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Gender-diverse boards and financial statements quality : the role of female directors' attributes

Ammar Ali Gull

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Par

Ammar Ali GULL

Gender-diverse boards and financial statements quality: The role of female directors' attributes

La diversité du genre au conseil d'administration et la qualité des états financiers: Le rôle des attributs des femmes administrateurs

Thèse présentée et soutenue à Le Mans, le 20 Juin 2018

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Avertissement

mis à part l'introduction et la conclusion de cette thèse, les différents chapitres sont issus d'articles de recherche rédigés en anglais et dont la structure est autonome. Par conséquent, des termes comme "papier", « étude », ou "article" y font référence, et certaines informations, notamment la littérature, sont répétées d'un chapitre à l'autre.

To My Beloved Pakistan.

To My Beloved Grand Parents (Late).

To My Beloved Parents and Sisters.

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Gender-diverse boards and financial statements quality: The role of female directors' attributes

ABSTRACT

This thesis proposes to study to what extent board gender diversity influence the quality of financial statements. Specifically, this thesis explores the relation between gender-diverse boards and financial statements quality by highlighting the value relevance of female directors' attributes for enhancing the quality of financial statements.

We are pursuing three main objectives. The first is to know whether female directors have any impact on the quality of financial statements. The second is to analyze how attributes of female directors mediate the relation among gender-diverse boards and financial statements quality. The third objective is to study the relation between attributes of female directors and financial statements quality.

This thesis focuses on a large sample of French firms belonging to the CAC-All shares index listed on Euronext Paris over the period 2001 to 2010. We find, after controlling for endogeneity and other board, firm and industry specific factors, that board gender diversity is positively associated with the quality of financial statements. Further, our findings provide evidence of significant influence of female directors' attributes on the relation between gender-diverse boards and financial statements quality. With regard to female directors' attributes, we find concrete evidence to suggest that audit committee memberships, financial expertise and experience of women have substantial impact on the quality of financial statements. Taken together, these results testify the effective monitoring skills of gender-diverse boards and the value relevance of female directors' attributes for ensuring the quality of financial statements. Finally, an important implication of thesis is that the decision to appoint women on corporate boards should be more based on their statutory and demographic attributes than blind implementation of gender quotas.

Keywords: Gender diversity; female directors; specific attributes and financial statements quality.

La diversité du genre au conseil d'administration et la qualité des états financiers : Le rôle des attributs des femmes administrateurs

RÉSUMÉ

Cette thèse propose d'étudier dans quelle mesure la diversité du genre au conseil d'administration influence la qualité des états financiers. Plus précisément, cette thèse explore la relation entre la diversité du genre au conseil d'administration et la qualité des états financiers en soulignant l'influence des attributs des femmes administrateurs sur la qualité des états financiers.

Cette recherche a trois principaux objectifs. Le premier est de savoir si les femmes directrices influencent la qualité des états financiers. Le deuxième est d'analyser comment les attributs des femmes administrateurs jouent un rôle médiateur dans la relation entre diversité du genre au conseil d'administration et la qualité des états financiers. Le troisième objectif est d'expliquer la relation entre les attributs des femmes administrateurs et la qualité des états financiers.

Cette thèse repose sur un large échantillon d'entreprises françaises appartenant à l'indice CAC All-shares d'Euronext Paris entre 2001 et 2010. Après avoir contrôlé l'endogénéité et d'autres facteurs spécifiques au conseil d'administration, à l'entreprise et à l'industrie, nos résultats montrent que la diversité du genre au conseil d'administration est positivement associée à la qualité des états financiers. De plus, nos résultats mettent en lumière une influence significative des attributs des femmes administrateurs sur la relation entre la diversité du genre dans les conseils d'administration et la qualité des états financiers. En ce qui concerne plus particulièrement les attributs, nous avons trouvé que l'appartenance au comité d'audit, l'expertise comptable et financière et l'expérience des femmes ont un impact positif et significatif sur la qualité des états financiers. L'ensemble de ces résultats témoigne de l'importance des compétences dans les conseils d'administration diversifiés en termes de genre et révèlent la pertinence des attributs des femmes administrateurs pour assurer la qualité des états financiers. Enfin, une implication importante de cette thèse est relative au processus de nomination des femmes dans les conseils d'administration qui devrait davantage reposer sur les attributs statutaires et démographiques plutôt que sur la mise en œuvre de quotas.

Mots-clés: Diversité du genre; femmes administrateurs; attributs spécifiques et qualité des états financiers.

