-making is improved (Adams and Flynn 2005; Luckerath-Rovers 2011; Rose 2007). Indeed, women can enhance strategic decision-making by providing the board with relevant information and viewpoints. In this perspective, diversity, as represented by education, background, experience, and ethnicity among other things, is considered to offer valuable opportunities and benefits to firms. Female representation within boards of directors is then recognized as enhancing compliance with standards of best practice.

Finally, firms with higher proportions of women directors are more likely to be named among the "100 best companies to work for" and the "most ethical companies," have a higher number of female managers, and are more engaged in corporate social responsibility (Larkin et al. 2012). Incidentally, gender diversity follows moral principles and complies with anti-discrimination laws as well as equal opportunity standards. In this light, gender diversity illustrates the social responsibility of firms (Williams 2003) and mimics a country's demographic diversity (e.g., moral outcome, as underlined by Broome et al. 2011). Moreover, gender diversity also reflects firms' commitment to equal opportunity standards, among others, which helps enhance their perceived image and reputation (Rhode and Packel 2010). As a result, female representation within boardrooms is closely linked to corporate reputation (Bear et al. 2010).

Ownership Structure and Female Representation on Boards

The effect of board diversity on a firm's performance depends principally on ownership configurations (Ben Amar et al. 2012). The first ownership dimension related to gender diversity comprises minority and family ownership. According to Faccio and Lang (2002), few French companies have dispersed capital, and most companies (64.75 % in their study) are dominated by one controlling shareholder (individual or family). Studying the floating market capitalization of 402 companies on the stock exchange between 1986 and 2000, Broye and Schatt (2003) find that the main shareholder held, on average, 48.83 % of the shares (the median value being 50.64 %), while the second biggest shareholder held 14.02 % of the shares (the median being 12.13 %). Moreover, the second biggest shareholder was often a member of the same family, or the co-founder of the company. In addition, they reported that families controlled 64.82 % of the companies, while only 14 % of them had dispersed shareholdings. In France, the current civil law system provides inadequate protection to minority shareholders as compared to common law (La Porta et al. 1999, 2002). Such a system promotes high ownership concentration, which leads to the expropriation of minority investors by controlling shareholders. The dispersion of ownership and the presence of a family among holders of capital can help explain the severity of conflicts of interest between shareholders and officers, on the one hand, and between majority or large dominant shareholders and minority shareholders on the other hand. More explicitly, Gul et al. (2011) give evidence that gender-diverse boards act as a substitute mechanism that can make up for weak corporate governance (using the shareholder rights index based on 24 anti-takeover provisions). The authors find that gender diversity increases public and private disclosure to investors through better monitoring and hence makes stock prices more informative. France exhibits relatively poor investor protection (La Porta et al. 1999, 2002), and firms with a high proportion of minority shareholders should be more concerned about the role played by women directors. In the Canadian context, Ben Amar et al. (2012) demonstrate that widely held firms

[2] Virtue ethics refers to relaxing one or more ethical principles to achieve acceptable and workable solutions (Kitchener and Anderson 2011).

exhibit a higher average of demographic diversity than firms controlled by a family or by institutional investors.

Hypothesis 1 Firms with a high proportion of minority shareholders are more likely to appoint women to their boards.

The representation of women on boards is closely related to family ownership (Campbell and Minguez-Vera 2008; Claessens et al. 2000; Ruigrok et al. 2007). These related studies show that women are more likely to be appointed to the boards of family-controlled or family-owned firms, suggesting that women directors are often recruited within families. Although business expertise and business contacts were critical to getting a board position for both men and women, Sheridan and Milgate (2005) found, in the Australian context, that family contacts were important for the appointment of women to boards. So, for these authors, social ties might signal a public recognition of women's expertise, which reassures CEOs and nominating committees in appointing women to boards. The risk is then that family owners may appoint unqualified family members to key positions such as directors (Claessens et al. 2000), as their appointments do not go through any external selection process (Campbell and Minguez-Vera 2008).

Hypothesis 2 Family-held firms are more likely to appoint women to their boards.

Another dimension of ownership structure related to gender diversity is institutional ownership. Specifically, institutional investors and ethical funds, among others, are sensitive to the diversity of board members at both the governance and top management levels. Bloch and Kremp (2001) studied a sample of French listed companies and show that banks, insurance companies, and other institutions hold a significant ownership stake. According to Bilimoria (2000), some institutional investors, such as pension funds, include many female members on their board. This pattern tends to increase the pressure on the firms in which the pension funds hold capital to appoint female directors. So, a positive relationship may be expected between institutional ownership and board diversity. In the same way, Dobbin and Jung (2011) study 432 major US corporations from 1997 to 2006, and investigate the effects of shareholder proposals on board diversity. They conclude that the pressure from institutional investors, through shareholder proposals, encourages firms to appoint female board members. Given the premise that female representation in boardrooms sends a positive signal to institutional investors, firms have incentives to increase their gender diversity to attract such investors (Farrell and Hersch 2005; Francoeur et al. 2008). In their study, Ben Amar et al. (2012) state that while institutional investors promote the adoption of best-practice governance guidelines more vigorously, they also encourage demographic diversity but at a lower level than occurs in family or widely held firms.

Hypothesis 3 There is a positive relationship between institutional ownership and the appointment of women to the board.

To date, to our knowledge, no studies have investigated the relationship between managerial ownership and gender diversity. Directors are able to influence strategy by providing advice and social support to senior managers (Hillman and Dalziel 2003). Accordingly, the appointment of women to the board may be influenced by the desire of the CEO and senior managers to work with a well-diversified board. This desire depends on the benefits that managers can expect from board diversity. Indeed, powerful managers have incentives to influence the nomination process in favor of those directors who are more likely to help them achieve their self-serving goals (Hermalin and Weisbach 1998). Given the presumed effect of female directorships on stock market value (Carter et al. 2003), on one side, and on the fact that managers receive more equity-based compensation (Adams and Ferreira 2009), on the other side, we can expect that managers with higher stock holdings may boost the appointment of women to the board. With a significant portion of stakes in their firms, managers will be less concerned, as emphasized by Adams and Ferreira (2009), by the positive relationship between women directorship and CEO turnover-performance sensitivity.

Hypothesis 4 Managerial ownership is positively related to the appointment of women to the board.

Corporate Governance and the Appointment of Women to Boards

The quality of corporate governance is of high significance because the efficiency and effectiveness of a firm's board is the major driver of its performance (Bhagat and Bolton 2008; Bhagat et al. 2008; Gompers et al. 2003). In this light, gender diversity within corporate boards matters because it may have either positive or adverse effects on corporate governance. Corporate boards also control the appointment of women as members. Indeed, the existence or non-existence of a gender diversity policy is part of the corporate governance process. With respect to non-existing or negative effects, Hillman et al. (2000, 2007) show that gender diversity has no significant impact on corporate board efficiency. Basically, gender diversity yields no performance improvement. More markedly, Adams and Ferreira (2009) demonstrate how the efficiency of corporate governance (as measured by performance metrics)

deteriorates due to the presence of female directors. They argue that women introduce additional monitoring within boards, which is counterproductive for well-governed firms. Moreover, power conflicts within boards, leading to the crowding out or suppression of minority members, can weaken corporate governance. For example, board members who form majority groups can marginalize minority board members so that their viewpoints are not taken into account (Westphal and Milton 2000). Hence, the contribution to directorship of minority board members such as women is diluted and offset by the majority board members, who lead the corporate governance process.

Despite these criticisms, the literature highlights undeniable benefits related to the presence of women on boards of directors. Without claiming completeness, we summarize these benefits in three points. First, women directors enhance the decision-making process within the board (Anderson et al. 2011). Indeed, the gender composition of boardrooms can affect the quality of monitoring and so enhance corporate governance control. Female directors are known to be tougher monitors (Farrell and Hersch 2005) and contribute to the heterogeneity of boardrooms. Heterogeneity increases the number of possible viewpoints and enlarges the scope of governance decisions. In this way, diversity helps prevent any concentration of decision-making power and reduces malpractice (Peterson and Philpot 2007; Ueng et al. 2009). Moreover, female representation on corporate boards improves governance efficiency in areas such as monitoring control (Adams and Ferreira 2009), so reducing agency conflicts (Arfken et al. 2004; Farrell and Hersch 2005; Francoeur et al. 2008; Peterson and Philpot 2007). Second, female officers often outperform male directors, therefore may be awarded the riskiest jobs in times of crisis, breaking through the glass ceiling to find themselves on the glass cliff (Francoeur et al. 2008; De Cabo et al. 2012; Ryan and Haslam 2007). It has been proved that female directors are usually given riskier tasks than their male colleagues and that they outperform male board members (Ryan and Haslam 2007). Consequently, women board members represent a scarce but needed resource (Arfken et al. 2004; Hillman et al. 2007). Finally, women are used to being more patient and open minded, which makes communication easier and therefore helps diffuse information from the board to investors (Gul et al. 2011).

The size and independence of the board of directors can moderate the related conflicts of interests, so that diversity within boardrooms is seen as an advantage (Fama and Jensen 1983). Indeed, statutory diversity often refers only to board members' independence and the separation of the functions of CEO and chairperson of the board. This is not sufficient for well-performing boards, and should be complemented by demographic diversity such as gender, culture, nationality, and experience of directors (Ben Amar et al. 2012). In this perspective, many studies find that the larger the board, the greater the number of female directors on it (Brammer et al. 2007; Hyland and Marcellino 2002), the less effective it becomes in monitoring management activities (Fama and Jensen 1983). Meanwhile, the study of Ben Amar et al. (2012) gives more insight into the presumed relationship between gender diversity, as a demographic diversity, and the other characteristics of the board. According to Ben Amar et al. (2012), taking into account only board independence is not sufficient to explain firm performance (abnormal cumulative market returns), and demographic diversity, such as gender, should be a more useful discriminating factor. This suggests a complementary relationship between board independence and board gender diversity.

Many studies investigate whether board composition and its degree of independence matter in the appointment of women directors (Carter et al. 2003; Erhardt et al. 2003; Johnson and Greening 1999). Overall, they suggest that boards with a higher proportion of non-executive directors tend to include more women. Grosvold (2009) investigates the prevalence of women on the board in relation to the proportion of board seats held by non-executive directors in France and other countries. He finds an inverse relationship between the appointment of women to the board and board independence in France as well as in Belgium, Italy and Spain, which is evidence that in these countries female directorship can substitute for board independence. However, Grosvold did not test the impact of the degree of independence on the number of women on boards in a general model, and limited the study to the analysis of the proportion of women directors across various degrees of board independence, classified into quartiles.

Hypothesis 5 The larger the board, the greater is the number of women directors.

Hypothesis 6 Women directors are more likely to be appointed to boards with a higher proportion of non-executive directors.

