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Women on French Corporate Board of Directors: How Do They Differ from their Male Counterparts?

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Abstract

Our research aims at exploring individual's characteristics of women on Boards in the French context. In the first part of our paper, we discuss the different theoretical frameworks which supported the business case of gender diversity on Boards of Directors and expose our hypothesis regarding differences in women and men characteristics. The second part presents our methods, measurements and data. Then, we focus on our empirical study. Our sample consists of the French Index SBF 120 companies. We studied the profile of 1,250 directors collecting information from the firms' annual reports of year 2010, using various scales defined by previous research on that field in the Anglo –Saxon literature. Our findings confirm that integrating women on boards has an impact on the Human and Social Capital of Boards but not as much as might have been expected. The French context in many ways is quite similar to what has been identified through research in many other European countries. Nonetheless, our work shows some significant differences between men and women on a few points especially regarding professional experience, top management experience and board member status.

Keywords: corporate boards; corporate governance; diversity; gender.

INTRODUCTION

Women's presence in corporate boards has been slowly increasing in France over the last ten years from about 6% of all seats in 1998 to 10% in 2009 (IFA, ORSE, & EPWN, 2009). Following Norway, Québec and Spain, French legislators had been working since 2006 on a law establishing quotas for women on boards, which was passed in January 2011. It promulgated that by 2016, 40 % of board members of the largest listed or non-listed companies (with more than 500 employees and a turnover exceeding 50 million Euros) should be women. As a consequence, female board membership reached 15% in 2010 (Boutant & Garriaud-Maylam, 2010).

Research on women on boards in France is still scarce (Belghiti-Mahut & Lafont, 2010; Martin & Pignatell, 2004; Moulin & Point, 2012b, 2012a; Nekhili & Gatfaoui, 2013). It has highlighted some features previously mentioned in the Anglo-Saxon literature, among others the relationship between family ownership and the number of female administrators (Moulin & Point, 2012a) and some positive links with firms' performance (Belghiti-Mahut & Lafont, 2010). However, many questions have not been explored yet, especially regarding female administrators' individual characteristics, well documented in Anglo-Saxon countries. Our study focuses on the characteristics of female administrators in French large and mid-capitalized companies belonging to the SBF120 stock market index.

The remainder of the article is organized as follows. Section 1 provides a review of the literature, in which we firstly discuss the theoretical framework and secondly develop our research hypotheses. Section 2 describes the sample, the measures, and the methods of analysis. Section 3 describes the study's findings. Finally, in section 4, we discuss our results and present the limitation of the study, as well as the suggestions for further research.

1. LITERATURE REVIEW

In section 1.1, we present the theoretical framework. Specifically, we develop the theories of agency, resource dependency and human capital, as well as the concept of social capital. In Section 1.2, we present our research hypotheses regarding the differences in female and male directors' characteristics.

1. Theoretical framework

Although research on board members has mostly been descriptive, two main theoretical perspectives have been used to account for their potential input to firm's performance (Johnson,

Schnatterly, & Hill, 2013) Agency Theory (Jensen & Meckling, 1976) and Resource Dependency Theory (Pfeffer & Salancik, 1978), both coupled with human and social capital theories.

Agency theory

Agency Theory provides rationale for increasing the presence of women in boards. It describes the relationship between a principal (*e.g.*, shareholder) and the agent of the principal (*e.g.*, directors and managers) in charge of aligning interests across groups. It stipulates that outside directors will act as good monitors for shareholders' interest (Terjesen, Sealy, & Singh, 2009). As Nekhili & Gatfaoui (2013) put it forward, the gender composition of boardrooms may have an impact on corporate governance, to the extent that female directors would be tougher monitors (Adams & Ferreira, 2009; Farrell & Hersch, 2005).

Resource dependency theory

According to Resource Dependency Theory, board linkages provide important resources such as advice/counsel, legitimacy and communication channels (Daily, Dalton, & Cannella, 2003; Pfeffer & Salancik, 1978). These resources derive from board members' human capital (business knowledge, financial or legal expertise, management experience, etc...) but also from their social capital, i.e. their relationships with various business networks and stakeholders (Hillman & Dalziel, 2003; Singh, Terjesen, & Vinnicombe, 2008). These two forms of capital had contributed to the exclusion of women from boards since there were very few females in top business positions and economic power networks. The situation seems to be changing as more women reach directors positions and gain business experience. A business case for women in boards has been progressively developed, supported by a few empirical studies (Burke, 1997; Carter, Simkins, & Simpson, 2003; Erhardt, Werbel, & Shrader, 2003).

Human capital

As Singh et al. (2008) point out, human capital theory provides a very interesting basis for analyzing gender's differences among directors. Specifically, human capital deals with individual's education, knowledge, skills and experience, which in turn enhance cognitive and productive capabilities for the individual and the firm (Becker, 1964). Women who have attained a certain social status, such as directorships, are likely to have high level of education and relevant experience. To our best knowledge, few studies have analyzed gender board characteristics: for instance, Burke (1997) examines a small number of demographic characteristics and Burgess & Tharenou (2002) are only interested in female directors characteristics. Only two studies have a thorough

analysis: Hillman, Cannella, & Harris (2002) and Singh et al. (2008). Hillman et al. (2002) study, among other things, the human capital of *Fortune* 1000 female and male directors, based on taxonomy of director roles.¹ They find differences in occupational background and education. Specifically, female directors are more likely to come from non-business backgrounds, and are more likely to hold advanced degrees. In the same vein, Singh et al. (2008) investigate the human capital of new board members among FTSE 100 companies. They find that female directors are more likely to possess an advanced diploma (MBA) and to be more international.