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General Introduction

Board composition is still an important area of debate among scholars. Especially, following the wave of recent high profile financial reporting scams in European (Parmalat) and U.S companies (Enron, Tyco & WorldCom), due to the negligence on the part of their boards of directors in discharging monitoring duties. Scholars are still trying to answer these questions “what makes an effective board of directors” and “how to improve board performance”. In response to these questions, Adams (2016) argue that for many years’ regulators and academic scholars thought that solution to these issues was “board independence”. However, in recent years the focus is shifted from board independence to board gender diversity. The dearth of evidence that board independence is valuable (Hermalin & Weisbach, 2003) induced scholars to claim that board independence does not yield desired results when independent directors belong to the “old boys club”. For instance, following a series of corporate scams, Higgs and Tyson report in 2003 suggest that boards should cast a wider net while hiring directors. Here, it is interesting to note that women do not belong to the “old boys club”. In this regard, Adams (2016) argues that boards with female directors should be more effective and, if so, whether adequate number of board seats is taken by the women.

Policy-makers have strong beliefs that gender diverse boards are more effective than non-gender diverse boards and women are not adequately represented on boards. Due to these reasons, board gender diversity has become an important area of interest for regulators and legislative bodies. For enhancing the level of gender diversity among boards of directors, board room diversity policies have been implemented worldwide in the form of mandatory quotas, governance code amendments and disclosure requirements (Adams, 2016). A brief summary following the implementation of board gender quotas globally is provided in Appendix-1. As a result of these policies, the number of women on boards

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started to increase gradually (Catalyst, 2017; MSCI, 2015; MSCI, 2016). Norway was the first country to implement mandatory gender quotas for the boards of listed firms in 2003. Following the example of Norway, other European countries namely, Belgium, France, Germany, Italy and Spain introduced quotas for the boards of listed firms. Norway is leading the world in terms of board gender diversity by having 39.4% of board seats filled by women. France and Sweden are also close to the Norway with 37.6% and 35.6% women on board of directors, respectively. While Korea stood last with only 2.4% board seats held by female directors. Historical data about gender diversity of corporate boards across the globe is summarized in Appendix-2.

Generally, policy-makers justify the implementation of gender quotas on the grounds of “business case” argument that firms with gender-diverse boards exhibit higher financial performance. For instance, a directive of the European Commission (2012a) about board gender diversity narrate that “The proposed directive will lead to breaking down the barriers that women face when aiming for board positions and to improved corporate governance as well as enhanced company performance”. Further, the positive effect of gender diversity is not expected to be limited just to the firms that appoint women on their boards. The directive of the European Commission (2012a) states that “The underutilization of the skills of highly qualified women constitutes a loss of economic growth potential. Fully mobilizing all available human resources will be a key element to addressing the EU’s demographic challenges, competing successfully in a globalized economy and ensuring a comparative advantage vis-à-vis third countries”. Further, European Commission (2012b) states that promotion of board gender diversity among listed companies of Europe may improve the level of sustainable economic growth due to proper utilization of available human resources (e.g., female talent).

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Do women improve the performance of economies or the companies that appoint them to their boards of directors? The answer to this question is yes. For making the “business case” argument, majority of the policies on board gender diversity refer to the studies conducted by Catalyst (2007), Credit Suisse (2012) and Mckinsey (2007) which states that gender diverse boards exhibit higher financial performance than non-gender diverse boards. The economic growth arguments made by the European Commission (2012a) and the Australian Securities and Exchange Commission (ASX, 2010) for board gender diversity policies are based on the studies by (Catalyst, 2007; Mckinsey, 2007). The findings of Catalyst (2007) highlight that Fortune 500 companies in the upper quartile of board gender diversity perform better than the lower quartile of Fortune 500 firms. The similar findings were reported by Mckinsey (2007) for big European companies that are cited in the proposal of the European Commission.

A large number of studies explore the relationship between board gender diversity and financial performance to support the “business case” argument (Adams & Ferreira, 2009; Erhardt, Werbel, & Shrader, 2003; Rose, 2007). However, there are few studies that highlight the importance of board gender diversity with regard to the quality of financial statements (Arun, Almahrog & Aribi, 2015; Gavius, Segev, & Yosef, 2012; Lai, Srinidhi, Gul, & Tsui, 2017; Srinidhi, Gul, & Tsui, 2011). This thesis attempts to broaden our understanding for the effect of gender diversity on boards’ ability to oversee management by examining the relation between gender-diverse boards and financial statements quality in French context. Further, this thesis goes beyond the traditional measures of board gender diversity (i.e., number or percentage of female directors) and focus on the role of female directors’ specific (statutory and demographic) attributes, to explore the channel through which female directors influence the quality of financial statements. We mainly focus on three measures of financial statements quality that caused the collapse of Enron

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namely, the quality of reported earnings, the just use of related party transactions and the quality of statutory audit proxied by audit fees.

Theories of board gender diversity

Existing literature is largely based on four theories namely, agency theory, human capital theory, institutional theory and resource dependency theory to make a case for the presence of women on the board of directors.