For reasons mainly related to CEO compensation, women are less likely to serve on compensation committees than men (Adams and Ferreira 2009). Incidentally, it seems easier for them to join the audit, nominating, or corporate governance committees. Compensation committees have particular responsibility for drawing up the compensation contracts of firms' senior executives. Adams and Ferreira (2009) find that female directorship is positively related to equity-based compensation (but not to total compensation) and hence makes CEO turnover more sensitive to stock return performance, a measure of the intensity of board monitoring. Adams and Ferreira (2009)

do not investigate the relationship between CEO/Chairman duality (separation) and gender diversity. However, they find a positive relationship between CEO/Chairman duality and equity-based compensation. This suggests that a CEO who is also Chairman may be less likely to appoint women to the compensation committee to reduce the turnover-performance sensitivity. Incidentally, Bugeja et al. (2011) suggest that women's contributions are so important that gender-diverse compensation committees affect both the structure and the level of CEO remuneration. Their results indicate that gender-diverse compensation committees are associated with lower CEO salaries, bonuses and total compensation.

Hypothesis 7 Women directors are less likely to be appointed to boards with CEO/Chairman duality.

Hypothesis 8 The CEO's stock-based compensation is negatively related to the appointment of women directors.

Female Demographic Attributes: A Prerequisite for Accessing Senior Board Positions

Although the incremental improvement in the number of women on boards of directors can be considered a good signal, some senior positions are not easily accessible to women. This pattern raises a double glass-ceiling problem, which violates ethical principles and highlights discrimination issues relating to gender imbalances. Indeed, diversity has many dimensions. Specifically, women can be independent non-executive members or members of one of the board sub-committees, or both. Such roles are considered to be senior positions in the boardroom due to the special expertise, skills, duties, and responsibilities of non-executive directors, as with membership of one of the relevant operating committees.

In France, according to Viénot's reports published in 1995 and 1999, and Bouton's report in 2002, a director is independent of the company's management when he or she has no significant relationship with the company or its group, which could affect the exercise of their freedom of judgment. Similarly, directors are considered independent if they have no significant business or family relationships with the managers or the main shareholders of the firm. So far, operating committees, including audit committees, are not mandatory in France and only some French firms require that all members of the committees should be independent non-executive members.[3]

[3] The presence of audit committees in French listed firms only became mandatory after the entry into force of the Order of December 8, 2008, which transposes into French law the Directive of the European Parliament and of the Council of the European Union on statutory audits of annual accounts.

Vinnicombe et al. (2010) emphasize that a prerequisite for the recruitment of a candidate is personal sponsorship by board member(s). In fact, knowing candidates personally, and their reputation, is what drives the appointment process. Hence, social capital can legitimate human capital. Given this context, the chairman's sponsorship is crucial because the chairman decides the criteria (i.e., skill requirements) for a position on the board. Unfortunately, the glass-ceiling phenomenon becomes even stronger for women at more senior board positions, such as non-executive directorship or operating committee membership. The competition to access these positions should be fiercer. Undoubtedly, senior positions are well rewarded. For example, Doldor et al. (2012) point out that median fees for non-executive directors across FTSE companies range from £1,300 per day for small companies to £1,800 per day for larger ones. Apart from remuneration considerations, getting a senior position on a board provides additional benefits for the board member, such as growing or preserving one's standing in the top business community (Doldor et al. 2012).

Non-executive directors, also called "outsider" directors in the US, are persons invited onto the board by the chairman or nominating committee by virtue of their primary employment, business expertise, industry contacts, or prior experience (Burgess and Tharenou 2002). Unlike executive directors, they are not gaining a position on the board through normal career progression. In general, the board selects some CEOs of other companies to invite onto the board as non-executive directors. This informal selection process can be more problematic for women than for men because it is made through personal recommendation and networking. Li and Wearing (2004) find that females represented only 6 % of non-executive directors in the top 350 UK listed companies. They also concluded that women face a "second glass-ceiling" issue once they reach board level. In their study, they compare the average remuneration of executive and non-executive directors in relation to gender, and find that the average female-to-male remuneration ratio is 0.76 and exhibits a statistically significant wage difference. Burgess and Tharenou (2000) investigate the factors related to women's appointment to boards as non-executive versus executive directors. Their results show that women non-executive directors bring more human capital to a job than women executive directors in terms of managerial advancement, education levels, and age.

Sitting on other boards (multiple directorships) is a determining factor in the selection of non-executive directors. Multiple directorships are an important dimension, which indicates the potential benefits to the firm of enriched experience. It also indicates a strengthening of knowledge and of business connections with outside directors (Fama 1980; Harris and Shimizu 2004; Vafeas 1999). However, the

benefits of multiple directorships and network ties are more pronounced for minority directors, such as women directors. Westphal and Milton (2000) establish that minority (women) directors have more influence on board decisions if they have prior experience on other boards.

Otherwise, women directors face a disadvantage in getting promoted to membership of important board subcommittees such as the audit, nomination, governance, and remuneration committees (Bilimoria and Piderit 1994; Mattis 2000). Specifically, these four committees specialize in narrowly defined tasks and tend to provide their members with higher remuneration. Moreover, these are usually considered the most important monitoring committees (Adams and Ferreira 2009; Kesner 1988). Hence, these positions are more likely to be occupied by males (Li and Wearing 2004); women directors are often allocated to the fields of public affairs or corporate social responsibility (Bilimoria and Piderit 1994).

From the resource-based perspective, foreign nationality or international experience is also a critical prerequisite for promotion to directorship and board committee membership. Current business internationalization and globalization schemes require candidate directors to belong to a foreign network (i.e., to have foreign knowledge and contacts) so as to increase the international efficiency of firms (Carpenter et al. 2001). Indeed, foreign directors provide essential resources to the firm and tend to be more independent than other directors (Ruigrok et al. 2007). Moreover, they bring skills and experience as well as access to networks and other external resources, which cross boundaries between the company and its environment (Hillman and Dalziel 2003). So, the appointment of a foreign director should be a reasonable proxy for the international orientation of the firm.

Hypothesis 9 Demographic attributes (such as educational level, business expertise and foreign nationality) increase the probability that women may access more senior board positions (non-executive directorship and operating committee membership).

Methodology

Data

We considered an initial sample based on a panel of firms listed in the SBF 120 Index during a 5-year period running from 2000 to 2004. The SBF 120 Index is a capitalization-weighted index, which comprises the 120 largest capitalizations and most liquid French stocks traded on the Paris stock exchange. The sample was filtered by eliminating six companies from the finance, banking, and real-estate sectors, because they are subject to regulatory supervision affecting their governance system (Adams and Mehran 2003). Among the remaining sample, 29 firms were excluded due to a lack of corporate governance data. After this filtering procedure, the final sample consisted of annual data for 85 companies over 5 years, in other words a total of 425 firm-years observations.

Dependent Variables

We chose to consider the number of women within boardrooms to help explain the one-woman threshold. In practice, focusing on the percentage of women does not reveal much about the number of women holding a position within corporate boards unless we compare it continuously to board size.[4] This comparison is all the more important because the average number of women in our sample is less than one. We next introduce separately several demographic attributes of women board members. The first attribute relates to their nationality and international experience. We measure this attribute by the inclusion of foreign women directors on the board, a proxy for their international experience.

The second and third demographic attributes deal with the formal educational level and educational background of women directors. Hambrick and Mason (1984) identify such attributes as important demographic characteristics, which reflect cognitive orientations and skills. They argue that an individual's level of formal education contributes to the organization's success. In our study, the educational level is introduced as a binary variable, which accounts for two categories in respect to the French higher education system: bachelor's degree or less (coded 0), and masters (or equivalent) or doctorate (PhD) degree (coded 1). We further distinguish cases where the woman has formal business education. For this purpose, we include in our model a complementary binary variable (labeled Business expertise), which equals 1 if her formal education has included specializing in business and 0 otherwise.

Finally, we consider the level of experience of female board members in governance and business. We label this attribute Multiple Directorships, and the criterion is simultaneous participation on other boards of directors. Indeed, multiple directorships are an important dimension, which indicates the potential benefits to the firm of enriched experience in governance and management (Fama 1980; Harris and Shimizu 2004; Vafeas 1999; Westphal and Milton 2000). Multiple Directorships is a binary variable, which takes the value 1 if the woman director under

[4] In particular, two firms can exhibit the same percentage of women board members while having different numbers of women at board level.

consideration is a member of another firm's board of directors, and 0 otherwise.

Independent Variables

Our independent variables consist of three sets of explanatory factors, which relate to ownership structure, corporate governance, and company performance. With respect to ownership structure, we consider the four situations displayed in annual reports: the proportion of shares owned by minority (individual) shareholders, family ownership, the cumulative proportion of shares owned by institutional investors and larger than 5 %, and finally, the proportion of shares owned by managers. Family ownership is measured by a binary variable that equals 1 when the founding family holds at least a 5 % equity stake and 0 otherwise.[5]

With respect to corporate governance, the variables we considered relate to board size, board independence, chairman/CEO duality, CEO's stock-based compensation, and the presence of audit, nominating, and compensation committees. Specifically, board size is measured by the natural logarithm of the number of directors. Board independence refers to the proportion of board members who are not employees or trading partners of the firm, and is measured by the ratio of the number of independent directors to the total number of directors within the board. The chairman/CEO duality feature is represented by a binary variable, which equals 1 if the company's CEO is the chairman of the board and 0 otherwise. CEO's stock-based compensations are also represented by a binary variable, which equals 1 if an equity-based compensation is offered and 0 otherwise. The presence of an audit, nominating, or compensation committee is similarly characterized by a binary variable, which equals 1 if the firm has such a committee and 0 otherwise.

Control Variables

Focusing on the links between gender diversity and corporate governance, we need to neutralize potential disturbing factors, which could affect the quality or strength of such a relationship. Such factors are usually introduced as control variables and help to improve the accuracy and robustness of the chosen representation. Hence, we consider five control variables, which may affect gender diversity as well as reflecting demographic characteristics in the appointment of women. These variables are: firm performance, leverage, cross-listing, research and development intensity, and firm size.

We use three variables to measure firm performance: Tobin's Q as a market value, return on assets (ROA), and 1-year sales growth. According to Hillman et al. (2000, 2007), performance precedes diversity in the sense that high-performing enterprises tend to increase the female presence on their boards so that they attract experienced and competitive women. Many studies tend to support the positive impact of performance on the number of women directors. Farrell and Hersch (2005) show that firms with strong profits (ROA) are more likely to appoint women directors. Carter et al. (2003) also report, after studying 1,000 *Fortune* firms, that the higher the market value of the firm, the higher is the percentage of women on the board. Adams and Ferreira (2009) find that Tobin's Q, but not ROA, predicts the appointment of female directors. In our study, the ROA is computed as the ratio of earnings before interests and taxes (EBIT) to total assets. As an approximation, we calculate Tobin's Q as the sum of the market value of stocks and the book value of debt, which is divided by the book value of total assets. Finally, the 1-year sales growth provides a measure of the firm's commercial effectiveness.

