# 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. It is worth noting that men and women board members seem to build their human and social capital through the same educational process in France. Nonetheless, our work shows significant differences between men and women regarding professional experience and board member status.


Keywords: Corporate Governance; Boards of Directors; Diversity; Gender; Board Composition

## INTRODUCTION

OVomen'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). The increasing presence of women in corporate boards is becoming a fact, likely to bring changes to boards' functioning as well as changes regarding women's access to top corporate positions, hence the importance to study the characteristics of present WOCBs (Women on Corporate Boards): what are their profiles? Do they bring competences, skills and networks which differ from than their masculine counterparts'? Research carried on in Anglo-Saxon countries for the main part, has started to provide answer to these questions (Burgess \& Tharenou, 2002; Hillman, Cannella, \& Harris, 2002; Simpson, Carter, \& D'Souza, 2010; Singh, Terjesen, \& Vinnicombe, 2008). Convergent results have been found - on WOCB's age and tenure characteristics for instance but also contrasted findings regarding their education (they are less qualified than men in some studies, more in others) and business experience. On the latter, although research generally agrees on the fact that they are less often than men CEO's, some studies show that they hold less management experience whereas others show similar business experience. The contrasted findings are partly attributable to differences in the variables measured, but also to the various national contexts of studies (Terjesen, Sealy, \& Singh, 2009).

Research on women on boards in France is still scarce (Belghiti-Mahut \& Lafont, 2010; Martin \& Pignatel, 2004; Moulin \& Point, 2012a, b; Nekhili \& Gatfaoui, 2013). It has highlighted features previously mentioned in the

Anglo-Saxon literature, among others the relationship between family ownership and the number of female administrators (Moulin \& Point, 2012b) and some positive links with firms' performance (Belghiti-Mahut \& Lafont, 2010). However, the issue of female administrators' individual characteristics has not been dealt with in a cumulative manner with findings from Anglo-Saxon research. Our contribution addresses this gap by testing, in the French context, several hypotheses on WOCB's human, social capital and demographics derived from existing research, through univariate and multivariate regression analysis. Our study focuses on the characteristics of female directors 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 variables, 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.

## LITERATURE REVIEW

In the first section, 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 the second section, we present our research hypotheses regarding the differences in female and male directors' characteristics.

## 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 et al., 2009). As Nekhili \& Gatfaoui (2013) put if 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). According to Carter, Simkins, \& Simpson (2003), female directors are more likely to raise more questions than traditional directors. They will be probably more active on corporate boards on which they serve. Moreover, women are more likely to bring a fresh perspective on complex issues (Francoeur, Labelle, \& Sinclair-Desgagne, 2008), which in turn can help resolving informational biases in strategy formulation or in solving problems (Dewatripoint, Jewitt, \& Tirole, 1999; Westphal \& Milton, 2000). This view is supported by empirical studies. For instance, Adams \& Ferreira (2009) show that female directors have better attendance than their male colleagues. These results suggest that gender-diverse boards are more likely to make effort in monitoring. In addition, in boards more diverse in terms of gender, directors are more likely to receive equity-based compensation. Carter et al. (2003) drawing on the agency perspective, find a significant positive relationship between the proportion of WOCB and the firm value.

Therefore, agency theory provides a theoretical basis for analysing WOCB and more specifically the characteristics that differentiate female and male directors (for example in the insider/outsider status).

## 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 et al., 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 et al., 2003; Erhardt, Werbel, \& Shrader, 2003). Within this framework, we now examine the effects of WOCB. The legitimacy of an organization is granted by its social members (Ashforth \& Gibbs, 1990; Meyer \& Rowan, 1977). Thus, legitimacy can be enhanced by the appointment of WOCB. Indeed, it sends a positive message to current women within the organization and to potential recruits. Their absence may penalize the firm from retaining their best female talents and acquiring new ones (Daily, Certo, \& Dalton, 1999). In addition, appointing WOCB can increase the reputation of a firm. Brammer, Millington, \& Pavelin (2007), in the UK, find a reputational effect associated to the presence of WOCB. Therefore, all else being equal, board gender diversity adds legitimacy to an organization (Milliken \& Martins, 1996). In terms of advice and counsel, studies show that compared to homogeneous groups, diverse groups are more likely to provide more alternative solutions to problems (Dutton \& Duncan, 1987; Watson, Kumar, \& Michaelsen, 1993) and to have different environmental perception (Larkey, 1996; Sutcliffe, 1994). Although diversity has also negative effects (see Hillman, Shropshire, \& Cannella, 2007), there is a consensus that assumes that WOCB improve board's discussions and analyses (Burke, 1997; Daily et al., 1999; Hillman et al., 2007). In the resource dependency theory, directors link the firm to its external environment. Hillman et al. (2007) argue that female directors can link organizations to different constituencies other than men. For instance, as women are active consumers, WOCB can bring another point of view in terms of approach or marketing (Daily et al., 1999). According to Hillman et al. (2007), WOCB can also link to different customers, current and future employees, as well as important suppliers (such as institutional investors).