Agency theory

Agency theory explains the relation between principal (e.g. shareholder) and its agents (e.g. directors and managers). The board of directors is a key position to oversee the activities of managers and to resolve conflicts (e.g. remuneration, CEO turnover) among principal and agents (Fama & Jensen, 1983; Jensen & Meckling, 1976). Agency theory is based upon the differences among outside (e.g. non-executive) and inside (e.g. executive) directors¹. Generally, it is believed that non-executive directors will not collaborate with insiders to expropriate shareholders, because they would prefer to maintain their reputation as monitoring experts. Therefore, non-executive directors are expected to act in the best interest of shareholders.

In accordance with this theory, one can argue that female directors can enhance the effectiveness of board to monitor management. For instance, female directors are more likely to initiate the debate of contentious issues and to challenge the opinions of Chief Executive Officer than men; therefore, board diversity might be an effective tool to oversee the managers. Female directors can be considered as the ‘ultimate directors’

¹ A non-executive director is an independent board member, who is neither an employee of the organization nor affiliated with the company through business or family ties.

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(Carter, Simkins, & Simpson, 2003) because they demonstrate more independence and activism than the traditional outside directors.

Human capital theory

Human capital theory is based on personal traits (e.g. education level and experience) of individuals. In this regard, Becker (1964) argues that education level, skills, experience and productive capabilities of employees are useful for the organization. Each director carries a unique set of human capital resources to the board, such as reputation, social networks and links in other companies (Hillman, Shropshire, & Cannella, 2007). These resources are worthwhile for the board as well as organization (Kesner, 1988).

Human capital theory claims that participation of women on the board of directors is important because they bring a different set of skills required by the board that their male colleagues do not have. This argument is supported by Singh, Terjesen, and Vinnicombe (2008), who analyzed the human capital profiles of female directors to suggest that women are highly expected to bring international diversity. In addition to this, Daily, Certo, and Dalton (1999) report that most female directors have prior experience as board members of small firms. Peterson and Philpot (2007) highlight that female directors in Fortune 500 firms are as highly qualified as their male counterparts. Finally, female candidates are more likely to have advanced educational degrees (MSCI, 2015). Due to these reasons, women are expected to join boards at a higher pace than men (Hillman, Cannella, & Harris, 2002).

Resource dependency theory

The resource dependence theory considers organization as an open system that is dependent on the unpredictability of the external environmental factors (Pfeffer, 1972; Pfeffer & Salancik, 2003). Corporate boards are responsible to manage external dependency, to minimize environmental uncertainties as well as to reduce the transaction

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cost. In support of gender diversity, the resource dependence theory suggests that: women bring a unique set of resources to the board: such as prestige, legitimacy, skills, knowledge and connections to external sources, which are helpful to minimize the risk arising from dependence on the external environmental factors.

Pfeffer and Salancik (2003) argue that advice and counsel, legitimacy and channels for communication of information with external environment are key resources required from the board of directors. Women may carry any or all of these resources to the board; however, a firm may appoint women just for advice and counsel or for the firms' legitimacy or for the access to the resources that she has (Hillman et al., 2007). Indeed, the appointment of women to the board of directors is based on the types of resources they have (Nekhili & Gatfaoui, 2013; Peterson & Philpot, 2007).

Institutional theory

According to the premise of institutional theory, an organization is considered as lawful if its means and ends conform to the social norms, values, and expectations. The orthodox concepts of 'efficiency' or 'performance' are not enough. Legitimacy is endorsed to the organization by its constituents (Ashforth & Gibbs, 1990; Meyer & Rowan, 1977). Mostly, organizations seek legitimacy in two ways: either by substantive or symbolic management. The substantive management requires changes in organizational structures and social practices. DiMaggio and Powell (2000) argue that an organization may seek legitimacy through 'coercive isomorphism', which is conformity to the values, norms and expectations of its constituents. Coercive isomorphism demonstrates the ability of an entity to meet the expectations of its constituents. According to the second method, organizations may symbolically manage their practices in accordance with social values and expectations. It is based on changing the connotation of actions. For example, a part of a

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directors' responsibility is to build the reputation of the organization on whose board he/she sits (Zahra & Pearce, 1989).