Social capital

Coleman (1990) defines social capital as any aspect of social capital that creates value and facilitates the actions of the individuals within a social structure. Applied to directors, social capital broadly concerns three matters: directors' ties to other organizations, personal relationship with firm managers, and social standing. Such social relationships are supposed to affect director's behavior and the board as a whole (Johnson et al., 2013).. Due to historical reasons, French business elite presents two specific patterns (Swartz, 1985). Firstly, most business leaders in France are educated in one of the France's higher elite schools, the so-called: "Grandes Écoles": where the entrance into one of these prestigious schools is fierce, through a nationwide competitive examination with *numerous clausus*. The graduates of these *Grandes Écoles* form and maintain strong networks (Kadushin, 1995). Secondly, many of French business elite and political leaders have spent their first years on the labor market as civil-servant. The best students of *ENA* or *Polytechnique* systematically join one of the prestigious bureaucratic careers or the so-called Grand corps de l'État (Bourdieu, 1996). As a rule and not only in France, attendance to prestigious educational establishments gives legitimacy and reputational advantage (Maclean, Harvey, & Chia, 2010).

Apart from education, business networks built through professional experience also potentially provide strong social capital for board members. It is therefore important to examine the educational and professional background of board members, men and women, which provide both human and social capital.

¹ Insiders, business experts, support specialists, and influential community members.

2. Hypotheses

Director demographics

In this study, key demographics encompass age and education (Johnson et al., 2013). In general, the literature assumes that these demographics affect director's cognition, behaviors, and more generally the decision-making process. This has *in fine* the effect to influence significantly firm-level outcomes (Forbes & Milliken, 1999).

Age. Generally, a director's age reflects his (or her) general business experience, maturity, and background (Bilimoria & Piderit, 1994b). As highlighted by Terjesen et al. (2009), many studies point out that female directors are significantly younger than their male counterparts. Simpson, Carter, & D'Souza (2010), in the U.S., and Terjesen et al. (2009), in the U.K., show that women's average age is respectively 57 and 53 years old, compared to 62 and 57 for male directors. Thus, we propose the following:

Hypothesis 1: female directors will be younger than male directors.

Education. The education level is perceived as affecting director's cognition and decision-making (Johnson et al., 2013). It is frequently argued that women lack adequate knowledge for board position. As regards education, research results are mixed. A European study (cf. IFA et al., 2009) reveals that male board members would be more numerous to hold business related degrees than their female counterparts. This is also the case in a Swiss study, where WOCB's education is more frequently than men's under bachelor level (*étude*) (Ruigrok, Peck, & Tacheva, 2007). However, US studies reveal that WOCBs hold more advanced diplomas than their male counterparts (Hillman et al., 2002). In the UK, Singh et al. (2008), in their study of new directors of the *FTSE* 100 firms, find that women are more likely to have MBA degrees than men. A recent French study confirms 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 (Nekhili & Gatfaoui, 2013).

As emphasized by Hillman et al. (2002), education represents for women a key resource for securing recognition of her achievement and her expertise. Having a college degree indicates a basic level of expertise and road to success; a graduate degree denotes more credibility and a certain degree of expertise; finally, a doctorate degree represents the highest level of knowledge and work experience (Hillman et al., 2002).

Hypothesis 2: Women directors will be more likely to have higher educational qualifications than will men directors.

Human capital

Characteristics related to human capital include generally the skills and the experience that an individual director brings to the decision-making process to the board of directors. These can range from knowledge of an industry, experience as a CEO, etc. (cf. Johnson et al., 2013). Such experiences affect director's behaviour: what they pay attention to and how they made their decision. In this study, human capital characteristics encompass: (a) expertise profiles; (b) functional background; (c) insider/outsider status of director, and (d) board tenure.

Expertise profiles. As Hillman et al. (2002) point out, each director brings a unique set of resources to the organization and to the board of directors. According to the Resource Dependency theory (Pfeffer, 1972; Pfeffer & Salancik, 1978), a variety of director's expertise profiles enhances the expertise of the board of directors, as well as the linkages to other organizations. This logic can be understood as assembling a portfolio of directors with various skills and expertise, linkages with external contingencies for communication and the provision of resources, as well as legitimacy to organizations (Hillman et al., 2002; Hillman, Shropshire, & Cannella, 2007). Based on this theory (Hillman et al., 2002; Hillman, Cannella, & Paetzold, 2000), the literature has come to distinguish "Business experts" – CEOs or senior managers in large firms who provide knowledge in business environment and management-, from "Support specialists" - who bring specialized knowledge in law, banking, marketing, etc. – and "Community influential" – who have non-business perspectives on issues and relationships with groups in the community. This category of directors includes politicians, university representatives and other community leaders.

As for female board members, Hillman et al. (2002) found that female directors are more likely to come from non-business backgrounds. This is confirmed, also in the US context, by (Simpson et al., 2010): "the results suggest that a higher percentage of women directors than men directors have academic, consulting, and medicine backgrounds" (p. 32). In Singh et al. (2008) UK Study, females directors were significantly less likely to be Executive Directors, but were no less likely than males to be business experts. Women were, however, more likely to be support specialists. More women than men fell into the community influential category. Finally, a Canadian study highlighted that women who are appointed to all male boards are more likely to be support specialists with a specific financial or legal expertise (Dunn, 2010).

Hypothesis 3: Women directors will be more likely to hold Support specialist and Community influential profiles than will be men directors.

Functional background. Functional expertise of directors also pertains to their human capital, in a slightly different manner than the previous variable however since it directly influences their skills and competences: CEO and COB experiences are particularly appreciated among board members, along with line management functions. Experts and staff functions provide more specialised knowledge. This variable seems to account for significant differences between men and women directors. Previous studies show that women are less likely to be CEO or COB of the company for which they serve as a director than men (Simpson et al., 2010). They also seem to be coming more frequently than men from staff functions (Zelechowski & Bilimoria, 2004).

Hypothesis 4: Women directors will be more likely to hold non-management background than will be men directors.

Insider versus outside experience. Corporate boards' members can have different function in the board. Whereas insiders are usually employed by the firm and offer specific knowledge, independent or outside directors provide independent monitoring and control. In the European context, it is worthwhile to distinguish, among insiders, the family shareholders' representatives and the employees' representatives in case of employees' stock ownership plans.