Therefore, consistent with previous studies on WOCB (e.g., Hillman et al., 2002; Hillman et al., 2007), we use the resource dependency framework to analyse the characteristics of board members to the extent that female directors probably provide resources that are different than their male counterparts.

## Human Capital

As Singh et al. (2008) points 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 levels 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 et al. (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).

[^0]Secondly, many of French business elite and political leaders have spent their first years on the labor market as civilservant. 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.

## 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 decisionmaking 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 et al. (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 to 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 frequent than men's under bachelor level (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.

## Professional Background

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 to pay attention to and how they made their decision. In this study, professional background 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 et al., 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, p. 32): "the results suggest that a higher percentage of women directors than men directors have academic, consulting, and medicine backgrounds." In Singh et al.'s (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. As in the US, 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 Outsider 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, 2012a, b; 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.

Finally, a European study states that women are particularly numerous in German boards due to their preeminence 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 $\mathrm{AMF}^{2}$ 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, 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 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 split 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'État (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, 2012a). Many graduates 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.

[^1]
## METHODS

The first section presents the sample of this study. In the next section, we detail our measures related to the board composition in terms of social capital, human capital, and demographics. Finally, the last section explains the data analysis.

## 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 reference) 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 determiner her of his gender (e.g., Jacques = man and Sophie = woman). Forth, we "Google" any ambiguous director.

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

## 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).

[^2]
## 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 considering those directors as non-independent. On the other hand, against a backdrop of high ownership concentration, especially 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 (2011, 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.

[^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 Chisquare 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.

## RESULTS

The first section presents the results of univariate analysis, while the second section presents the results of the logistic regression analysis related to differences in directors' characteristics.

## 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 form 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 conventional 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 $87.04 \%\left(\chi^{2}=6.20\right.$ with $p$ value 0.013 ). Taken together, hypothesis 2 is not supported.

Table 1: Director Demographics

| Characteristic | Male | Female | $\boldsymbol{p}$ | Value |  |
| :--- | :--- | :---: | :---: | :---: | :---: |
| 1 | Age $(\mathrm{n}=1,268$ et $\mathrm{n}=178)$ | 59.48 | 53.57 | 0.000 | 32.06 |
| 2 | Education $(\mathrm{n}=1,190$ et $\mathrm{n}=162)$ | $(61.00)$ | $(53.00)$ |  |  |
|  | Less than a bachelor's degree |  |  |  |  |
|  | Less than a master's degree | $3.70 \%(44)$ | $5.56 \%(9)$ | 0.253 | 1.31 |
|  | Less than a doctoral degree | $59.61 \%(43)$ | $7.41 \%(12)$ | 0.022 | 5.26 |
|  | Doctoral degree | $32.94 \%(392)$ | $65.43 \%(106)$ | 0.165 | 1.92 |
| Statistic | $p$ | $21.60 \%(35)$ | 0.005 | 8.48 |  |
| 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 5 b. 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 5 c 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 | $p$ | Value |
| :---: | :---: | :---: | :---: | :---: |
| 1 Expertise profile ( $\mathrm{n}=1,265$ 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 | $p$ | value |  |  |
| Chi-square | 0.000 | 12.87 |  |  |
| 2 Functional background ( $\mathrm{n}=1,265$ and $\mathrm{n}=177$ ) |  |  |  |  |
| 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 | $p$ | value |  |  |
| Chi-square | 0.000 | 59.65 |  |  |
| 3 Insider/outsider status ( $\mathrm{n}=1,268$ and $\mathrm{n}=178$ ) |  |  |  |  |
| 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 | $p$ | value |  |  |
| Chi-square | 0.000 | 70.44 |  |  |
| 4 Board tenure ( $\mathrm{n}=1,266$ and $\mathrm{n}=179$ ) | $\begin{gathered} 5.63 \\ (4.00) \end{gathered}$ | $\begin{gathered} 3.73 \\ (2.00) \end{gathered}$ | 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 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 | $\boldsymbol{p}$ | Value |
| :---: | :--- | :---: | :---: | :---: | :---: |
| 1 | Elite institution $(\mathrm{n}=1,271$ and 179 | $58.62 \%$ | $54.75 \%$ | 0.022 | 5.26 |
| 2 | Grand corps de l'Etat $(\mathrm{n}=1,271$ and $\mathrm{n}=179)$ | $12.20 \%$ | 5.03 | 0.005 | 8.03 |