Indeed, an organization can enhance its legitimacy and socially responsible image by appointing women on its board (Hillman et al., 2007) as gender diversity is desired by regulators and stakeholders these days. Promoting women to higher ranks (e.g. directors or senior manager) within the organization transmit positive signals to the key stakeholders² (e.g. female workers, potential employees, clients and stockholders). Accordingly, the presence of women on board will reflect the firms' willingness to have a diverse workforce; this can increase the motivation level and loyalty among employees. Further, firms with gender diverse boards may have competitive edge over their rivals due to good relations with the institutional shareholders: because, institutional investors demand organizations to increase the percentage of women on corporate boards (e.g., CalPERS or CalSTRS; Carter et al., 2003). Alternatively, the absence of women may discipline a firm from hiring and retaining the best female talent (Daily et al., 1999). A recent study by Brammer, Millington, and Pavelin (2009) has shown a favorable effect of female board representation on organizational reputation. Most importantly, female workers feel happy and satisfied while working for companies that promote gender diversity (Burke, 1997).

Motivation

There is substantial upsurge in regulatory and academic interest about the role of board gender diversity in strengthening corporate governance especially after implementation of gender quotas for corporate boards. Despite the recent increase in the number of female directors on corporate boards following gender quotas, there is no study that explore the association among board gender diversity and financial statements quality

² A brief overview of global initiative for promoting board gender diversity is given in APPENDIX-6.

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in French context³. The French context is relevant to our research because investor protection is a serious issue in France under civil law based legal system (La Porta, Lopez-Silanes, & Shleifer, 1999). In this regard, Gull et al. (2017) and Nekhili and Cherif (2011) argue that absence of effective procedures to protect minority shareholders provide opportunities for managers to expropriate outsiders either by manipulating earnings or by using self-dealing transactions. This may raise serious questions on the veracity of financial reports (Bushman, Chen, Engel, & Smith, 2004). Further, the concentration of ownership in hands of families and separation of ownership and control are distinct features of French market (Boubaker & Labégorre, 2008; Faccio & Lang, 2002) that are normally associated with less protection of outside shareholders. Family owners exert influence on the appointment of key officials (e.g. managers and directors) and in return these individuals serve in the best interest of controlling families (Boubaker & Labégorre, 2008; Cuervo, 2002; Faccio & Lang, 2002; Hwang & Kim, 2016). Thereby, existence of family firms may mitigate agency conflicts among controlling shareholders and management but likely to provide ample opportunities for minority shareholders' expropriation. In this scenario, the major concern is the protection of minority shareholders from being abused through earnings management or self-dealing transactions. The detection and punishment of expropriations by insiders (i.e. managers and controlling shareholders) is indispensable for the protection of outsiders (Newman, Patterson, & Smith, 2005). For detection of expropriations, extensive external audits are compulsory. Which may promote the interest of minority shareholders and enhance the quality of financial statements (Carcello, Hermanson, Neal, & Riley, 2002).

The board of directors is perceived as an important position for protection of shareholders and to ensure the quality of financial statements (Bedard & Johnstone, 2004;

³ Kirsch (2017) highlight that during the period 1981 to 2016, only nine articles were published in French context on the theme of gender diversity. However, we do not find any article on French data that associate board gender diversity with financial statements quality published in a well reputed journal.

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Carcello et al., 2002). More specifically, board characteristics such as independence, expertise and gender diversity are highly likely to promote minority shareholders' interest by minimizing the probability of earnings management (Arun, Almahrog, & Aribi, 2015; Srinidhi, Gul & Tsui, 2011) and by demanding high quality audits (Carcello et al., 2002; Lai et al., 2017). A stream of corporate governance literature suggest that female directors are strict monitors of management, exhibit higher levels of independence and are more likely to protect shareholders' interest (Adams & Ferreira, 2009; Carter et al., 2003; Gull et al., 2017; Lai et al., 2017). For example, a former female executive (Sherron Watkins) blew the whistle two months before the downfall of Enron by informing company founder (Kennethe Lay) of financial wrongdoings. Indeed, women tend to be more risk averse and ethical while making organizational decisions than men (Byrnes, Miller, & Schafer, 1999; Klenke, 2003; Schubert, 2006). If boards with female directors exhibit higher monitoring skills, are more independent, risk averse, highly sensitive to ethical issues and safeguard shareholders' interest then they are likely to provide higher levels of vigilance for ensuring the quality financial statements. Finally, in support of our research question, there is considerable evidence from Anglo-Saxon economies (US & UK) that women are strict monitors of management (Adams & Ferreira, 2009) and board gender diversity is associated with financial statements quality (Arun et al., 2015; Srinidhi et al., 2011; Lai et al., 2017). These arguments motivated us to examine whether firms with gender-diverse boards in France produce high quality financial statements.