In the US literature on women in boards, it appears that women are more likely to be independent directors (Adams & Flynn, 2005; Kesner, 1988; Simpson et al., 2010). This is also the case in the UK (Sealy, Vinnicombe, & Singh, 2009) and in Switzerland (Ruigrok et al., 2007).

Hypothesis 5a: Women directors will be more likely to independent directors than will be man directors.

Regarding Family-owned firms, various studies (Campbell & Mínguez-Vera, 2008; Moulin & Point, 2012b, 2012a; Ruigrok et al., 2007) show that women are more numerous in the boards of family-controlled firms, which would mean that women directors are more frequently than men recruited within families.

Hypothesis 5b: Women directors are more likely to be Family owners' representatives than will be men directors.

Last, a European study states that women are particularly numerous in German boards due to their pre-eminence among employees' representatives (IFA et al., 2009).

Hypothesis 5c: Women directors will be more likely to be Employees' representatives than will be men directors.

Board tenure: According to the last figures presented in the AMF² report issued in October 2012, 21% of administrators have a minimum of 3 board tenures and 9% a minimum of 5. Regarding the influence of networks in the administrators' recruitment processes, a significant number of administrators have several board tenures. Women being quite newcomers in boards and experience being one of the recruitment criteria, it might seem relevant to think, they might have less board tenure than their male counterpart.

Hypothesis 6: Women directors will have less tenure in boards than men directors.

Social capital

Directors' social relationships impact both his (or her) behaviour within the board of directors, as well as the conduct of the latter as a whole. Broadly, and according to Johnson et al. (2013), social capital can be spitted into three types: directors' ties to other organizations; personal relationships with firm managers, and social standing.

Based on the work of Singh et al. (2008) regarding the human capital of directors and in order to take into account French specificities (following the work of Bourdieu, 1996), we specifically analyse the prestige and the elitism of educational institutions (*Grandes Écoles* and foreign elite institutions) and the *Grand corps de l'Etat* (e.g., Bourdieu, 1996). In fact, we postulate that these two features genuinely characterize the social capital of French directors.

Status/prestige of education

According to Terjesen et al. (2009), women must provide more evidence than would her male counterpart to be perceived as high-achievers. The question can thus be raised, whether women administrators attended more frequently than men an elite school (Bond, Glouharova, & Harrigan, 2010). Singh et al. (2008) showed that newly appointed women were more likely to hold degrees from elite educational institutions than men. We may expect similar results in the French context, which grants particular importance to the educational background and is characterized by the "Grandes Écoles" elitist system.

Hypothesis 7: Women directors will be more likely to come from elite schools than will men directors.

Grands corps

This is another French specificity which accounts for traditionally strong links between large firms' boards and the French Government (Bourdieu, 1996; Moulin & Point, 2012b). Many grad-

² AMF stands for *Autorité des Marchés Financiers*, which means Financial Market Authority. It is the stock market regulators in France.

uates from these Elite schools, which train high-flying civil servants, had and still have albeit to a lesser extent privileged access to top positions in large French firms. Due to the predominance of science and engineering schools in these “Grands Corps”, we expect women to be less likely than men to belong to them.

Hypothesis 8: Women directors will be less likely to belong to the “Grands Corps” than will be men directors.

2. METHODS

Section 2.1 presents the sample of this study. In section 2.2, we detail our measures related to the board composition in terms of social capital, human capital, and demographics. Finally, Section 2.3 explains the data analysis.

2.1. Sample design

The initial sample of this study consists of all the 120 French companies that make up the SBF 120 index at the end of the fiscal year 2010 (at December).³ This index gathers the 120 largest companies in terms of market value and by trading volume listed on *Euronext* Paris. Consistent with Jeanjean & Stolowy (2009), this study includes both boards of directors (*conseils d’administration*) and supervisory boards (*conseils de surveillances*). Indeed, the French legal system allows firms to have a one-tier or a two-tier board structure (which includes the supervisory board and a management board called the “Directoire”).

We collect board of director information from the firms’ annual report (*document de référence*) and website. In the same way as Ahern & Dittmar (2012), we hand-collected the director’s name, gender, age, nationality, education, occupation, functional background, executive ranking, and year first appointed to the board.

Consistent with Hillman et al. (2007) and Ahern & Dittmar (2012), we identify the director’s gender through four steps: first, we use the annual report which often provides this information (in the biography section). Second, we use the gender-specific pronouns such as “she” or “he”. Similarly, we resort to the form of address: “Mr.” and “Mrs.” Third, we use the first name of director to determine her or his gender (*e.g.*, Jacques = man and Sophie = woman). Fourth, we “Google” any ambiguous director.

Our final sample consists of **120** firms; **1,250** directors; and **11,474** observations for the fiscal year 2010.

³ SBF stands for “Société des Bourses Françaises”, which means Society of French stock exchanges.

2.2. Measures

Female board representation. Following Bilimoria & Piderit (1994a) or Zelechowski & Bilimoria (2004), among others, we measure the director's gender through a dummy variable, with 0 representing women and 1 representing men.

Age. Director age is operationalized as a continuous measure (Westphal & Zajac, 1995).

Education. Consistent with Wiersema & Bantel (1992) and Westphal & Zajac (1995), education background is divided into four categories: (a) less than a bachelor's degree; (b) less than a master's degree (*e.g.*, Bachelor's degree or below); (c) less than a doctoral degree (*e.g.*, Master's degree or other postgraduate degrees); and (d) a doctoral degree (*e.g.*, PhD or other comparable degree such as lawyer or Certified Public Accountant/ chartered accountant).

Director expertise profile. Director's occupation is coded on the resource-dependence categories suggested by Hillman et al. (2000) and Hillman et al. (2002). We take up their classification: (a) *business experts* are current and former senior officers of for-profit firms; (b) *Support specialists* include members of the financial community, insurance, public relations and marketing professions; and (c) *Community influentials* include academics, politicians, clergy, heads of non-profit foundations and other community or social celebrities (Hillman et al., 2002, p. 754).