Leverage is computed as the ratio of the book value of total liabilities to total assets. Firms with a high leverage ratio are at higher risk of default. As gender diversity enhances quality of earnings (Krishnan and Parsons 2007; Labelle et al. 2010), the appointment of women directors signifies credible financial statements to investors and creditors.

The cross-listing dimension—listing shares on more than one exchange—is introduced as a dummy variable, which is equal to 1 for firms listed on the NASDAQ or the NYSE stock exchange, and 0 otherwise. The cross-listing variable is introduced to investigate if the prevalence of female directorships in French firms is influenced by ensuring better protection of investors. Cross-listing in the US affords incremental protection to investors who have already made an investment in countries which are characterized by poor legal institutional frameworks (O'Connor 2006). Incidentally, France's legal system offers relatively poor investor protection (La Porta et al. 1999, 2002). Adams and Ferreira (2009) establish that the benefits of gender diversity are only perceived in firms with weak corporate governance (as measured by their ability to resist takeovers). Gul et al. (2011) also give evidence that gender-diverse boards act as a substitute mechanism for weak corporate governance. Hence, both cross-listing in the US stock exchange and female directorship are expected to enhance corporate governance practices, which suggests that substitution between these two effective governance mechanisms may be possible.

Research and development (R&D) intensity is measured by the ratio of R&D expenditures to total sales. According

[5] Listed companies must disclose in their annual report the identity of shareholders or concert parties holding more than 5% of the voting rights. The administrative declaration or request for authorization must provide the identity of *known* major shareholders holding more than 5%. So, for many of our sample firms, only shareholders with at least 5% of capital can be identified.

Table 1 Breakdown of the number and percentage of women in the board over each sample year

Years	Average number of women on board	Percentage of women on board	Percentage of firms with no woman on board	Percentage of firms with one woman on board	Percentage of firms with two women on board	Percentage of firms with three women on board
2000	0.64	6.27	60.00	22.35	11.76	5.88
2001	0.66	6.27	57.65	23.53	14.11	4.70
2002	0.69	6.86	53.94	28.24	15.29	3.53
2003	0.76	7.64	49.41	29.41	16.47	4.70
2004	0.69	7.20	52.94	29.41	12.94	4.70

to Ben Amar et al. (2012), R&D-intensive firms carry a substantially higher risk. The increased risk results from the uncertainty due to the complexity of their activities and the probable failure of their projects. There are two contrasting views on how R&D relates to gender diversity. On the one hand, women are often seen as risk averse (Croson and Gneezy 2009). Women may be less likely to become directors in high-risk industries. In more R&D-intensive sectors, men are more likely to predominate, in as far as they are free, committed, and available any time the work needs them to be (Hillman et al. 2007). On the other hand, women directors outperform male board members on riskier tasks (Ryan and Haslam 2007). Incidentally, Francoeur et al. (2008) document a positive relationship between gender diversity and financial performance for firms operating in riskier environments, which suggests that undertaking riskier projects should give firms a strong incentive to appoint women to their board.

With regard to the last control variable, the firm size is approximated by the natural logarithm of total assets. Adams and Ferreira (2009), Carter et al. (2003), Farrell and Hersch (2005), and Hillman et al. (2007) assume that the larger the firm, the more visible it is to the public, and this visibility may influence the amount of female representation on its board. Numerous studies document the causal relationship between firm size and the number of women board members (Burke 2000; Hyland and Marcellino 2002; Peterson and Philpot 2007; Terjesen and Singh 2008).

Descriptive Statistics

Table 1 provides information on actual numbers of women in boards of directors throughout the years with respect to our sample. Over the whole sample period, no company has more than three women on its board of directors. Furthermore, very few French companies have two or three women directors, while many more companies have only one woman on the board. Table 1 shows also that the average number of women on the board is less than one, which confirms the pattern of female minority within corporate boards. From 2000 to 2004, the average percentage of women increases slightly from 6.27 to 7.20. However, this increase stems from the growing number of firms that have a single woman on their board, rather than the growing number of women on boards of directors. Indeed, during the sample period, the number of boards with two or three women tended to decrease.

In the previous section, we have referred to the glass-ceiling phenomenon, which seems to be less prominent for women in family firms (Campbell and Minguez-Vera 2008; Claessens et al. 2000; Ruigrok et al. 2007; Sheridan and Milgate 2005). Table 2 reports the difference in numbers of family and non-family firms with women directorships according to their demographic attributes. Family firms with women directorships represent 26.58 % of our total sample (450 firm-years observations) versus 19.53 % for non-family firms. These proportions tend to decrease for firms with three woman directors as compared to firms with a single woman director. The statistics on female demographic attributes in Table 2 are only provided for firms with at least one woman director (196 firm-years). They show that the proportion of non-family firms appointing women directors with foreign nationality (22.96 %) is greater than the proportion of non-family firms appointing domestic women directors (19.39 %). The proportion of firms with foreign women directors rises to 54.22 % (45/83) if we consider statistics for only non-family firms. The reverse result occurs when dealing with family firms (18.88 % for firms with foreign nationality women directors versus 38.77 % for firms with domestic women directors), suggesting that foreign experience is a key factor in the appointment of women directors for only non-family firms. Overall, 46.76 % (32.65 % + 14.20 %) of our firm-years tend to appoint women with higher degrees (masters and doctorate degrees). Using multiple referred studies, Burgess and Tharenou (2002) report that the proportion of women directors with masters and PhD degrees is 28 % in Austria, 41 % in Canada, and 83 % in New Zealand. However, as they argue, it is particularly difficult to draw conclusions about educational levels, due to inherent differences in the structure of tertiary education between countries. With reference to our statistics, educational level seems to be the more relevant factor separating

Table 2 Number of women directors and demographic attributes across family and non-family firms

Variables	Non-family firms	Family firms	χ^2
Number of women directors			
0	155 (36.47 %)	74 (17.41 %)	33.242** ($p = 0.000$)
1	46 (10.82 %)	70 (16.47 %)	
2	32 (7.53 %)	28 (6.59 %)	
3	5 (1.18 %)	15 (3.52 %)	
Foreign nationality			
0	38 (19.39 %)	76 (38.77 %)	9.068** ($p = 0.005$)
1	45 (22.96 %)	37 (18.88 %)	
Educational level			
0	14 (9.69 %)	88 (44.90 %)	71.362** ($p = 0.000$)
1	69 (32.65 %)	25 (14.20 %)	
Business expertise			
0	65 (33.16 %)	89 (45.41 %)	0.006 ($p = 0.940$)
1	18 (9.18 %)	24 (12.24 %)	
Multiple directorships			
0	24 (12.24 %)	32 (16.33 %)	0.008 ($p = 0.927$)
1	59 (30.10 %)	81 (41.33 %)	

Statistics relative to women's skills are provided for only firm-years with at least one woman director (196)

** Significance at the 1 % level

women in family and non-family firms. The proportion of non-family firms appointing women directors with higher educational degrees (masters and doctorate degrees) is much greater (32.65 %) than the proportion of family firms doing so (14.20 %). Finally, we note that the differences in the proportions of other key factors (business expertise and multiple directorships) between family and non-family firms are not significant according to the Chi-squared test statistic.

According to Vinnicombe et al. (2010), women face a second glass-ceiling problem when aspiring to more senior board positions such as non-executive directorship or committee membership. Table 3 reports statistics and gives evidence on different factors related to the appointment of women as non-executive and committee members. Firms appointing women to committees represent 47.45 % of the 196 firm-years in which women hold directorships. Firms appointing women as non-executive directors represent only 10.59 %. These proportions tend to decrease when we compare firms with a single woman on the board to firms with three women directors. However, the trend is more pronounced for firms with female non-executive directors than for firms with female committee members. This result suggests that it is more difficult for women to access non-executive directorship than committee membership on French boards.

In the previous section, we also argued that firms have to rely more on the skills and abilities of their women directors in senior board positions (Bilimoria and Piderit 1994; Kesner 1988; Mattis 2000; Peterson and Philpot 2007). Table indicates that foreign nationality represents the most common nationality category of women board committee members (28.57 %), which is not the case for women non-executive members (13.77 %). However, if we refer to statistics concerning only firms appointing women at senior board positions, these proportions exceed 50 % in both cases. Within the two categories of senior board positions (non-executive directorship and committee directorship), more firms take on women directors with a masters' degree or doctorate than with lower qualifications. Business expertise measured by formal business education is not a characteristic feature of firms with non-executive women directorships (8.16 %), or of firms with women board committee members (17.35 %). However, having experience of business and governance through multiple directorships seems to be a more important selection criterion for firms appointing non-executive women directors (18.37 % vs. 4.59 %). Experience of multiple directorships is not a significant factor for firms appointing women to board committees.

Table 4 reports the descriptive statistics for continuous variables. The average ratios of minority ownership, institutional ownership, and managerial ownership are 50.17, 20.52, and 14.52 % respectively. The board size takes a value of 10.83 directors (with a minimum of four and a maximum of 21 members). In addition, the proportion of independent directors takes an average value of 23.56 %, indicating that the majority of directors are not independent. This ratio is significantly low in comparison with other countries. Indeed, the proportions of independent directors documented in earlier literature are 58.4 % for the US (Klein 2002), 52 % for New Zealand (Hossain et al. 2000) and 57 % for Singapore (Mak and Li 2001). The leverage ratio takes up a mean value of 23.98 % while the sample companies exhibit an average Tobin's Q equal to 1.6967, with a minimum value of 0.5204 and a maximum value of 13.7547. They display an average sales growth of 11.74 % per year. The ROA ratio exhibits a large range of variation, with a mean of 2.32 %, a minimum value of −64.47 %, and a maximum value of 21.29 %. Finally, the sample companies exhibit an average R&D intensity of 5.14 % and an average size of 3.2169.