Related literature

There is a growing literature highlighting the importance of gender diversity for organizations and society in general around the world. A recent review article by Krisch (2017) states that 310 articles were published on the issue of board gender diversity in 135 academic journals between the years 1981 and 2016. The maximum number of studies

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(63) was published in journals related to business ethics and CSR. The second highest number of articles were (47) published in journals of corporate governance. The number of studies published in Accounting and Finance Journals was 38 during the same time period. Appendix-3 shows the distribution of the articles by journal subject field. This thesis examines the influence of board gender diversity on financial statements quality. Therefore, we will focus on the studies relevant to our research. In Accounting and Finance category, Journal of Corporate Finance has published more studies about gender diversity than any other journal. Most journals have published one article each during the period 1980 to 2016. A breakdown of studies published in Accounting and Finance journals is provided in Appendix-4. In addition to the category of journals, majority of studies are based on Anglo-Saxon economies (e.g. USA, UK and Australia). Among European countries, Norway, Spain and France have produced 17, 16 and 9 studies, respectively. Geographical distribution of articles published during the period 1980 to 2016 is given in Appendix-5.

Gender diversity and board decision-making

The board of directors plays an important role in the implementation of corporate strategy (Huse, Neilsen, & Hagen, 2009). Gender diversity, and specifically the presence of women directors, is synonymous with quality during discussions, which make sure that different point of views and ideas will be considered while making organizational decisions (Huse et al., 2009; Huse & Solberg, 2006). From an information processing perspective, more diverse group make better decisions because they consider different point of views to generate more ideas, which enhance their creative abilities and leads to better decision making (Hong & Page, 2004). Nielsen and Huse (2010) examined the influence of female directors on board decision making and strategic involvement in Norwegian context. Their findings suggest that female directors influence board strategic

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involvement through their contribution to board decision making. Indeed, gender diverse boards are rich in terms of access to information and are more likely to make better decisions (Adams, Haan, Terjesen, & Van Ees, 2015).

Gender diversity and monitoring ability of the board

According to the premise of agency theory, independence of directors from management enhances the ability of board to monitor the activities of management (Fama & Jensen, 1983). Diversity can improve the level of board independence because women don't belong to the "old boys' networks" (Adams, Hermalin, & Weisbach, 2010) and are highly expected to challenge the opinions of their colleagues, champion the debate of sensitive issues and provide concrete evidence to defend their arguments (McInerney-Lacombe, Bilimoria, & Salipante, 2008). Therefore, they are highly expected to exhibit activism and independent thinking approach in board proceedings (Adams & Ferreira, 2009; Carter et al., 2003). By exploring the issue in detail, Adams and Ferreira (2009) highlight that females are strict monitors of management and boards prefer to appoint them on committees that require higher monitoring skills such as audit committees. Therefore, board gender diversity is likely to add value by strengthening the monitoring function of board.

Gender-diverse boards and financial statements quality

Following the recent wave of accounting scams in corporate giants such as Enron, the quality of financial statements is a hot issue among academics and regulators. A well-governed board of directors should ensure the quality of financial statements. Companies that promote gender diversity among their boards of directors tend to experience fewer governance-related issues (e.g. instances of bribery, corruption and fraud) than average (MSCI, 2015). Further, female directors provide better oversight over managers (Adams &

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Ferreira, 2009). This suggests that board gender diversity may have strong implications for the quality of financial statements by enhancing the ability of board to oversee managers' reporting to minimize the incidents of financial frauds. In this thesis, we will focus on three aspects of financial statements quality that caused the collapse of Enron namely, earnings manipulation, related party transactions and audit quality.

There is abundance of studies highlighting the importance of board gender diversity. However, few studies have explored the effect of board gender diversity on earnings management (Arun et al., 2015; Gaviouset al., 2012; Srinidhi et al., 2011). Generally, women are very cautious and show less aggression than men in a variety of decision-making contexts (Byrnes et al., 1999), and have a low probability of risk-taking, especially in financial decision-making environments (Powell & Ansic, 1997). More specifically, women tend to act more decisively than men to enhance earnings quality because they are highly sensitive to the reputational losses and risk of lawsuits (Srinidhi et al., 2011). Therefore, women are highly expected to exhibit a restrained approach towards earnings management (Gul, Fung, & Jaggi, 2009). In this regard, Krishnan and Parsons (2008) find that firms with more women in their senior management report high quality earnings. The findings of Srinidhi et al. (2011) also indicate a favourable effect of women directors on earnings quality in a sample of U.S firms. In parallel, Gaviouset al. (2012) tested the association among gender-diverse boards and earnings management in a sample of Israeli firms listed in the USA over the period 2002-2009. They also suggest a positive effect of female directors on earnings quality. A recent study by Arun et al. (2015) confirms that firms in the United Kingdom with a majority of female and independent female directors on their boards have adopted restrained earnings management practices. Existing studies advocate that higher monitoring ability and risk averse approach of women assists gender diverse boards to ensure the quality of reported earnings. However,

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several authors (Arun et al., 2015; Gaviious et al., 2012) have claimed that only few studies investigate the relationship between gender diversity of corporate boards and earnings management. Therefore, more studies are required to explore the association between board gender diversity and earnings management.