Functional background. Consistent with Hambrick, Cho, & Chen (1996) and Zelechowski & Bilimoria (2004), among others, we define 6 functional background categories: (a) CEO, COO, and Chairman of the board; (b) Officer/Manager; (c) Expert; (d) Staff (non-operational, support or service functions, such as legal, human resources, communication, or public relations); (e) line (core operations of the firm, such as manufacturing, marketing, and finance); and (f) miscellaneous (*e.g.*, professor, politician, etc.).

Director type. Following Hermalin & Weisbach (1988) or Byrd & Hickman (1992), among others, each director is classified as either outsider (non-executive director – NED) or insider (executive director – ED). Independent outsider directors include those directors who have no affiliation with the firm other than their role as director. Inside directors are typically senior managers of the firm (*e.g.*, CEO or others officers of the firm). Also included in this category are affiliated outside directors, such as investment bankers, major customers or suppliers, particularly directors representing major shareholders. Indeed, on the one hand, Code of Governance (*Bouton* Report in France, *Higgs* in the UK or the *Sarbanes-Oxley* in the US) recommend to consider those directors as non-independent. On the other hand, against a backdrop of high ownership concentration, es-

pecially in Europe (Faccio & Lang, 2002), the conflict of interest does not lie between the manager and the shareholders, but rather between minority and majority shareholders (Shleifer & Vishny, 1997).

However, binary classification, in the French context, may somehow be imperfect to classify a director's type (as insider or outsider). Indeed, as Sraer & Thesmar (2007) point out, 60% of French listed companies are still held by family. Consequently, some women on corporate boards are likely to owe their board seat due to their family ties (*e.g.*, *Liliane Bettencourt*⁴ and her daughter *Françoise Bettencourt Meyers*). Also, a “family” director is an individual who has links with the founding family or the current officer (spouse, niece, etc.). Another special feature of French board of directors is the presence of employee-elected board members. In France, the law mandates their presence when employees hold 3% of the capital. Some employee-elected director may be a woman. We therefore distinguish this specific category of director. The purpose of this categorization is intended not to overestimate the number of insiders (NED).

Director type is measured as a dichotomous variable (for the four categories listed).

Board tenure. It is measured in years (Bilimoria & Piderit, 1994a).

Elite education. Inspired by the work of Bond et al. (2010) and Nguyen (2012), among others, we use a dichotomous variable that takes the value 1 if the director attended a French or and international institution and 0 otherwise. To define these elite institutions, we refer, on the one hand, to the work of (Nguyen, 2011, 2012). On the other hand, we use the *Academic Ranking of World Universities* (ARWU) in 2010 compiled by the *Shanghai Jiaotong University*. The list of selected elite institutions is provided in the [Appendix](#).

Grands corps de l'État. In line with Nguyen (2011, 2012), the *Grands corps* exclusively refer to: (a) the *Conseil d'État* (the Council of State); (b) the *Cour des comptes* (Court of Auditors); (c) the *Inspection générale des finances* (General Inspection of Finances); (d) the *Corps des Mines* (State Engineers of the Mines); (e) the *Ingénieur des ponts, des eaux et des forêts* (State Engineer of bridges, water, and forests); (f) the administrateurs of l'Insee (French National Institute for Statistics and Economic Studies); and (g) the *corps des ingénieurs de l'armement* (military engineer of weapons). We use a binary variable with 1 if the director held a position in a *Grands corps* and 0 otherwise.

⁴ Both are descendants of *Eugène Schueller* company founder of *L'Oréal*.

2.3. Data analysis

In order to analyze how female and male directors on French corporate boards differ in terms of demographics, human capital, and social capital, we use, in the same fashion as Ruigrok et al. (2007), two different methods of analysis.

On the one hand, consistent with Hillman et al. (2002) and Singh et al. (2008), among others, we use Chi-square analysis for the purpose of testing of our hypotheses. On the other hand, we use a logistic regression analysis in order to estimate the directors' characteristics that are attached to female directors compared to their male counterparts. For this purpose, we use individual directors' characteristics for fiscal year 2010. We specifically use logistic regression to the extent that this type of regression analysis is particularly appropriate when the dependent variable is a binary variable, and when the independent variables are a mixture of dichotomous (education, expertise, profile, functional background, insider/outsider status, elite school/institution, and *Grands corps*) and continuous (age and board tenure) variables (Bilimoria & Piderit, 1994a). Like Hillman et al. (2007), in order to facilitate the understanding of study results, we rather use odds ratio rather coefficients. Odds ratio represents the change in the likelihood of a dependent variable arising from a one-unit change in the independent variable.

3. RESULTS

Section 3.1 presents the results of univariate analysis, while section 3.2 presents the results of the logistic regression analysis related to differences in directors' characteristics.

3.1. Univariate analysis

Hypothesis 1 predicts that female directors are more likely to be younger than their male counterparts. Row 1 of Table 1 presents the descriptive statistics and the results of the Chi-square test. The average (mean) age of female directors is 53.57 (53.00) years, while the average age for men is 59.48 (61.00) years. Ages range from 30 to 88 for women compared to 31 to 86 for men. In our sample, female directors are significantly younger than their male colleagues. Indeed, the difference in age is significant at $p < 0.001$. Thus, hypothesis 1 is supported.

Row 2 of Table 1 also presents the results of hypothesis 2, that female directors will be more likely to have higher educational background than will men directors. This Table yields conflicting results: firstly, the difference in education across groups is significant at $p < 0.005$; secondly, approximately two-thirds of female directors have a master's degree (65.43%), compared with less than 60 percent for male directors (59.75%). The difference is not significantly at conven-

tional levels; thirdly, 21.60% of female directors have a Ph.D. or its equivalent, compared with 32.94% for their male colleagues. The chi-square test is 8.48 with p value of 0.004. Thus, male directors are more likely to have a doctoral degree than their female counterparts; fourthly and finally, the proportion of directors having at least a master's degree is significantly higher among male directors than female directors, respectively 92.69% and 87.04% ($\chi^2 = 6.20$ with p value 0.013). Taken together, hypothesis 2 is not supported.