Table 4 also analyzes the differences between firms with at least one female director on the board and firms without a female director on the board. The significance of such differences is investigated statistically with a Student's *t* test. Strikingly, 196 out of the 425 firm-years observations (46.12 %) showed the presence of one woman or more on the board, while the comparative ratios are, respectively, 23.7 % for Spain (Campbell and Minguez-Vera 2008) and 70 % for US firms (Farrell and Hersch 2005). On average, firms with at least one woman director have more directors

Table 3 Number of women and demographic attributes according to their senior board positions: non-executive directorship and committee membership

Variables	Non-executive directorship		χ^2	Committee membership		χ^2
	0	1		0	1	
Number of women directors						
0	229 (53.88 %)	0 (0.00 %)	67.386** ($p = 0.000$)	229 (53.88 %)	0 (0.00 %)	159.944** ($p = 0.000$)
1	84 (19.76 %)	32 (7.53 %)		70 (16.48 %)	46 (10.82 %)	
2	52 (12.24 %)	8 (1.88 %)		30 (7.06 %)	30 (7.06 %)	
3	15 (3.53 %)	5 (1.18 %)		3 (0.71 %)	17 (4.00 %)	
Foreign nationality						
0	96 (48.98 %)	18 (9.18 %)	7.919** ($p = 0.005$)	77 (39.28 %)	37 (18.88 %)	24.564** ($p = 0.000$)
1	55 (28.06 %)	27 (13.77 %)		26 (13.26 %)	56 (28.57 %)	
Educational level						
0	79 (40.31 %)	4 (2.04 %)	33.472** ($p = 0.000$)	63 (32.14 %)	39 (19.90 %)	7.241** ($p = 0.007$)
1	72 (36.73 %)	41 (20.92 %)		40 (20.41 %)	54 (27.55 %)	
Business expertise						
0	125 (63.77 %)	29 (14.80 %)	21.216** ($p = 0.000$)	95 (48.47 %)	59 (30.10 %)	24.063** ($p = 0.000$)
1	26 (13.26 %)	16 (8.16 %)		8 (4.08 %)	34 (17.35 %)	
Multiple directorships						
0	47 (23.98 %)	9 (4.59 %)	18.139** ($p = 0.006$)	35 (17.86 %)	21 (10.71 %)	3.112 ($p = 0.078$)
1	104 (53.06 %)	36 (18.37 %)		68 (34.69 %)	72 (36.73 %)	

Statistics relative to women's skills are provided for only firm-years with at least one woman director (196)

** Significance at 1 % level

on their boards, are larger in terms of total assets, and display a lower Tobin's Q. They also have a lower R&D intensity ratio than firms without a female director, arguing that women are less likely to be appointed to the board of high-technology firms. With respect to the other key variables, no significant differences are detected between firms with at least one female director on the board and firms without any female director on the board.

Table 5 displays the frequencies and the Chi-squared statistics (i.e., significance test results) for key relevant dummy variables. First, 26.59 % of firms with at least one woman on the board are family owned, whereas 17.41 % of firms without a woman on the board are family owned, the difference being significant at a 1 % Chi-squared test level. These results are in concordance with the assumption that women are less likely to face a glass-ceiling problem in family firms. Second, firms with no woman on the board (46.59 %) are more likely than other firms (37.18 %) to use stock option-based compensation to pay their CEOs. Such findings support ethical enforcement, which results from gender diversity by improving monitoring in corporate governance and reducing the conflicts of interest related to executive compensation (Galbreath 2011). Finally, firms that cross-list their shares on the US stock exchange are less likely to incorporate women on their board (14.59 % vs. 9.65 %). Ensuring better corporate governance practices by cross-listing firms on the US stock exchange (O'Connor 2006) seems to be substitutable for appointing women directors. No significant differences are observed between the two categories of firms with respect to variables concerning duality, nominating, and compensation committees.

Model

Our model consists of a regression analyzing the association between variables. First, we investigate the number of women directors within boards. Next, we investigate the links between the demographic attributes of women directors on one side, and ownership structure and board-characteristic metrics on the other. We also consider several determinants of female directors' demographic attributes, such as foreign nationality, educational level, business expertise, and multiple directorships. To test our hypotheses, we count the number of women on boards who correspond to each demographic attribute.

Table 4 Descriptive statistics and difference mean *t* test of continuous variables for firms with and without female directors

Variables	Statistics	Total sample ($N = 425$)	Firms with at least one woman on board ($N = 196$)	Firms without woman on board ($N = 229$)	*t* test
Minority ownership	Mean	0.5017	0.4867	0.5147	−1.213
	SD	0.2368	0.2396	0.2342	
	Minimum	0.0357	0.0403	0.0357	
	Maximum	0.9999	0.9890	0.9999	
Institutional ownership	Mean	0.2052	0.2080	0.2028	0.210
	SD	0.2521	0.2355	0.2660	
	Minimum	0	0	0	
	Maximum	0.8867	0.8700	0.8867	
Managerial ownership	Mean	0.1452	0.1548	0.1369	1.001
	SD	0.1832	0.1901	0.1772	
	Minimum	0	0	0	
	Maximum	0.7481	0.6900	0.7481	
Board size	Mean	10.83	11.62	10.15	3.668**
	SD	4.15	4.29	3.91	
	Minimum	4	4	4	
	Maximum	21	21	21	
Board independence	Mean	0.2356	0.2146	0.2538	−1.572
	SD	0.2566	0.2563	0.2560	
	Minimum	0	0	0	
	Maximum	0.9412	0.9412	0.8889	
Leverage	Mean	0.2398	0.2449	0.2356	0.712
	SD	0.1342	0.1347	0.1339	
	Minimum	0	0	0.0002	
	Maximum	0.6380	0.5808	0.6380	
Return on assets	Mean	0.0232	0.0256	0.0212	0.618
	SD	0.0734	0.0737	0.0733	
	Minimum	−0.6447	−0.6447	−0.3612	
	Maximum	0.2129	0.1529	0.2129	
Tobin's Q	Mean	1.6967	1.5027	1.8626	−2.674**
	SD	1.3932	0.7279	1.7597	
	Minimum	0.5204	0.6955	0.5204	
	Maximum	13.7547	4.4289	13.7547	
Sales growth	Mean	0.1174	0.1114	0.1227	−0.378
	SD	0.3063	0.2743	0.3318	
	Minimum	−0.8133	−0.5618	−0.8133	
	Maximum	3.1751	1.7163	3.1751	
Research & Development	Mean	0.0514	0.0348	0.0657	−4.464**
	SD	0.0725	0.0426	0.0828	
	Minimum	0	0	0	
	Maximum	0.4960	0.2100	0.4960	
Firm size	Mean	3.2169	3.3665	3.0890	3.298**
	SD	0.8745	0.9559	0.7779	
	Minimum	1.3436	1.5597	1.3436	
	Maximum	5.1782	5.1782	4.9837	

** Significance at the 1 % level

Table 5 Frequencies (%) between firms with and without female directors and χ^2 tests for binary variables

Variables	Firms with at least one woman on board ($N = 196$)	Firms without woman on board ($N = 229$)	χ^2
Family ownership			
0	83 (19.53 %)	155 (36.47 %)	27.519** ($p = 0.000$)
1	113 (26.59 %)	74 (17.41 %)	
Duality			
0	58 (13.65 %)	64 (15.06 %)	0.1395 ($p = 0.709$)
1	138 (32.47 %)	165 (38.82 %)	
Stock option			
0	38 (8.94 %)	31 (7.29 %)	2.658 ($p = 0.103$)
1	158 (37.18 %)	198 (46.59 %)	
Audit committee			
0	81 (19.06 %)	90 (21.18 %)	0.180 ($p = 0.671$)
1	115 (27.06 %)	139 (32.70 %)	
Nominating committee			
0	124 (39.18 %)	171 (40.23 %)	6.473** ($p = 0.011$)
1	72 (16.94 %)	58 (13.65 %)	
Compensation committee			
0	102 (24.00 %)	101 (23.76 %)	2.666 ($p = 0.103$)
1	94 (22.12 %)	128 (30.12 %)	
Cross-listing			
0	155 (36.47 %)	167 (39.29 %)	2.180 ($p = 0.140$)
1	41 (9.65 %)	62 (14.59 %)	

** Significance at the 1 % level

The econometric literature suggests using count data regression instead of simple linear regression to avoid biased and inconsistent coefficients (Rock et al., 2001). standard Poisson regression method can thus be used to analyze our data (Cox 1983),[6] where the specification error is represented by ε.

$$\begin{aligned}\text{Number of women directors} =& \alpha_0 + \alpha_1 \text{ minority ownership} + \alpha_2 \text{ family ownership} \\ &+ \alpha_3 \text{ institutional ownership} + \alpha_4 \text{ managerial ownership} + \alpha_5 \text{ board size} \\ &+ \alpha_6 \text{ board independence} + \alpha_7 \text{ duality} + \alpha_8 \text{ stock option} + \alpha_9 \text{ audit committee} \\ &+ \alpha_{10} \text{ nominating committee} + \alpha_{11} \text{ compensation committee} + \alpha_{12} \text{ leverage} \\ &+ \alpha_{13} \text{ cross-listing} + \alpha_{14} \text{ returnon assets} + \alpha_{15} \text{ Tobin's Q} + \alpha_{16} \text{ sales growth} \\ &+ \alpha_{17} \text{ Research \& Development} + \alpha_{18} \text{ firm size} + \varepsilon.\end{aligned}$$

Count data are routinely handled with Poisson regression models, namely generalized regression models with Poisson-distributed errors (Cameron and Trivedi 2005). However, an important constraint of the Poisson model is the underlying variance–mean equality assumption. When the variance–mean ratio is >2, the data are over-dispersed, and such a dispersion pattern is unlikely to be eliminated even when regressors are included. The descriptive statistics of the independent variables in Table 4 show that the raw data are not suspected of over-dispersion as the variance of all these variables is less than twice their mean. The

As a rough guide, Table 6 provides the value of the pairwise correlations between each of the variables used in the subsequent analysis as well as the corresponding variance inflation factors (VIF). However, the highest value of 0.7484 is taken by the correlation coefficient between board size and firm size, indicating information redundancy between these two explanatory variables. To mitigate the

[6] An alternative approach to modeling count data is the negative binomial regression. Our results are quite similar across the two estimation methods, be it the Poisson regression or the negative binomial regression.