## Multivariate Analysis

Table 4 provides standard deviations and correlations for all individual directors' characteristics for the fiscal year 2010. As can been 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).

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 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. 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* |

* Correlations of greater than $|0.2|$ are significant at $p<0.05$.

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 5 a to 5 c 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 . Women directors are not more likely to come from elite schools than will men directors and belong to the "Grands Corps" just like their male counterparts.

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: |  |  | 1.244 |
| Support | + | 3.009 | 0.298 |
| Community | + | 1.067 | 0.001 |
| Non-management | + | 5.581 | 0.789 |
| Outsider | + | 8.667 | 0.000 |
| Family | + | 4.858 | 0.000 |
| Employee | - | 0.911 | 0.001 |
| Board tenure | + |  | 0.000 |
| Social Capital Variables: | + | 1.325 | 0.176 |
| Prestige |  | 184.39 | 0.059 |
| Grands corps |  | 1,341 |  |
| Wald $\chi^{\mathbf{2}}$ |  | 0.188 |  |
| N |  |  |  |
| Pseudo R |  |  |  |

## 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 board tenure. Similar results are indeed well established in many countries and France is no exception.

As regards to 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 of similar level and prestige, contrarily to what has been found in Switzerland (Ruigrok et al., 2007). Here we have to refer to the specificity of the French System of Education. According to de Beaufort \& Khayat (2012), the pool of recruitment for Directors is mainly constituted by the "Grandes Écoles" (ENA, Polytechnique, Sciences Po Paris and HEC represent $80 \%$ of the tenure from CAC 40 companies and SBF 80). Logically, women on French Boards tend to be from these recruitment pools and might belong to the same networks. Our results thus highlight some homogeneity in the ways both groups reach such positions in France through education at least. These results are all the more interesting, knowing that $10 \%$ of women are on board thanks to family link. We could infer that if we take them out of the sample, the result will reinforce the similarity of profiles between women and men. As Moulin \& Point (2012a) explain women on board can justify of two "assets": either higher prestigious education or family link. ${ }^{5}$

Indeed, as far as professional experience is concerned, 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) and Simpson et al. (2010). It reflects 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) which concentrated however on new women's appointees to corporate boards whereas we study all WOCBs. As in the US (Hillman et al., 2002), the human capital of women is slightly different than their male counterparts' in so far as they hold less business expertise, being less often CEO. They do not however hold less knowledge in law, finance, marketing, etc. From both ResourceDependency and Agency theories perspectives, it could be advanced that they provide new information and monitoring to the board, to the extent that they come more often than men from Civil Society.

Another interesting result comes from the alleged difference of background between men and women regarding management experience. Even if, in our study, more women than men appear to hold non-management functions in the univariate analysis, 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 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 obtained at top corporate positions.

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

They are also more likely than men to be representatives of the family shareholders and from employees. This is hardly surprising, since these two ways of becoming board members -depending more on choices from shareholders and less on business networks - are probably more open to women than top executive positions.

## CONCLUSION

According to Resource Dependency Theory, organizations need some diversity within corporate boards to cope effectively with changes in business environment. Whereas (Sealy et al., 2009) argue that such diversity can come from gender diversity, reports highlight the similarity of social backgrounds among male and female directors. Struggles (2011, p. 15), points out that: "The traditional pattern of boards which are made up of very senior people from similar backgrounds and shared experience is changing but this trend must be accelerated to avoid the danger of 'group think." So as "Most women on boards have come up through the same route as the men, so in that sense they aren't so different from their male counterparts" (Struggles, 2011, p. 40).