Table 1
Director demographics

	Characteristic	Male	Female	p	Value
1	Age (n = 1,268 et n = 178)	59.48 (61.00)	53.57 (53.00)	0.000	32.06
2	Education (n = 1,190 et n = 162)				
	Less than a bachelor's degree	3.70% (44)	5.56% (9)	0.253	1.31
	Less than a master's degree	3.61% (43)	7.41% (12)	0.022	5.26
	Less than a doctoral degree	59.75% (711)	65.43% (106)	0.165	1.92
	Doctoral degree	32.94% (392)	21.60% (35)	0.005	8.48
	Statistic	p	value		
	Chi-square	0.005	12.87		

Hypothesis 3 predicts that female directors are more likely to be support specialist and community influential than male directors. Row 1 of Table 2 presents the results related to this hypothesis. As predicted, female directors are more likely to be community influential and support specialists than their male directors, respectively 14.61% and 44.94%, compared with 7.5% and 37.51%. The difference is significantly at $p < 0.002$ (p value = 11.39 and 5.10). Consistent with previous studies (*e.g.* Hillman et al., 2002), the male directors are far more likely to come from business background (54.78%) than their female colleagues (40.45%). The chi-square test is 11.04 with p value of 0.001. Therefore, hypothesis 3 is supported.

Hypothesis 4 predicts that female directors are more likely to hold non-management background. To test this hypothesis, we consider that management functions encompass the following positions: CEO, COO (Chief Operating Officer), and Chairman of the board, officer/manager, and line functions (Zelechowski & Bilimoria, 2004); while non-management backgrounds include expert, staff, and miscellaneous functions. The row 2 of Table 2 reveals that approximately 30% of female directors have a non-management function, compared with nearly 21% for male directors. The difference across functional background is significant at $p < 0.007$. Therefore, hypothesis 4 is supported.

Hypothesis 5 assumes that female directors are more likely to be: (a) independent; (b) family owners' representatives; and (c) employee-elected board member, than their male counterparts. Row 3 of Table 2 presents the results. Firstly, a Chi-square of differences regarding the insider/outsider status reveals statistically significant across categories. Secondly, female directors have significantly an outsider (or NED) status than their male colleagues (61.80% for women compared with 43.14% for men). The difference is significant at $p < 0.000$ (p value = 42.02). Consequently, hypothesis 5a is supported. Thirdly, approximately 10 percent of female directors have families ties, compared with less than 5 percent for male directors. The Chi-square test is 62.77 with p value of 0.000. This therefore means that female directors are more likely to have family affiliation than their male colleagues. Consequently, we validate hypothesis 5b. Fourthly and finally, row 3 of Table 2 shows that there are merely three times more directors employees' representatives among female (9.55%) than among male (3.39%). The difference is significant at the 1% level (p value = 14.98). Thus, hypothesis 5c is supported.

Row 4 of Table 2 shows that the average (median) board tenure is 3.73 (2.00) years for female directors, compared with 5.63 (4.00) years for male directors. The years of female service is significant less than the years of female services ($\chi^2 = 26.65$). As a result, hypothesis 6 is supported.

Table 2
Director's human capital

	Characteristic	Male	Female	<i>p</i>	Value
1	Expertise profile (n = 1,265 and 178)				
	Business experts	54.78% (693)	40.45% (72)	0.001	11.04
	Support specialist	37.51% (477)	44.94% (80)	0.024	5.10
	Community influential	7.51% (95)	14.61% (26)	0.001	11.39
	Statistic	<i>p</i>	value		
	Chi-square	0.000	12.87		
2	Functional background (n = 1,265 and n = 177)				
	CEO, COO, and Chairman of the board	44.19% (559)	27.68% (49)	0.000	17.35
	Officer/Manager	33.68% (426)	38.42% (68)	0.213	1.55
	Expert	13.75% (174)	10.73% (19)	0.269	1.22
	Staff	1.42% (18)	8.48% (15)	0.000	34.53
	Line	1.19% (15)	3.96% (7)	0.005	7.92
	Miscellaneous	5.47% (73)	10.73% (19)	0.011	6.41
	Statistic	<i>p</i>	value		
	Chi-square	0.000	59.65		
3	Insider/outsider status (n = 1,268 and n = 178)				
	Outsider (or NED)	43.14% (547)	61.80% (110)	0.000	42.01
	Insider (or ED)	49.37% (626)	18.41% (33)	0.000	62.77
	Family affiliation	4.10% (52)	10.11% (18)	0.002	12.35
	Employee-elected board member	3.39% (43)	9.55% (17)	0.001	14.98
	Statistic	<i>p</i>	value		
	Chi-square	0.000	70.44		
4	Board tenure (n = 1,266 and n = 179)	5.63 (4.00)	3.73 (2.00)	0.000	26.65

The underlying hypotheses 7 and 8 respectively assume, on the one hand, that female directors are more likely to graduate from elite schools (*Grandes Écoles*) in the French case or from elite institutions for foreign women. On the other hand, the female directors are less likely to be civil servants (*Grands corps de l'État*) than male counterparts. Table 3 presents the statistics and the results of a Chi-square test. Although the proportion of female and male directors graduate from elite schools/institutions is relative close (respectively 54.75% and 58.62%), it remains that the difference is significant at $p < 0.022$. There are significantly more graduated from elite schools/institutions among male directors than female directors. Therefore, we reject the hypothesis 7. On the other hand, we validate the hypothesis 8 to the extent that the difference regarding the civil service is statistically significant at $p < 0.005$ (p value = 26.65).