Table 6 Pairwise correlation matrix of variables and VIF values

	1	2	3	4	5	6	7	8	9	10	11
1. Minority ownership	1.000										
2. Family ownership	−0.4485*	1.0000									
3. Institutional ownership	0.2723*	−0.2483*	1.0000								
4. Managerial ownership	−0.2306*	0.4854 *	−0.1657	1.0000							
5. Board size	0.0568	−0.1782*	0.2180*	−0.4265*	1.0000						
6. Board independence	0.4959*	−0.3998*	0.3415*	−0.3793*	0.3096*	1.0000					
7. Duality	0.1478	−0.2024*	0.1504	−0.1410	−0.0778	0.1997*	1.0000				
8. Stock option	0.2944*	−0.2139*	0.1852*	−0.0864	0.1258	0.2486*	0.0309	1.0000			
9. Audit committee	0.3661*	−0.2877*	0.1582	−0.3509*	0.4062*	0.5019*	0.0309	0.3024*	1.0000		
10. Nominating committee	0.3299*	−0.2284*	0.1939*	−0.2966*	0.3457*	0.3688*	0.0149	0.1953*	0.5447*	1.0000	
11. Compensation committee	0.3207*	−0.3006*	0.1191	−0.2757*	0.3457*	0.4042*	−0.0133	0.2177*	0.4716*	0.5837*	1.0000
12. Leverage	0.0483	−0.0714	−0.0473	0.0802	0.0847	−0.0069	0.1818*	0.1113	0.0031	0.0521	0.0191
13. Cross-listing	0.3034*	−0.2248*	−0.0163	−0.3044*	0.1533	0.2989 *	0.0797	0.1894*	0.3745*	0.2323*	0.2000*
14. Return on assets	−0.0343	0.2399*	0.0604	0.1620	−0.0738	−0.1060	−0.1745	−0.0889	−0.1181	−0.0672	−0.0001
15. Tobin's Q	0.1686	0.1340	−0.0442	0.1509	−0.1811*	−0.1174	0.0071	0.0646	0.0061	−0.1295*	−0.1106
16. Sales growth	0.0142	0.1017	−0.1279	0.1386	−0.1353	−0.2130*	0.0041	−0.0716	−0.1933*	−0.1143	−0.1007
17. Research & development	−0.0099	0.0408	−0.0997	−0.1671	−0.1211	−0.1429	−0.1588	−0.0517	0.0822	−0.0095	0.0380
18. Firm size	0.3037*	−0.3511*	0.3498*	−0.5670*	0.7484*	0.4344*	0.1918*	0.1070	0.5092*	0.5238*	0.4249*
19. Foreign nationality	0.0171	0.0057	−0.0604	−0.0369	0.0619	0.0385	0.1552*	−0.0245	0.0774	0.1365*	−0.0046
20. Educational level	0.1001	−0.1665*	0.1284*	−0.0503	0.2067*	0.1714*	0.1380*	0.0398	0.1556*	0.2145*	−0.0263
21. Business expertise	0.0772	0.0779	−0.0265	0.1615*	0.0309	0.0518	0.0899	0.0615	0.0667	0.1131	−0.0375
22. Multiple directorships	−0.0676	0.1990*	0.0476	0.0439	0.1576*	−0.0496	−0.0579	0.0468	0.0090	0.2644*	0.1251*
VIF	1.96	1.78	1.52	1.50	2.36	2.00	1.31	1.28	3.45	1.85	2.87

	12	13	14	15	16	17	18	19	20	21	22
12. Leverage	1.0000										
13. Cross-listing	−0.0844	1.0000									
14. Return on assets	−0.2342*	−0.0265	1.0000								
15. Tobin's Q	−0.2815*	0.1280	0.4290*	1.0000							
16. Sales growth	−0.0841	−0.0928	0.1708	0.2701*	1.0000						
17. Research & development	−0.2904*	0.1800	−0.0141	0.2073*	0.0317	1.0000					
18. Firm size	0.1417*	0.3121*	−0.1072	−0.2301*	−0.1506	−0.1848*	1.0000				
19. Foreign nationality	0.1767*	−0.0016	−0.1712*	−0.1573*	−0.0399	0.1677*	0.0386	1.0000			
20. Educational level	0.1860*	0.1036	−0.1299*	−0.1785*	−0.0918	0.3123*	0.0690	0.5948*	1.0000		
21. Business expertise	0.1772*	−0.0252	−0.0494	−0.1097	−0.0254	0.0796	0.0685	0.4338*	0.4915*	1.0000	
22. Multiple directorships	0.1858*	−0.0756	−0.0114	−0.0951	−0.0756	0.0952	0.0401	0.5646*	0.4561*	0.3191*	1.0000
VIF	1.40	1.54	1.23	1.50	1.23	1.31	3.78	1.76	2.32	1.57	1.87

* Significance at the 1 % level

multicollinearity issue, we need to drop either the board size or the firm size variable. Indeed, both the significance of the variables' coefficients and the model coefficient determination (pseudo-R^2) are lower with the firm size variable than with the board size variable. For the correlation coefficients lying between 0.5 and 0.6, we

systematically delete one independent variable at a time, after checking if the deletion changes the sign or significance level of any key independent variables. However, the signs and significance levels of our independent variables are not affected. Finally, the VIF values are also computed to check for possible remaining multicollinearity issues. In practice, a VIF value of 2 or 3 is proved to be a very thorough limit. In our model, we consider variables whose VIF values are below 3. So, we decide to exclude the "Audit Committee" and the "Firm Size" variables. Therefore, multicollinearity has little impact on our analyses and the model variables contain complementary information. All regressions are estimated with robust standard errors, which correct for residual heteroscedasticity issues.

Results

Table 7 presents the results of our different regressions. To test our hypotheses, we consider only results that reach conventional significance levels of 1 and 5 %. With regard to how type of ownership relates to gender diversity, the results show that, all else being equal, women directors tend to be appointed under minority ownership only when they bring business expertise. Minority ownership usually signals agency conflicts between controlling and minority shareholders, and in this regard the French legal system exhibits poor investor protection (La Porta et al. 1999, 2002). Accordingly, we have argued that firms with a high proportion of minority shareholders should be more concerned about the role played by women directors. In this respect, our result suggests that business expertise is, in the eyes of individual investors, the most important attribute of women directors, giving additional effective monitoring and reducing the likelihood of their expropriation by controlling shareholders. No significance is shown for women directorship even when the other demographic attributes are taken into account. Hence, the first hypothesis holds only partially for minority ownership.

The second hypothesis states that family ownership is an important factor explaining female directorship. The impact of family ownership on the number of women directors is positive (0.695) and significant at the 1 % level, which is consistent with our hypothesis. The negative relationship between family ownership and the entry of women with a high level of education indicates that women directors are appointed without consideration of their formal expertise in closely held family businesses. This result is in line with Claessens et al. (2000), who argue that family owners may appoint unqualified family members to key positions such as directorships. Specifically, the appointment of women directors is more likely to be

Table 7 The determinants of women's directorship relating to their managerial skills

Dependent variable vs. explanatory factors	Number of women directors	Foreign nationality	Educational level	Business expertise	Multiple directorships
Minority ownership	0.256 (0.81)	0.087 (0.13)	−0.177 (−0.37)	2.528 (2.42*)	0.249 (0.59)
Family ownership	0.695 (4.08**)	0.363 (1.17)	−1.356 (−5.24**)	0.751 (1.53)	0.936 (4.04**)
Institutional ownership	−0.097 (−0.37)	−1.104 (−2.33*)	0.156 (0.49)	−0.858 (−1.26)	0.070 (0.24)
Managerial ownership	−0.481 (−1.17)	−0.715 (−0.92)	1.659 (3.38**)	1.728 (1.97*)	−0.605 (−1.09)
Board size	0.073 (5.01**)	0.050 (1.96*)	0.139 (5.88**)	0.043 (1.16)	0.053 (2.97**)
Board independence	−1.062 (−2.97**)	−1.296 (−1.93)	−0.264 (−0.53)	−1.377 (−1.68)	−0.973 (−2.26*)
Duality	0.261 (1.99*)	0.806 (2.85**)	0.955 (2.94**)	0.433 (1.42)	−0.006 (−0.04)
Stock option	−0.015 (−0.09)	−0.160 (−0.49)	−0.229 (−0.75)	0.908 (1.94)	0.443 (1.85)
Nominating committee	0.550 (2.94**)	1.191 (3.27**)	0.959 (2.79**)	1.989 (2.96**)	0.615 (2.61**)
Compensation committee	−0.408 (−2.22*)	−0.456 (−1.43)	−1.499 (−5.18**)	−1.057 (−2.12*)	−0.446 (−1.82)
Return on assets	−0.562 (−0.83)	−2.968 (−4.03**)	−1.178 (−1.90)	−0.739 (−0.63)	−1.662 (−2.30*)
Tobin's Q	−0.066 (−1.22)	−0.298 (−1.99*)	−0.352 (−3.04**)	−0.899 (−2.46*)	−0.045 (−0.57)
Sales growth	−0.071 (−0.32)	0.181 (0.37)	−0.167 (−0.45)	0.099 (0.22)	−0.462 (−1.14)
Leverage	−0.649 (−1.34)	0.138 (0.15)	0.004 (0.01)	−1.694 (−1.53)	−1.115 (−1.80)
Cross-listing	0.274 (1.78)	0.082 (0.28)	0.145 (0.64)	0.059 (0.14)	0.190 (0.93)
Research & Development	−6.259 (−4.21**)	−17.731 (−4.77**)	−1.529 (−0.90)	−6.027 (−2.87**)	−12.692 (−4.53**)
Intercept	−1.047 (−3.56**)	−1.136 (−1.78)	−2.173 (−4.23**)	−2.513 (−2.09*)	−1.131 (−2.45*)
Wald χ^2 (16)	207.41	156.93	162.84	142.17	136.60
Prob > χ^2	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo-R^2	0.1122	0.1918	0.2279	0.3725	0.1454

Significance at the * 5 and ** 1 % levels

related to family connections than to any external process (Campbell and Minguez-Vera 2008). Our results show that family ownership favors the entry of women who are members of the boards of other companies. These findings are consistent with the finding of Hillman et al. (2007): when a firm is linked to other firms with female directors, it is more likely to have women on its board. This may be due to the strong bonds between family-owned firms, which can foster multiple directorships across those firms. In order to build community-level social capital, some family firms use board linkage by sharing one or more directors (Lester and Canella 2006). Board connections help create a network of family firms that generates shared knowledge, principles, and solutions to their typical problems. The absence of a significant relationship between family ownership and the appointment of women directors with foreign nationality or with business expertise yields further evidence of the preeminence of family relationships in the appointment of women to boards.

As regards ownership structure, we find that institutional ownership does not lead to the appointment of foreign women to the boards of French firms. This effect is negative and significant at a 5 % test level. This is in line with the idea that diversity of nationalities on the board may lead to communication and integration problems (Ben Amar et al. 2012). Such conflicts among board directors can affect the time value and the accuracy of decisions (Ruigrok et al. 2007). Considering the number of women directors and also their other demographic-related attributes, we do not find any significant relationship with institutional ownership. These results are not consistent with the findings of Ben Amar et al. (2012) about the role of institutional investors in the promotion of best-practice governance guidelines encouraging demographic diversity. When they gain power by substantial ownership, institutional investors may prefer to make the board a single entity and not to look for more heterogeneity. Indeed, greater board diversity, as illustrated by mixed gender and nationality, may divide board members. Diversity may also lead to group conflict, which impedes efficiency, so that many institutional investors pay significant attention to board behavior and structure as well as board governance regimes (Li and Wearing 2004). We therefore reject the third hypothesis.

Considering the last feature in our study that ownership structure is related to female directorship, our results show that having managers with higher stock holdings does not significantly affect the appointment of women to the board. This result is also valid when dealing with the appointment of foreign women directors or women that are members of other boards (multiple directorships). However, managers with substantial ownership support women with higher levels of education and a business background in overcoming the glass-ceiling obstacle to advancement in French boardrooms. This suggests that women's business background and level of formal education are criteria for their admission to boards where managers have considerable power to influence or elect boards of directors. Hence, Hypothesis 4 is partially supported.