Related party transactions are the transactions conducted between an organization and its managers, directors, shareholders and affiliated firms. In recent times, managers tend to use related party transactions as a tool to manage earnings. Aharony, Wang, and Yuan (2010) studied a sample of Chinese firms between the years 1999 and 2001. Their findings show that Chinese firms tend to manipulate earnings through related party transactions in pre-IPO period. Along similar lines, Jian and Wong (2010) find evidence that Chinese listed firms enhance the quality of earnings by conducting abnormal related party transactions with their controlling shareholders. In addition to this, they argue that these transactions are not just accrual-based but can be cash-based and serve as substitute to accruals management for meeting earnings targets. Here, it will be interesting to know that related party transactions were the main cause of recent accounting scams in the U.S. and European companies. For instance, Mr. Andrew S, FATSOW, Enron's Executive Vice President and Chief Financial Officer conducted related party transactions with his affiliated firms (e.g., Chewco, LJM1 & LJM2) and gained \$30 million at the expense of other stakeholders. Majority of these related party transactions were designed to achieve favourable financial statements objectives, not to fulfil real economic needs or to transfer risk. In October 2001, Enron decided to take a \$544 million after-tax charge against earnings related to transactions with LJM2 a partnership created and handled by FATSOW. Further, Enron revealed that FATSOW has received \$30 million from LJM1 and LJM2. These announcements destroyed market confidence and investor trust in Enron. Within one month of these announcements, Enron filed for bankruptcy. Although related

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party transactions played a vital role in the collapse of Enron and board of directors was also failed to discharge its monitoring duties efficiently. To date, there is no study in existing literature that explores the relation among board gender diversity and related party transactions. Considering the importance of related party transactions with regard to the quality of financial reporting, we decided to study the relation among board gender diversity and related party transactions in this thesis.

The quality of financial statements largely depends on the quality of statutory audit. External auditor of Enron failed to highlight flaws in the financial reports which cause the downfall of Enron and the auditor was also sued by stakeholders. As, the core objective of statutory audit is to protect the rights of shareholders by detecting incidents of expropriation by insiders (Newman et al., 2005). More specifically, external auditors verify that all stakeholders are evenly treated and financial records are in agreement with statutory requirements. Therefore, audit quality possibly will enhance the shareholders' belief on the accuracy of financial reports (Newman et al., 2005). Despite the abundance of literature associating board characteristics with audit quality (Abbott, Parker, Peters, & Raghunandan, 2003; Carcello et al., 2002), only one recently published study explores the relation between board gender diversity and audit quality in terms of demand for audit effort measured by audit fees (Lai et al., 2017). Lai et al. (2017) use a sample of US firms over the period 2001-2011 to study the nature of association among gender-diverse boards and audit quality. Their findings highlight that female directors demand superior quality audits which results in higher audit fees for firms with gender diverse boards than all-male boards. In short, financial statements quality largely depends on the quality of statutory audit and gender diverse boards are more likely to demand higher quality audits. By extending the similar line of research, this thesis attempts to investigate whether gender-

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diverse boards demand superior quality audits to ensure financial statements quality in France.

If there is any relation between board gender diversity and the financial statements quality, it should be amplified due to the specific attributes or characteristics of female directors. From the perspective of resource dependence theory and human capital theory the gender of corporate director would not matter for his or her performance of board tasks. The arguments of resource dependence theory and human capital theory are based on personal characteristics of individuals such as education level, educational background and prior working experience. Existing studies do not capture the influence of female directors' characteristics while studying the relation among board gender diversity and financial statements quality (e.g., earnings management and audit quality). The difference in skills level of female directors may be a possible reason of mixed findings reported by existing gender diversity studies. In this regard, Carter et al. (2003) argue that agency theory or fiduciary governance alone is not enough to explore the actual relationship between board gender diversity and organizational outcomes such as firm performance. Further, female directors exert significant influence on board decision making which depends on their professional experience and different values (Nielsen & Huse, 2010). In a recent study, Nekhili and Gatfaoui (2013) argue that appointment of women to the board of directors is related to their demographic attributes (e.g., business expertise, specific skills and network ties). Along similar lines, Ben-Amar, Francoeur, Hafsi, and Labelle (2013) argue that statutory diversity based on agency theory has an impact but the demographic diversity is likely to have more influence on board decision making. Following the recommendations of these studies and to fill the research gap, we opted to dig deep by going beyond the traditional measures of board gender diversity (e.g., number

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or percentage of female directors) to explore the channel (i.e., specific attributes) through which female directors exert influence on the quality of financial statements.