Table 3
Social capital characteristics

	Characteristic	Male	Female	<i>p</i>	Value
1	Elite institution (n = 1,271 and 179)	58.62%	54.75%	0.022	5.26
2	Grand corps de l'État (n = 1,271 and n = 179)	12.20%	5.03	0.005	8.03

3.2. Multivariate analysis

Table 4 provides standard deviations and correlations for all individual directors' characteristics for the fiscal year 2010. As can be seen from this Table, women hold approximately 11.91% of the SBF 120 board seats.

We control possible multicollinearity by running OLS (Ordinary Least Squares) regression to generate variance inflation factors (VIF). We notice that none of our variables has a value that exceeds 10. Moreover, the average values of the VIFs are significantly different from one. This allows us to be confident regarding the absence of multicollinearity (Chatterjee & Hadi, 2006).

Table 4
Matrix of correlation

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Gender													
2. Age	-0.203*												
3. Master	0.040	-0.079*											
4. Ph.D.	-0.079*	0.036	-0.843*										
5. Support	0.041	-0.201*	-0.001	0.011									
6. Community	0.093*	0.129*	-0.127*	0.088	-0.242*								
7. Non-management	0.074*	0.101*	-0.086*	0.026	0.094*	0.405*							
8. Outsider	0.143*	0.203*	0.010	0.016	-0.042	0.092*	0.111*						
9. Family	0.081*	-0.077*	0.007	-0.091*	-0.059*	0.008	0.008	-0.208*					
10. Employee	0.075*	-0.106*	0.030	-0.088*	0.132*	-0.032	0.123*	-0.149*	-0.035				
11. Board tenure	-0.127*	0.273*	-0.007	-0.030	-0.073*	-0.032	-0.011	-0.139*	0.230*	-0.024			
12. Prestige	-0.010	0.029	-0.038	0.205*	0.007	-0.043	-0.081*	0.116*	-0.154*	-0.154*	-0.032		
13. Grands corps	-0.074*	0.007	-0.114*	0.182*	-0.021	-0.057*	-0.106*	-0.002	-0.083*	-0.060*	-0.046*	0.247*	

$p < .05$

The results of logistic regression analysis for differences in directors' characteristics are summarized in Table 5. In this present study, our level of significance is 5% or below.

As can be seen from Table 5, there is a strong negative relationship between female directors and age ($p < 0.000$). Female directors are therefore more likely to be younger than their male counterparts. Thus, hypothesis 1 is supported.

Table 5 also reveals a negative and significant relationship at the 5% between women on corporate boards and their educational level. Our results have the opposite sign. As a result, and consistent with previous section, hypothesis 2 is not supported.

Table 5 shows that female directors are significantly more likely to be community influential (odds ratio = 3.00, $p = 0.001$), female board members are not more or less likely to be support specialist as the odds ratio is not significant (= 1.24). Thus, we find marginal support for hypothesis 3.

Hypothesis 4 predicts that female directors are more likely to hold non-management function. The odds ratio for non-management functions is not significant at the 5% level. We therefore reject hypothesis 4.

Hypotheses 5a to 5c suggest that female directors will differ in terms of status (outsider, family and employee affiliation). The results from Table 5 support hypotheses 5a to 5c as the variable are all significant: outsider (odds ratio = 5.58, $p < 0.000$); family (odds ratio = 8.67, $p < 0.000$); and employee (odds ratio = 4.86, $p < 0.000$). Our results also suggest significant differences in terms of board tenure (odds ratio = 0.91, $p < 0.000$) in accordance with hypothesis 6.

Finally, regarding social capital characteristics, Table 5 shows that the odds ratio related to the prestige of the school or the institution attended is not significant at the 5% level (odds ratio = 1.32), nor the variable related to *Grandes Écoles* (odds ratio = 0.486). Therefore, we reject hypotheses 7 and 8.

Table 5
Results of regression analysis

Variables	Predicted Signs	Estimated Coefficient	Significance
Demographics variables:			
Age	–	0.924	0.000
Master	+	0.504	0.033
Ph.D.	+	0.325	0.002
Human capital variables:			
Support	+	1.244	0.298
Community	+	3.009	0.001
Non-management	+	1.067	0.789
Outsider	+	5.581	0.000
Family	+	8.667	0.000
Employee	+	4.858	0.001
Board tenure	–	0.911	0.000
Social capital variables			
Prestige	+	1.325	0.176
Grands corps	+	0.486	0.059
Wald χ^2		184.39	
N		1,341	
Pseudo R ²		0.188	

4. DISCUSSION

Hypothesis regarding demographic characteristics of WOCBs are supported: the women are significantly younger than the men and, partly consequently but also partly due to their status of newcomers to boards, they hold less tenure. Similar results are indeed well established in many countries and France is no exception.

As regards education, no differences between men and women appear: women members do not hold more diplomas than men. They do not stem more or less often from prestigious schools, nor do they belong to the Grands Corps more or less frequently. Actually, the educational background from men and women board members is quite similar, reflecting some homogeneity in the ways both groups reach such positions in France, through education at least.

Indeed, it is as far as professional experience is concerned that significant differences appear between men and women board members' trajectories. Female directors are significantly more likely to be community influential than male directors. The latter are also more likely to be business experts than the women. These results are consistent with previous research in Anglo-Saxon contexts (Hillman et al., 2002; Simpson et al., 2010) and reflect the predominance of men in top business positions. Also, in our study, women are not more or less likely than men to be Support specialists, contrary to the UK study (Singh et al., 2008). As in the US, the human capital of women is thus slightly different than their male counterparts', as they hold less direct business experience. They do not however hold less specific knowledge such as law, finance, marketing, etc. From a Resource-Dependency and Agency theory perspective, it could be said that they provide new insights and information to the board to the extent that they come more often than men from Civil Society.

Another interesting result comes from the supposed difference of background between men and women regarding management experience. Even if more women than men appear to hold non-management functions, the difference does not resist the multivariate analysis which invalidates such hypothesis. Men are not more likely than women to have management experience. This contrasts with the results of Singh et al. 2008, but may be explained by the fact that we measured all kinds of management experience at any level (including through simple line function) and not the sole "top management experience" measured by the latter authors. Women thus appear to have as much management experience as men, although probably less frequently at top positions.