[^4]Our study confirms that women board members hold management experience in similar proportion than men and their educational background does not significantly differ from their male counterparts'. They hold the required human capital for their function and, given the pool of highly educated and high-flying women in France, we can expect that, as happened in Norway (Seierstad \& Opsahl, 2010), the required-by-law- increase in the proportion of women in boards will not provoke a lowering of board members qualifications.

On the other hand, women may bring slightly different human and social capital than men through their different professional experiences, especially by being more likely to come from Civil Society Responsibility positions. An increase in the number of women would thus be likely to increase the proportion of Community Influentials in boards, which would enlarge the board's social networks. That is if a real will to open the recruitment pool is to be noticed. Our research has been conducted using 2010 data. What would be the impact of the law on a longer term regarding the diversity of women profiles? So far, women on board mainly came from the same recruitment pool as men, the Grandes Écoles Graduates. Will that be changing due to the necessity of recruiting more women to meet the quotas? Might not be as likely in France. HEC and ESSEC, the leading Business Schools, are targeting women alumni to develop specific training sessions in order to prepare them to be administrators and develop a "Female Board Pool."

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). Will we observe, in France, the rise of "Golden Skirts" (independent, professional female board members), as they are referred to in Norway?

Our study is the first in France to statistically confront men and women board members human and social capital characteristics. Its interest is to show that in France women on boards are as qualified as men. The requirements are the same regarding higher education and expertise profile. Their profiles do not differ specifically as they came from the same recruitment pools. The future will show that there is room for further studies monitoring that change, if the recruitment pool enlarges and if women administrators' profiles might evolve.

As with any study, ours has limitations that should be expressly discussed. First, consistent with Hillman et al. (2002), we do not study the predictors of WOCB like Hillman et al. (2007), among others. Our results only examine a set of key resources that we consider theoretically relevant to corporate boards (Johnson et al., 2013): social capital, human capital, and demographics. However, our results cannot answer whether these resources are prevalent or in what order. This is an important issue for further research. Second, a limitation of this study concerns the sample, which only includes listed companies (SBF 120). However, as emphasized by Hillman et al. (2007), our results may be biased by the size of the companies in our sample: largest capitalization on Euronext Paris. Our results and our conclusions may probably not stand for SMEs (Small and Medium Enterprises). Indeed, according to Cedef's figures, ${ }^{6}$ SMEs represent nearly $97 \%$ of companies in France in 2010. Harrigan (1981) suggests that women may have more opportunities as directors in smaller organizations than in larger firms. Therefore, our results we report may not be generalizable to SMEs.

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## APPENDIX

Elite Institutions

| Elite Institutions |  |
| :--- | :--- |
|  | French Institution: Grandes Écoles |
| Engineering Schools | École Polytechnique, MINES ParisTech, École nationale supérieure de l'aéronautique et de l'espace <br> (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 <br> d'Ulm). |
| Rank 1-5 | Harvard University, University of California, Berkeley, Stanford University, Massachusetts Institute <br> of Technology (MIT), and California Institute of Technology. |
| Rank 5-10 | Princeton University, Columbia University, University of Chicago, Yale University, and Cornell <br> University. |
| Rank 10-15 | University of California, Los Angeles, University of California, San Diego, University of <br> Pennsylvania, University of Washington, and University of Wisconsin - Madison. |
| Rank 15-20 | The Johns Hopkins University, University of California San Francisco, University of Michigan - <br> Ann Arbor, University of Illinois at Urbana-Champaign, and University of Minnesota Twin Cities. |
| Rank 1-5 | University of Cambridge, University of Oxford, University College London, Swiss Federal Institute <br> 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 <br> 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 <br> King's College London. |
| Rank 15-20 | University of Heidelberg, University of Bristol, Uppsala University, Leiden University, and <br> University of Helsinki. |

## NOTES


[^0]:    ${ }^{1}$ Insiders, business experts, support specialists, and influential community members.

[^1]:    ${ }^{2}$ AMF stands for Autorité des Marchés Financiers, which means Financial Market Authority. It is the stock market regulators in France.

[^2]:    ${ }^{3}$ SBF stands for "Société des Bourses Françaises," which means Society of French stock exchanges.

[^3]:    ${ }^{4}$ Both are descendants of Eugène Schueller company founder of L'Oréal.

[^4]:    ${ }^{5}$ Moulin \& Point (2012b) identify another asset: company members' representatives.

[^5]:    ${ }^{6}$ Cedef stands for Centre de Documentation Economie-Finances - French Ministry of Economy and Finance.