Methodology

Endogeneity is a major issue highlighted by scholars that may bias the relation between board gender diversity and organizational outcomes (Adams, 2016; Adams & Ferreira, 2009). Most importantly, studies conducted by consultancy companies (e.g., Catalyst) that are largely used to make “business case” argument for gender diversity suffered from endogeneity problem (Adams, 2016). Endogeneity problem occurs if an explanatory variable is correlated with the error term. This means that the relationship between dependent and independent variables is affected due to some other (observable or unobservable) factors. Endogeneity may be due to several reasons such as, omitted variables, reverse causality or measurement error. An omitted variable bias exists in regression analysis when the underlying specification is not correct due to omission of a variable which is correlated with both the independent and dependent variables. For explaining omitted variable bias, Adams (2016) states that women are likely to sit on the boards of big companies which tend to perform differentially than small companies. Therefore, results will be biased due to omitted variables if we study the relation between board gender diversity and financial statements quality without controlling for firm size which may affect both the level of board gender diversity and financial statements quality. Reverse causality is another source of endogeneity because the correlation among board gender diversity and organizational outcomes can be explained in both ways either the effect of diversity on organizational outcomes or the effect of organizational outcomes on board gender diversity. For example, in regression analysis the coefficient on female directorships may reflect both a causal effect of gender diversity on financial statements quality and a causal effect of financial statements quality on gender diversity.

In this regard, Adams and Ferreira (2009) and Terjesen, Aguilera, and

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Lorenz (2015) suggest that female directors' appointments are a strategic decision by firms that may be used to signal some specificities of the firm. On the other hand, female directors may choose to sit on the boards of firms that demonstrate a higher tendency to ensure the quality of financial statements. This suggests that the relation between gender diversity and financial statements quality can be biased because of endogeneity (omitted variables or reverse causality). To deal with this endogeneity problem, we first control for firm level characteristics that might affect the appointment of female directors and the quality of financial statements by performing Propensity Score Matching between firms with gender-diverse boards and the subsample of firms with only male directors (Rosenbaum & Rubin, 1983). Second, we estimate the determinants of the financial statements quality by using a system GMM (Generalized Method of Moments) estimation method (Blundell & Bond, 1998).⁴ This methodology makes it possible to have consistent estimators, in particular for panel samples with a short study period (in number of years) compared to the number of individuals (Roodman, 2009; Wintoki et al., 2012; Flannery & Hankins, 2013).

This thesis is composed of three chapters. First chapter is based on an article published in *British Accounting Review*. Second and third chapter is under review in *Journal of Business Research* and *Journal of Business Finance and Accounting*, respectively.

First chapter attempts to answer three main questions. Does board gender diversity constrain earnings management? How specific attributes of female directors mediate the relation among gender-diverse boards and earnings management? What is the impact of female directors' specific attributes on earnings management? We started this chapter by introduction and then present the institutional and theoretical background to explain the

⁴ See Roodman (2009) for a formal presentation of the "system" GMM model. Wintoki et al. (2012) present the model with a focus on a corporate governance application.

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relation between board gender diversity and earnings management. This allowed us to develop hypotheses. The section 5 of the first chapter empirically tests and discusses the effects of board gender diversity and female directors' attributes on earnings management. Finally, the last section concludes.

In second chapter, we study the effect of gender-diverse boards on the use/reporting of related party transactions by considering the role of female directors' specific attributes. First section of the second chapter highlights the importance of related party transactions for the financial reporting process. In second section, we present the institutional setting to explain why French context is relevant for studying related party transactions. Third section reviews the related literature to justify the relation among board gender diversity and related party transactions. We are particularly interested in the relationship between board gender diversity, female directors' specific attributes and related party transactions. Fifth section tests our hypotheses and interprets the results. Finally, we conclude and provide some avenues for future research.

The third chapter discusses the relationship between gender-diverse boards and audit fees. In addition to this, we consider specific attributes of female directors to explore the channel through which female directors influence audit fees. This chapter can be divided in different sections. The first section presents the institutional and theoretical framework that explains the role of the board in statutory audits and the importance of statutory audits for ensuring the quality of financial statements, particularly in the French context. Second section highlights empirical work dealing with the effect of board gender diversity and female directors' attributes on audit quality. This review allows us to formulate our hypotheses. Third section will be an opportunity to test our hypotheses and discuss the results obtained to reach a conclusion.

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Finally, we conclude with a discussion of our results, we identify the contributions and limitations of our research and highlight areas for future research.

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Chapter 1: Gender-diverse boards and earnings management: The role of female directors' attributes

ABSTRACT

We apply the system GMM regression estimation approach on a matched sample of French firms listed on Euronext Paris during the period 2001-2010 to investigate the relationship between gender-diverse boards and earnings management by considering statutory and demographic attributes of women directors. Primarily, we find a negative relationship between female directors and the magnitude of earnings management. However, this result does not hold when statutory and demographic attributes of women directors are taken into account, because the assessment of earning quality requires particular competencies and skills. Our findings thus highlight that business expertise and audit committee memberships are key attributes of female directors that promote the effective monitoring of earnings management. In contrast, women leadership and experience are positively related to the level of earnings management. An important implication of our findings is that the decision to appoint females on corporate boards should be based on their statutory and demographic attributes rather than on blind implementation of gender quotas.