Last, our study confirms differences of board members status between men and women previously found in various studies (IFA et al., 2009; Moulin & Point, 2012a). Women are much more likely to be independent directors, which has been found in US and UK studies (Adams & Flynn, 2005; Kesner, 1988; Simpson et al., 2010; Singh & Vinnicombe, 2003, 2004). This is consistent with their predominance among Community Influential.

They are also more likely than men to be representatives of the Family shareholders and from Employees. This is hardly surprising: these two ways of becoming board members – more depending on choices from shareholders and less on business networks - are obviously more open to women than top executive positions.

According to Resource Dependency Theory, to cope effectively with changes in business environment, organizations need some diversity within corporate boards. Sealy et al. (2009) argue that such diversity can come from gender diversity (Sealy et al., 2009). Our study confirms that women board members' may bring slightly different human and social capital than men, mostly through different professional experiences, especially by being more likely to come from non business background. They however do hold management experience in similar proportion than men and their educational background does not significantly differ. The fact that women are more likely than men to act as independent directors provides support for Agency Theory views that their presence in boards, as "outsiders", is used to bring more independent monitoring on companies' strategic choices and functioning (Adams & Ferreira, 2009).

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.
- Ahern, K. R. & Dittmar, A. K. 2012. The Changing of the Boards: The Impact on Firm Valuation of Mandated Female Board Representation. *Quarterly Journal of Economics*, 1(137-197).
- Becker, G. S. 1964. *Human capital : a theoretical and empirical analysis, with special reference to education*. New York: National Bureau of Economic Research; distributed by Columbia University Press.
- Belghiti-Mahut, S. & Lafont, A.-L. 2010. Lien entre présence des femmes dans le top management et performance financière des entreprises en France. *Gestion 2000*, 27(5): 131-146.
- Bilimoria, D. & Piderit, S. K. 1994a. Board Committee Membership: Effects of Sex-based Bias. *Academy of Management Journal*, 37(6): 1453-1477.
- Bilimoria, D. & Piderit, S. K. 1994b. Qualifications of Corporate Board Committee Members. *Group Organization Management*, 19(3): 334-362.
- Bond, M., Glouharova, S., & Harrigan, N. 2010. The Political Mobilization of Corporate Directors: Socio-Economic Correlates of Affiliation to European Pressure Groups. *British Journal of Sociology*, 61(2): 306-335.
- Bourdieu, P. 1996. *The state nobility: elite schools in the field of power*. Cambridge: Polity Press.
- Boutant, M. & Garriaud-Maylam, J. 2010. Rapport d'information.
- 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 Board of Directors: A Needed Resource. *Journal of Business Ethics*, 16(9): 909–915.
- Byrd, J. W. & Hickman, K. A. 1992. Do Outside Directors Monitor Managers? Evidence from Tender Offer Bids. *Journal of Financial Economics*, 32(2): 195–221.
- Campbell, K. & Mínguez-Vera, A. 2008. Gender Diversity in the Boardroom and Firm Financial Performance. *Journal of Business Ethics*, 83(3): 435–451.
- Carter, D. A., Simkins, B. J., & Simpson, W. G. 2003. Corporate Governance, Board Diversity and Firm Value. *Financial Review*, 38(1): 33–53.
- Chatterjee, S. & Hadi, A. S. 2006. *Regression analysis by example*. Hoboken, N.J.: Wiley-Interscience.
- Coleman, J. S. 1990. *Foundations of social theory*. Cambridge, MA: Belknap of Harvard university press.
- Daily, C. M., Dalton, D. R., & Cannella, A. A. 2003. Corporate Governance: Decades of Dialogue and Data. *Academy of Management Review*, 28(3): 371–382.
- Dunn, P. 2010. Breaking the Boardroom Gender Barrier: The Human Capital of Female Corporate Directors *Journal of Management and Governance*: 1–14.
- Erhardt, N. L., Werbel, J. D., & Shrader, C. B. 2003. Board of Director Diversity and Firm Financial Performance. *Corporate Governance: An International Review*, 11(2): 102–111.
- Faccio, M. & Lang, L. H. P. 2002. The Ultimate Ownership of Western European Corporations. *Journal of Financial Economics*, 65(3): 365–395.
- Farrell, K. A. & Hersch, P. L. 2005. Additions to Corporate Boards: The Effect of Gender. *Journal of Corporate Finance*, 11(1-2): 85– 106.
- Forbes, D. P. & Milliken, F. J. 1999. Cognition and Corporate Governance: Understanding Boards of Directors as Strategic Decision-making Groups. *Academy of Management Review*, 24(3): 489–505.
- Hambrick, D. C., Cho, T. S., & Chen, M.-J. 1996. The Influence of Top Management Team Heterogeneity on Firms' Competitive Moves. *Administrative Science Quarterly*, 41(4): 659–684.
- Hermalin, B. E. & Weisbach, M. S. 1988. The Determinants of Board Composition. *RAND Journal of Economics*, 19(4): 589–606.
- 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): 235–256.
- Hillman, A. J., Cannella, A. A., & Harris, I. C. 2002. Women and Racial Minorities in the Boardroom: How Do Directors Differ? *Journal of Management*, 28(6): 747–763.
- 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., & Cannella, A. A. 2007. Organizational Predictors of Women on Corporate Boards. *Academy of Management Journal*, 50(4): 941–952.
- IFA, ORSE, & EPWN. 2009. L'accès et la représentation des femmes dans les organes de gouvernance d'entreprise.
- Jeanjean, T. & Stolowy, H. 2009. Determinants of Board Members' Financial Expertise - Empirical Evidence from France. *International Journal of Accounting*, 44(4): 378–402.
- Jensen, M. C. & Meckling, W. H. 1976. Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3(4): 305–360
- Johnson, S. G., Schnatterly, K., & Hill, A. D. 2013. Board Composition Beyond Independence: Social Capital, Human Capital, and Demographics. *Journal of Management*, 39(1): 232–262.