Consistent with Hypothesis 5, our results also indicate that women have been appointed to boards following increases in board size. These results are in line with the studies of Brammer et al. (2007), Farrell and Hersch (2005), and Hyland and Marcellino (2002). Except when we consider the business expertise of women directors, all results related to the impact of board size are significant. A larger board is less effective in monitoring management activities (Fama and Jensen 1983). Indeed, larger boards may increase the range of expertise and resources of firms and organizations (Dalton et al. 1999).

Ben Amar et al. (2012) state that statutory forms of diversity, such as independence and the separation of the functions of the CEO and chairperson of the board, are not enough to guarantee good performance, and should be complemented by forms of demographic diversity such as gender, culture, nationality, and experience of directorship. Our results indicate that board independence does not favor women with unique demographic attributes, and thus we reject Hypothesis 6. This finding is in line with the argument put forward by Adams and Ferreira (2009) that women directors have a similar impact than independent directors regarding control over managerial discretion. Otherwise, contrary to Hypothesis 7, results in Table 7 show a positive and significant relationship between CEO/Chairman duality and female directorship. CEO/Chairman duality supports the appointment of women, and particularly foreign or highly educated women. This positive link possibly comes from the desire of the CEO/Chairman to signal that duality does not compromise the effectiveness of the board's monitoring function but rather improves clarity and judgment in the directors' outlook. Moreover, our results also provide evidence that the CEO drives the diversity management process, and support the benefits of gender-diverse boardrooms (Galbreath 2011; Ng and Sears 2012). Separately, both independent directors and female directors are deemed to be more effective monitors and act as two substitutable mechanisms (Adams and Ferreira 2009; Galbreath 2011; Hillman et al. 2007).

Contrary to Hypothesis 8, CEO stock-based remuneration does not affect female directorship. However, the presence of a compensation committee is a real constraint on the appointment of women to French boards. Less predictably, the presence of a nominating committee correlates with the appointment of women directors. Our findings provide evidence that French boardrooms express concern about total remuneration for not only senior

managers but also about stock-based pay for CEOs, which is a component of total remuneration. The appointment of women to compensation committees is associated with lower CEO salaries, bonuses, and total compensations (Bugeja et al. 2011).

sub-committees.[7] Dependent variables, the number of non-executive women on boards and the number of women that are members of one of the relevant board sub-committees are count data, so we can apply the standard Poisson regression model to run our econometric study. The specification error is represented by ε. All standard errors are corrected for heteroskedasticity.

$$\begin{aligned}\text{Number of non-executive women on boards} =& \alpha_0 + \alpha_1 \text{ minority ownership} + \alpha_2 \text{ family ownership} \\ &+ \alpha_3 \text{ institutional ownership} + \alpha_4 \text{ managerial ownership} \\ &+ \alpha_5 \text{ board size} + \alpha_6 \text{ board independence} + \alpha_7 \text{ duality} \\ &+ \alpha_8 \text{ stock option} + \alpha_9 \text{ audit committee} + \alpha_{10} \text{ nominating committee} \\ &+ \alpha_{11} \text{ compensation committee} + \alpha_{12} \text{ leverage} + \alpha_{13} \text{ cross-listing} \\ &+ \alpha_{14} \text{ return on assets} + \alpha_{15} \text{ Tobin's Q} + \alpha_{16} \text{ sales growth} \\ &+ \alpha_{17} \text{ Research \& Development} + \alpha_{18} \text{ foreign nationality} \\ &+ \alpha_{19} \text{ educational level} + \alpha_{20} \text{ business education} \\ &+ \alpha_{21} \text{ multiple directorships} + \varepsilon.\end{aligned}$$

As far as the control variables are concerned, we find that both accounting-related performance (ROA) and market-related performance (Tobin's Q) have a negative impact on female board appointments. These results are constant, even though we take into account the demographic attributes of women directors. Well-performing French firms are not keen to appoint women to their boards. Our results also reveal a strongly negative relationship between R&D intensity and female board representation. This effect is significant at a 1 % test level. Women directors are mainly found in the so-called traditionally female sectors. In more R&D-intensive sectors, men are more likely to predominate; and, in terms of remuneration, women directors are paid consistently less than their male counterparts across all industrial sectors (Hillman et al. 2007). With regard to the remaining control variables, we do not find any significant effect on female directorship.

Investigating Women's Positions in Boardrooms: *A double glass-ceiling problem*

To check the double glass-ceiling problem in French boardrooms, we develop a second model in which managerial skills such as international experience, educational level, business education, and multiple directorships are added to the explanatory variables used in the previous regressions. We first run a regression to investigate the number of non-executive women on boards, and its determinants. Then we replace this variable by the number of women that are members of one of the relevant board

Table 8 displays the results of our second regression model. With regard to ownership structure, our study shows that both family and minority ownerships, proxies for agency conflicts between controlling and minority shareholders, encourage the presence of women as independent directors on the board, and also facilitate their access to the committees. This result suggests that female non-executive directorship and female committee membership can be seen as a way to mitigate agency conflicts between controlling shareholders (families) and minority shareholders. This finding is consistent with the argument that the presence of women directors strengthens boards in their capacity to reduce agency conflicts (Arfken et al. 2004; Francoeur et al. 2008; Farrell and Hersch 2005; Galbreath 2011; Peterson and Philpot 2007). More precisely, Kang et al. (2010) point out that the appointment of women as independent directors can elicit more positive behaviors than can the appointment of non-CEO women or CEO executives.

Table 8 also shows that institutional ownership and to a larger extent managerial ownership has a negative and significant impact on both female committee membership and female non-executive directorship, at the 5 and 1 % levels, respectively. This result supports our previous conclusion about the role of managerial ownership and definitely rejects our third hypothesis. However, when we compare the current result relative to managerial ownership

[7] Given the small number of females in our data sample, it is not possible to obtain statistically significant results with regard to the type of operating committees.

Table 8 The determinants of women's non-executive directorship and women's committee membership

Dependent variable vs. explanatory factors	Non-executive directorship	Committee membership
Minority ownership	5.054 (3.29**)	1.202 (2.86**)
Family ownership	2.693 (4.77**)	1.714 (4.89**)
Institutional ownership	−1.520 (−2.14*)	−0.684 (−2.25*)
Managerial ownership	−5.639 (−5.49**)	−5.191 (−5.60**)
Board size	0.058 (1.01)	0.044 (1.90)
Board independence	−0.975 (−1.52)	−2.566 (−4.81**)
Duality	−0.169 (−0.52)	0.448 (2.23*)
Stock option	1.377 (0.82)	0.686 (1.84)
Nominating committee	−0.651 (−1.66)	−0.130 (−0.53)
Compensation committee	0.550 (1.33)	0.690 (2.77**)
Return on assets	2.526 (3.78**)	0.374 (0.65)
Tobin's Q	0.063 (0.33)	0.011 (0.10)
Sales growth	−1.033 (−2.24*)	−1.304 (−4.63**)
Leverage	3.852 (2.63**)	1.309 (1.79)
Cross-listing	0.043 (0.13)	0.719 (1.25)
Research & Development	−9.809 (−1.14)	−0.125 (−0.06)
Foreign nationality	0.667 (1.55)	−0.159 (−0.68)
Educational level	3.562 (7.23**)	1.747 (4.43**)
Business expertise	1.627 (4.82**)	1.645 (7.44**)
Multiple directorships	−0.134 (−0.30)	1.002 (4.00**)
Intercept	−11.012 (−7.46**)	−5.086 (−8.68**)
Wald χ^2 (16)	340.55	413.35
Prob > χ^2	0.0000	0.0000
Pseudo-R^2	0.5431	0.4351

Significance at the * 5 and ** 1 % levels

to the previous one (see Table 7), managers with substantial ownership seem to be disposed to support women in breaking through the first level of the glass ceiling but are unlikely to overcome the second level.

According to our results, board independence constitutes one of the factors explaining the second level of the glass ceiling phenomenon, since it prevents women from sitting on one of the relevant board subcommittees. The impact of board independence on female committee membership is negative (−2.566) and significant at a 1 % test level. In addition to our previous results, we find a positive and significant relationship between CEO/Chairman duality and female committee membership. This finding suggests that duality is not a barrier that women need to overcome to hold senior board positions in the French context. Finally, we find that after breaking through the first level of the glass ceiling, women no longer find the compensation committee an obstacle to getting a higher level board position, such as committee membership. None of these board characteristics significantly affects female non-executive directorship.

When considering accounting-related performance (ROA), we find that well-performing firms are more likely to appoint women as independent directors. However, we do not find that market-related performance (Tobin's Q) has any significant impact on the nomination of women either as non-executives or on one of the board's operating committees. Adding an independent woman director to the board seems to be associated with good accounting performance. Another plausible explanation stems from the fact that women may self-select to serve in better-performing firms (Farrell and Hersch 2005). Our finding is inconsistent with the result of Adams and Ferreira (2009), who find that Tobin's Q, but not ROA, predicts the appointment of women directors. The evidence for the sales growth variable is less straightforward. The impact of sales growth on both female non-executive directorship and female committee membership is negative and significant at the 5 and 1 % levels, respectively.

Unlike our earlier results presented in Table 7, we find here that the higher the debt ratio, the more likely women are to be selected as independent directors. The impact of debt ratio (leverage) on the number of independent women directors is positive (3.852) and significant at a 1 % test level. This result can be explained by the ability of women to improve the quality of financial statements (Gul et al. 2011; Srinidhi et al. 2011). The selection and appointment of independent women to boards can mitigate the conflict

of interest (agency conflict) between firms and debtors, so that firms with higher debt-to-asset ratios may select women directors to signal the health of their company accounts. Investors generally respond positively to the appointment of women directors, particularly when women are independent directors (Kang et al. 2010). However, we find that leverage does not affect the gender of operating committee membership. This result is consistent with Sun et al. (2011), who do not find any significant differences in how male and female audit committee directors view the ethics of earnings management.

In order to test Hypothesis 9, we further considered women's demographic attributes as complementary explanatory variables. Our results indicate that holding a high level of education and a formal business background improves the credibility of women seeking to serve as independent directors or committee members. Finally, we find that membership of other boards (multiple directorships) is a crucial prerequisite for serving on one of the relevant board subcommittees. These results are in line with the argument that female directors gain influence through experience and network links (Westphal and Milton 2000). From the firm's viewpoint, this finding is also plausible. Indeed, a firm can reduce vulnerability (to its external environment) and gain valuable resources by selecting a director with valuable skills, influence or connections to external sources of dependency (Hillman et al. 2007).