- Kadushin, C. 1995. Friendship among the French financial elite. *American Sociological Review*, 60(2): 202-221.
- 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.
- Maclean, M., Harvey, C., & Chia, R. 2010. Dominant Corporate Agents and the Power Elite in France and Britain. *Organization Studies*, 31(3): 327-348.
- Martin, V. & Pignatelli, I. 2004. Les instances de pouvoir des 500 premiers groupes français. Un monde « androcentrique ». *Revue Française de Gestion*, 151(4): 161-172.
- Moulin, Y. & Point, S. 2012a. Les femmes dans les conseils d'administration du SBF 120 : qualités féminines ou affaires de famille ? *Revue de gestion des ressources humaines*, 83(1): 31-44.
- Moulin, Y. & Point, S. 2012b. Les femmes dans les conseils d'administration des grands groupes français. Quels « atouts » privilégier ? *Revue Française de Gestion*, forthcoming.
- Nekhili, M. & Gatfaoui, H. 2013. Are Demographic Attributes and Firm Characteristics Drivers of Gender Diversity? Investigating Women's Positions on French Boards of Directors. *Journal of Business Ethics*, forthcoming.
- Nguyen, B. D. 2011. Ownership Structure and Board Characteristics as Determinants of CEO Turnover in French-Listed Companies. *Finance*, 32(2): 53-89.
- Nguyen, B. D. 2012. Does the Rolodex Matter? Corporate Elite's Small World and the Effectiveness of Boards of Directors. *Management Science*, 58(2): 236-252.
- Pfeffer, J. 1972. Size and Composition of Corporate Boards of Directors: The Organization and its Environment. *Administrative Science Quarterly*, 17(2): 218-228.
- Pfeffer, J. & Salancik, G. R. 1978. *The external control of organizations: a resource dependence perspective*. New York: Harper & Row.
- Ruigrok, W., Peck, S., & Tacheva, S. 2007. Nationality and Gender Diversity on Swiss Corporate Boards. *Corporate Governance: An International Review*, 15(4): 546-557.
- Sealy, R., Vinnicombe, S., & Singh, V. 2009. The pipeline of the board finally opens: women's progress on FTSE 100 boards in the UK. In S. Vinnicombe, et al. (Eds.), *Women on corporate boards of directors*. Cheltenham: Edward Elgar Publishing Limited.
- Shleifer, A. & Vishny, R. W. 1997. A Survey of Corporate Governance. *Journal of Finance*, 52(2): 737-783.
- Simpson, W. G., Carter, D. A., & D'Souza, F. 2010. What Do We Know About Women on Corporate Boards? *Journal of Applied Finance*, 2: 27-39.
- Singh, V. & Vinnicombe, S. 2003. The 2002 Female FTSE Index and Women Directors. *Women In Management Review*, 18(7): 349-358.
- Singh, V. & Vinnicombe, S. 2004. Why So Few Women Directors in Top UK Boardrooms? Evidence and Theoretical Explanations. *Corporate Governance: An International Review*, 12(4): 479-488.
- Singh, V., Terjesen, S., & Vinnicombe, S. 2008. Newly Appointed Directors in the Boardroom: How Do Women and Men Differ? *European Management Journal*, 26: 48– 58.
- Sraer, D. & Thesmar, D. 2007. Performance and Behavior of Family Firms: Evidence from the French Stock Market. *Journal of European Economic Association*, 5(4): 709-751.
- Swartz, D. 1985. French Interlocking Directorships: Financial and Industrial Groups. In F. N. Stokman, et al. (Eds.), *Networks of corporate power: a comparative analysis of ten countries*. Cambridge: Polity Press.
- 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.

Westphal, J. D. & Zajac, E. J. 1995. Who Shall Govern? CEO/Board Power, Demographic Similarity, and New Director Selection. *Administrative Science Quarterly*, 40(1): 60-83.

Wiersema, M. F. & Bantel, K. A. 1992. Top Management Team Demography and Corporate Strategic Change. *Academy of Management Journal*, 35(1): 91-121.

Zelevchowski, D. D. & Bilimoria, D. 2004. Characteristics of Women and Men Corporate Inside Directors in the US. *Corporate Governance: An International Review*, 12(3): 337-342.

Appendix: elite institutions

French institution: <i>Grandes Écoles</i>	
Engineering schools:	École Polytechnique, MINES ParisTech, École nationale supérieure de l'aéronautique et de l'espace (SUPAERO), and École Centrale Paris.
Business schools	HEC, ESSEC, and ESCP Europe.
Other:	ENA (École nationale d'administration), Sciences Po (Paris) and École normale supérieure (rue d'Ulm).
Top American Universities	
Rank 1-5	Harvard University, University of California, Berkeley, Stanford University, Massachusetts Institute of Technology (MIT), and California Institute of Technology.
Rank 5-10	Princeton University, Columbia University, University of Chicago, Yale University, and Cornell University.
Rank 10-15	University of California, Los Angeles, University of California, San Diego, University of Pennsylvania, University of Washington, and University of Wisconsin – Madison.
Rank 15-20	The Johns Hopkins University, University of California San Francisco, University of Michigan – Ann Arbor, University of Illinois at Urbana-Champaign, and University of Minnesota Twin Cities.
Top European Universities	
Rank 1-5	University of Cambridge, University of Oxford, University College London, Swiss Federal Institute of Technology Zurich, and The Imperial College of Science, Technology and Medicine.
Rank 5-10	Pierre and Marie Curie University – Paris 6, University of Copenhagen, Karolinska Institute, The University of Manchester, and University of Paris Sud (Paris 11).
Rank 10-15	Utrecht University, University of Zurich, University of Munich, The University of Edinburgh, and King's College London.
Rank 15-20	University of Heidelberg, University of Bristol, Uppsala University, Leiden University, and University of Helsinki.