Conclusion

As of now, women hold few seats on French boards of directors. There is indeed a trade-off between corporate board job characteristics (specifically at top corporate officers' levels) and the well-documented glass-ceiling effect. Although women have the necessary education and skills to hold top jobs, they face the glass-ceiling effect, which prevents them from being as competitive as their male counterparts once they reach a certain hierarchical level. Even if a few women succeed in breaking through this glass ceiling, they face a second glass ceiling once they reach the board level. The opaqueness and closed nature of the appointment process for corporate board positions stem from a restrictive view of the appropriateness of the applicants' profiles as well as the traditional bias illustrated by gender stereotyping. Such a setting reinforces sponsorship practices within boardrooms and across the corporate governance network, which is predominantly a male world (Burke and McKeen 1990). Hence, the current discrimination toward women explains the low proportion of female representation across boards of directors. According to our results, both managerial and institutional ownership and board independence prevent women from accessing senior positions such as non-executive or board subcommittee membership. Targeting senior positions requires women to exhibit specific skill attributes. In addition to their educational and professional skills, women should have an extensive professional network that allows the company to widen its relationships, if they want to increase their chances of joining relevant board subcommittees.

In summary, our findings show that, except in specific cases, women directors are not hired in French boardrooms for the sake of gender diversity, but their appointment is rather related to family ownership and board size on one side, and to their demographic attributes on the other side. Such findings support the merits of fair hiring processes (Alder and Gilbert 2006), and open the debate with respect to reverse findings. On one side, the benefits of gender diversity are strongly supported, thus advocating gender balance within boardrooms. For example, achieving a critical mass of women on boards can contribute to improving innovations in the business and therefore to improving the firm's performance (Torchia et al. 2011). Moreover, the composition and skills of the board of directors (i.e., their educational level, knowledge, and expertise) can be strong drivers of innovations (Calabro 2011). Such a stream of research supports a global cultural change in terms of diversity management at the human resources level (Martin-Alcazar et al. 2012) and reinforces the requirement for critical quotas of female representation within boardrooms (e.g., as set by the European Union Justice Commissioner and the Financial Reporting Council at the end of 2010).[8]

In January 2011, France attempted to mimic Norway in promoting women through a new law on gender diversity in French boardrooms. Over the coming 6 years, it will be compulsory for larger firms to have boards where at least 40 % of the directors are female (i.e. the same quota figure as in Norway). Minimal gender quotas have strong opponents, including some women, who see them as tokenism with respect to gender diversity. Hence, imposing quotas to create gender balance is probably not the best practice. Indeed, the presence of women may lead to stronger conflicts within the board if they are appointed following societal pressures rather than on the basis of their merit, skills, and business credentials (Campbell and Minguez-Vera 2008). Moreover, conflicts can also arise when firms are forced to change the composition of their boards in response to legal reforms rather than on the basis of voluntary appointments (Ahern and Dittmar 2010).

[8] The interested reader can find more practical and legal updated information at http://www.grant-thornton.co.uk/thinking/the_boardroom/index.php/governanceregulations_templates/article/pressure_remains_on_companies_to_improve_female_representation_on_boards/.

Constrained board structures, where a board of directors has to include a quota of women, have a negative impact on the firm's value in well-governed firms (Adams and Ferreira 2009), mainly due to the lack of experience and expertise of appointed female directors (Ahern and Dittmar 2010).

Future research should thus investigate whether the mandatory (as opposed to voluntary) appointment of women within corporate boards improves the efficiency and performance of French companies. Specifically, we should address the following question in the light of compliance with ethical standards: Do quotas of women mitigate gender discrimination in recruitment to board-rooms? Will demographic attributes still be relevant in the recruitment of women directors when female board quotas are implemented? Do women's quotas really help break the second glass-ceiling effect when this concerns their appointment as non-executive directors or to one of the more relevant operating committees?

References

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

Adams, S. M., & Flynn, P. M. (2005). Local knowledge advances women's access to corporate boards. *Corporate Governance: An international Review, 13*(6), 836–846.

Adams, R. B., & Mehran, H. (2003). Is corporate governance different for bank holding companies. *Economic Policy Review, 9*, 123–142.

Ahern, K. R., & Dittmar, K. D. (2010). The changing of the boards: The value effect of a massive exogenous shock, mimeo. University of Michigan.

Akaah, I. P. (1989). Differences in research ethics judgments between male and female. *Journal of Business Ethics, 8*(5), 375–381.

Alder, G. S., & Gilbert, J. (2006). Achieving ethics and fairness in hiring: Going beyond the law. *Journal of Business Ethics, 68*(4), 449–464.

Anderson, R. C., Reeb, D. M., Upadhyay, A., & Zhao, W. (2011). The economics of director heterogeneity. *Financial Management, 40*(1), 5–38.

Arfken, D. E., Bellar, S. L., & Helms, M. M. (2004). The ultimate glass ceiling revisited: The presence of women on corporate boards. *Journal of Business Ethics, 50*(2), 177–186.

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

Beasley, M. S. (1996). An empirical analysis of the relation between the board of director composition and financial statement fraud. *The Accounting Review, 71*, 443–465.

Ben Amar, W., Francoeur, C., Hafsi, T., & Labelle, R. (2012). What makes better boards? A closer look at diversity and ownership. *British Journal of Management*. doi:10.1111/j.1467-8551.2011.00789.x

Bergeron, D. M., Block, C. J., & Echtenkamp, A. (2006). Disabling the able: Stereotype threat and women's work performance. *Human Performance, 19*(2), 133–158.

Bernardi, R. A., & Arnold, D. F. (1997). Examination of moral development within public accounting by gender, staff level, and firms. *Contemporary Accounting Research, 14*(4), 653–668.

Bhagat, S., & Bolton, B. (2008). Corporate governance and firm performance. *Journal of Corporate Finance, 14*, 257–273.

Bhagat, S., Bolton, B., & Romano, R. (2008). The promise and peril of corporate governance indices. *Columbia Law Review, 108*, 1803–1882.

Bilimoria, D. (2000). Building the business case for women corporate directors. In R. J. Burke & M. C. Mattis (Eds.), *Women on corporate boards of directors: International challenges and opportunities* (pp. 25–40). Dordrecht: Kluwer.

Bilimoria, D., & Piderit, S. K. (1994). Board committee membership: Effects of sex-based bias. *Academy of Management Journal, 37*, 1453–1477.

Bloch, L., & Kremp, E. (2001). Ownership and voting power in France. In F. Barca & M. Becht (Eds.), *The control of corporate Europe*. Oxford: Oxford University Press.

Brammer, S., Millington, A., & Pavelin, S. (2007). Gender and ethnic diversity among UK corporate boards. *Corporate Governance: An International Review, 15*(2), 393–403.

Brickley, J. A., Coles, J. L., & Jarrell, G. (1997). Leadership structure: Separating the CEO and chairman of the board. *Journal of Corporate Finance, 3*, 189–220.

Broome, L. L. (2008). The corporate boardroom: Still a male club. *Journal of Corporation Law, 33*(3), 665–680.

Broome, L. L., Conley, J., & Krawiek, K. (2011). Dangerous categories: Narrative of corporate board diversity. *North Carolina Law Review, 89*(3), 759–808.

Broye, G., & Schatt, A. (2003). Sous–évaluation à l'introduction et cessions d'actions par les actionnaires d'origine : le cas français. *Finance Contrôle Stratégie, 6*(2), 67–89.

Bugeja, M., Spiropoulos, H., & Matolcsy, Z. (2011). The association between gender–diverse compensation committees, CEO Compensation and Firm Performance. Available at SSRN: http://ssrn.com/abstract=1944972.

Burgess, Z. M., & Tharenou, P. (2000). What distinguishes women nonexecutive directors from executive directors? In R. J. Burke & M. C. Mattis (Eds.), *Women in management: International challenges and opportunities* (pp. 111–127). Dordrecht: Kluwer.

Burgess, Z., & Tharenou, P. (2002). Women board directors: Characteristics of the few. *Journal of Business Ethics, 37*(1), 39–49.

Burke, R. J. (1997). Women on corporate boards of directors: A needed resource. *Journal of Business Ethics, 16*(9), 909–915.

Burke, R. (2000). Company size, board size, and the numbers of women corporate directors. In R. Burke & M. Mattis (Eds.), *Women on corporate boards of directors: International challenges and opportunities* (pp. 118–125). Dordrecht: Kluwer.

Burke, R. J., & McKeen, C. A. (1990). Mentoring in organizations: Implications for women. *Journal of Business Ethics, 9*(4–5), 317–332.

Calabro, A. (2011). Boards of directors and state-owned enterprises' innovation. In *Governance structure and mechanisms in public service organizations—theories, evidence and future directions* (Chap. 5, pp. 93–120), Springer, Berlin.

Cameron, A. C., & Trivedi, P. K. (2005). *Microeconometrics: Methods and applications*. Cambridge: Cambridge University Press.

Campbell, K., & Minguez-Vera, A. (2008). Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics, 83*(3), 435–451.

Carpenter, M. A., Sanders, G. W., & Gregersen, H. B. (2001). Bundling human capital with organizational context: The impact of international assignment experience on multinational firm performance and CEO pay. *Academy of Management Journal, 44*(3), 493–511.

Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003). Corporate governance board diversity, and firm value. *Financial Review, 38*, 33–53.

Claessens, S., Djankov, S., & Lang, L. (2000). The separation of ownership and control in East Asian corporations. *Journal of Financial Economics, 58*(1–2), 81–112.

Cox, D. R. (1983). Some remarks on overdispersion. *Biometdka, 70*(1), 269–274.

Croson, R., & Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic Literature, 47*(2), 448–474.

Dalton, D. R., Daily, C. M., Johnson, J. L., & Ellstrand, A. E. (1999). Number of directors and financial performance: A meta analysis. *Academy of Management Journal, 42*(6), 674–686.

De Cabo, R. M., Gimeno, R., & Nieto, M. J. (2012). Gender diversity on European bank's boards of directors. *Journal of Business Ethics, 109*(2), 145–162.

Dobbin, F., & Jung, J. (2011). Corporate board gender diversity and stock performance: The competence gap or institutional investor bias? *North Carolina Law Review, 89*(3), 809–838.

Doldor, E., Vinnicombe, S., Gaughan, M., Sealy, R. (2012). Gender diversity on boards: The appointment process and the role of executive search firms. *Equality and Human Rights Commission Research Report, 85*.

Elstad, B., & Ladegard, G. (2010). Women on corporate boards: Key influencers or tokens? *Journal of Management and Governance, 14*(1), 1–21.

Erhardt, N., Werbel, J., & Shrader, C. (2003). Board of director diversity and firm financial performance. *Corporate Governance*, *11*(2), 102–111.

Faccio, M., & Lang, L. H. P. (2002). The separation of ownership and control: An analysis of ultimate ownership in Western European corporations. *Journal of Financial Economics, 65*(3), 365–395.

Fama, E. F., & Jensen, M. C. (1983). Agency Problems and Residual Claims. *Journal of Law and Economics*, *26*(2), 327–349.

Falkenberg, L., & Monachello, M. (1990). Dual-career and dual-income families: Do they have different needs? *Journal of Business Ethics, 9*(4–5), 339–351.

Fama, E. F. (1980). Agency problems and the theory of the firm. *Journal of Political Economy, 88*(2), 288–307.

Farrell, K. A., & Hersch, P. L. (2005). Additions to corporate boards: The effect of gender. *Journal of Corporate Finance, 11*(1–2), 85–106.

Financial Reporting Council. (2010). UK corporate governance code 2010. http://www.frc.org.uk/corporate/ukcgcode.cfm.

Francoeur, C., Labelle, R., & Sinclair-Desgagné, B. (2008). Gender diversity in corporate governance and top management. *Journal of Business Ethics, 81*(1), 83–95.

Franke, G. R., Crown, D. F., & Spake, D. F. (1997). Gender differences in ethical perceptions of business practices: A social role theory perspective. *Journal of Applied Psychology, 82*, 920–934.

Fuqua, D. R., & Newman, J. L. (2006). Moral and ethical issues in human systems. *Consulting Psychology Journal: Practice and Research, 58*(4), 206–215.

Galbreath, J. (2011). Are there gender-related influences on corporate sustainability? A study of women on boards of directors. *Journal of Management and Organization, 17*(1), 17–38.

Gompers, P. A., Ishii, J. L., & Metrick, A. (2003). Corporate governance and equity prices. *Quarterly Journal of Economics, 118*(1), 107–155.

Gregory, A. (1990). Are women different and why are women thought to be different? Theoretical and Methodological Perspectives. *Journal of Business Ethics, 9*(4–5), 257–266.

Gul, F. A., Srinidhi, B., & Ng, A. C. (2011). Does board gender diversity improve the informativeness of stock prices? *Journal of Accounting and Economics, 51*(3), 314–338.

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review, 9*, 193–206.

Harris, I. C., & Shimizu, K. (2004). Too busy to serve? An examination of the influence of overboarded directors. *Journal of Management Studies, 41*(5), 775–798.

Harrison, D. A., & Klein, K. J. (2007). What's the difference? Diversity constructs as separation, variety, or disparity in organizations. *Academy of Management Review, 32*(4), 1199–1228.

Hermalin, B. E., & Weisbach, M. S. (1998). Endogenously chosen boards of directors and their monitoring of the CEO. *American Economic Review, 88*(1), 96–118.

Hermalin, B. E., & Weisbach, M. S. (2003). Boards of directors as an endogenously determined institution: A survey of the economic evidence. *Economic Policy Review, 9*, 7–26.

Hillman, A. J., Cannella, A. A., & Paetzold, R. L. (2000). The resource dependence role of corporate directors: Strategic adaptation of board composition in response to environmental change. *Journal of Management Studies, 37*(2), 235–255.

Hillman, A. J., & Dalziel, T. (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management Review, 28*(3), 383–396.

Hillman, A. J., Shropshire, C., & Canella, A. A. Jr. (2007). Organizational predictors of women on corporate boards. *Academy of Management Journal, 50*(4), 941–952.

Holton, V. (2000). Taking a seat on the board: Women directors in Britain. In R. J. Burke & M. C. Mattis (Eds.), *Women on corporate boards of directors: International challenges and opportunities* (pp. 145–156). London: Kluwer.

Hossain, M., Cahan, S. F., & Adams, M. B. (2000). The investment opportunity set and the voluntary use of outside directors: New Zealand evidence. *Accounting and Business Research, 30*, 263–272.

Hyland, M. M., & Marcellino, P. A. (2002). Examining gender on corporate boards: A regional study. *Corporate Governance: An International Review, 2*(4), 24–31.

Institute of Business Ethics. (2011). Business ethics and board diversity. *Business Ethics Briefing, 21*(September), 1–6.

Johnson, R. A., & Greening, D. W. (1999). The effects of corporate governance and institutional ownership types on corporate social performance. *Academy Management Journal*, *42*(5), 564–576.

Kang, E., Ding, D. K., & Charoenwong, C. (2010). Investor reaction to women directors. *Journal of Business Research, 63*, 888–894.

Kesner, I. F. (1988). 'Directors' characteristics and committee membership: An investigation of type, occupation, tenure, and gender. *Academy of Management Journal, 31*(1), 66–84.

Kitchener, K. S., & Anderson, S. K. (2011). *Foundations of ethical, practice, research, and teaching in psychology and counseling* (2nd ed.). New York: Routledge.

Klein, A. (2002). Audit committees, board of director characteristics and earnings management. *Journal of Accounting and Economics, 33*(3), 375–400.

Krishnan, G. V., & Parsons, L. M. (2007). Getting to the bottom line: An exploration of gender and earnings quality. *Journal of Business Ethics, 78*(1–2), 65–76.

La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. *Journal of Finance, 54*(2), 471–513.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2002). Investor protection and corporate valuation. *Journal of Finance, 57*, 1147–1170.

Labelle, R., Makni Gargouri, R., & Francoeur, C. (2010). Ethics, diversity management, and financial reporting quality. *Journal of Business Ethics, 93*(2), 335–353.

Larkin, M. B., Bernardi, R. A., & Bosco, S. M. (2012). Board gender diversity, corporate reputation and market performance. *The International Journal of Banking and Finance, 9*(1), 1–26.

Lester, R. H., & Canella, A. A. (2006). Interorganizational familiness: How family firms use interlocking directorates to build community-level social capital. *Entrepreneurship Theory and Practice, 30*(6), 755–776.

Li, C. A., & Wearing, B. (2004). Between glass ceilings: Female non-executive directors in UK quoted companies. *International Journal of Disclosure and Governance, 1*(4), 355–372.

Luckerath-Rovers, M. (2011). Women on boards and firm performance. *Journal of Management and Governance*. doi:10.1007/s10997-011-9186-1 (published online).

Mak, Y. T., & Li, Y. (2001). Determinants of corporate ownership and board structure: Evidence from Singapore. *Journal of Corporate Finance, 7*(3), 235–256.

Martin-Alcazar, F., Romero-Fernandez, P. M., & Sanchez-Gardey, G. (2012). Transforming human resource management systems to cope with diversity. *Journal of Business Ethics, 107*(4), 511–531.

Mattis, M. C. (1993). Women directors: Progress and opportunities for the future. *Business & the Contemporary World, 5*(3), 140–156.

Mattis, M. C. (2000). Women corporate directors in the United States. In R. J. Burke & M. C. Mattis (Eds.), *Women on corporate boards of directors* (pp. 43–56). Dordrecht: Kluwer.

McNulty, T., Pettigrew, A., Jobome, G., & Morris, C. (2011). The role, power and influence of company chairs. *Journal of Management and Governance, 15*(1), 91–121.

Newman, J. L., & Fuqua, D. R. (2006). What does it profit an organization if it gains the whole world and loses its own soul? *Consulting Psychology Journal: Practice and Research, 58*(1), 13–22.

Newman, J. L., Gray, E. A., & Fuqua, D. R. (1996). Beyond ethical decision making. *Consulting Psychology Journal: Practice and Research, 48*(4), 230–236.

Ng, E. S., & Sears, G. J. (2012). CEO leadership styles and the implementation of organizational diversity practices: Moderating effects of social values and age. *Journal of Business Ethics, 105*(1), 41–52.

O'Connor, T. (2006). Cross listing in the US and domestic investor protection. *Quarterly Review of Economics and Finance, 46*, 413–436.

Oakley, J. G. (2000). Gender-based barriers to senior management positions: Understanding the scarcity of female CEOs. *Journal of Business Ethics, 27*(4), 321–334.

Peterson, C. A., & Philpot, J. (2007). Women's role on US fortune 500 boards: Director expertise and committee memberships. *Journal of Business Ethics, 72*(2), 177–196.

Rhode, D. L., & Packel, A. K. (2010). Diversity on corporate boards: How much difference does difference make? Rock Center for Corporate Governance, Working paper series 89

Rock, S., Stanley, S., & Willenborg, M. (2001). Analyst following and count-data econometrics. *Journal of Accounting & Economics, 30*(3), 351–373.

Rodriguez-Dominguez, L., Gallego-Alvarez, I., & Garcia-Sanchez, I. (2009). Corporate governance and codes of ethics. *Journal of Business Ethics, 90*(2), 187–202.

Rose, C. (2007). Does female board representation influence firm performance? *Corporate Governance, 15*(2), 404–413.

Ruigrok, W., Peck, S., & Tacheva, S. (2007). Nationality and gender diversity on swiss corporate boards. *Corporate Governance, 15*(4), 546–557.

Ryan, M. K., & Haslam, S. A. (2007). The glass cliff: Exploring the dynamics surrounding women's appointment to precarious leadership positions. *Academy of Management Review, 32*(2), 549–572.

Sheridan, A., & Milgate, G. (2005). Accessing board positions: A comparison of women's and men's views. *Corporate Governance: An International Review, 13*(6), 847–855.

Singh, V., Kumra, S., & Vinnicombe, S. (2002). Gender and impression management: Playing the promotion game. *Journal of Business Ethics, 37*(1), 77–89.

Singh, V., & Point, S. (2006). (Re)Presentations of gender and ethnicity in diversity statements on European company websites. *Journal of Business Ethics, 68*(4), 363–379.

Singh, V., Terjesen, S., & Vinnicombe, S. (2008). Newly appointed directors in the boardroom: How do women and men differ? *European Management Journal, 26*(1), 48–58.

Singh, V., Vinnicombe, S., & Johnson, P. (2001). Women directors on top UK boards. *Corporate Governance: An International Review, 9*(3), 206–216.

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

Sun, J., Liu, G., & Lan, G. (2011). Does female directorship on independent audit committees constrain earnings management? *Journal of Business Ethics, 99*(3), 369–382.

Terjesen, S., Sealy, R., & Singh, V. (2009). Women directors on corporate boards: a review and research agenda. *Corporate Governance: An International Review, 17*(3), 320–337.

Terjesen, S., & Singh, V. (2008). Female presence on corporate boards: A multi-country study of environmental context. *Journal of Business Ethics, 83*(1), 55–63.

Torchia, M., Calabro, A., & Huse, M. (2011). Women directors on corporate boards: From tokenism to critical mass. *Journal of Business Ethics, 102*(2), 299–317.

Ueng, J., Koehn, D., & Chang, C. L. (2009). Relationships between director profile and restatements of suspect earnings. *Journal of Business & Economics Research, 7*(4), 75–92.

Vafeas, N. (1999). Board meeting frequency and firm performance. *Journal of Financial Economics, 53*(1), 113–142.

Vinnicombe, S., Sealy, R., Graham, J., & Doldor, E. (2010). The female FTSE board report 2010. Opening up the appointment process. International Centre for Women Leaders, Cranfield School of Management.

Westphal, J. D., & Milton, L. P. (2000). How experience and network ties affect the influence of demographic minorities on corporate boards. *Administrative Science Quarterly, 45*(2), 366–398.

Williams, R. J. (2003). Women on corporate boards of directors and their influence on corporate philanthropy. *Journal of Business Ethics, 42*(1), 1–10.

World Development Report. (2012). *Gender equality and development*. World Bank.