Keywords: Female directors; statutory attributes; demographic attributes and earnings management.

Chapitre 1: La diversité des genres au conseil d'administration et la gestion des bénéfices: Le rôle des attributs des femmes directrices

RÉSUMÉ

Nous avons utilisé la méthode d'estimation de régression GMM sur un échantillon apparié d'entreprises Françaises cotées sur la Euronext Paris durant la période 2001-2010 afin d'étudier la relation entre diversité du genre au conseil d'administration et la gestion des bénéfices en prenant en considération le rôle des attributs statutaires et démographiques des femmes membres du conseil d'administration. Tout d'abord, nous avons trouvé une relation négative entre la présence des femmes au conseil d'administration et l'ampleur de la gestion des résultats. Cependant, ce résultat n'est pas valable lorsque les caractéristiques statutaires et démographiques des femmes membres du conseil d'administration sont prises en compte, dès lors que l'évaluation de la qualité des résultats exige des compétences et des aptitudes particulières. Nos résultats soulignent ainsi que l'expertise dans le domaine comptable et financier et l'appartenance aux comités d'audit sont des attributs clés des femmes directrices qui favorisent un suivi efficace de la gestion des résultats. En revanche, le leadership et l'expérience des femmes sont positivement liés au niveau de gestion des résultats.

Mots-clés: Femmes membres du conseil d'administration; attributs statutaires; attributs démographiques; gestion des résultats.

1. Introduction

Earnings management is generally defined as a practice of using discretionary accounting methods to attain desired levels of reported earnings (Gavious, Segev, & Yosef, 2012). Earnings management includes choosing accounting methods that provide reporting income that is advantageous for managers and company but detrimental for external stakeholders (Krishnan & Parsons, 2008). The issue of earnings quality is discussed extensively in the accounting literature, and is an important area of concern for stakeholders. Earnings quality indicates the extent to which stated earnings present an organisation's financial reality to interested individuals. If users of financial data are "misguided" by the level of reported income, then investors' allocation of resources may be inappropriate based on the financial statements provided by management (Healy & Wahlen, 1999). Managers are professionally responsible and ethically obliged to make sure that concerned parties receive superior quality earnings reports in a timely manner (Krishnan & Parsons, 2008). After the revelation of major accounting scams involving big organisations (e.g. Enron), scholars have been highlighting managers' motives for engaging in earnings management (Gavious et al., 2012). The literature cites different factors, e.g. debt covenants, pending litigation or the existence of performance-based compensation plans for management, that can motivate earnings management (Jones, 1991). All stakeholders and users of financial information require tools that can moderate managers' tendency to engage in earnings management (Krishnan & Parsons, 2008). Several researchers have explored the impact of gender diversity on both financial reporting quality and earnings management (Arun, Almahrog, & Aribi, 2015; Gavious et al., 2012; Krishnan & Parsons, 2008; Labelle, Gargouri, & Francoeur, 2010; Peni & Vähämaa, 2010; Srinidhi, Gul, & Tsui, 2011).

However, it seems that this issue requires further investigation. Equivocal methodologies and fickle findings have left researchers and managers perplexed. The main cause of this uncertainty is the excessive use of the agency hypothesis. Which states that alone statutory diversity is enough to control management and provide motives to defend shareholders' interest (Fama & Jensen, 1983). By following the approach used by Ben-Amar, Francoeur, Hafsi, and Labelle (2013), we consider that statutory diversity has an effect, albeit one that hinges on individual characteristics or demographic attributes of board members. Statutory diversity, specifically demographic diversity, is a measure of heterogeneity in the process of board composition. Demographic diversity leads to better decision making by nurturing candidness and analytical decision-making among board members (Erhardt, Werbel, & Shrader, 2003).

The literature has considered the number or percentage of women directors in studies examining the effect of gender diversity on earnings management. We extend this line of research by considering the effect of statutory and demographic attributes of women directors, to study the relationship between board gender diversity and earnings management. We consider board gender diversity and women's attributes as endogenously determined by several variables related to the firm's governance, ownership structure and other characteristics. We also apply a propensity score-matching approach to produce approximately unbiased estimates of the treatment effect. Matching is performed in order to match gender-diverse firms with non-gender-diverse firms that have very similar characteristics. This analysis serves to illustrate whether sample firms differ in firm specific characteristics regardless of the role of gender diversity.

Based on a sample of 394 French firms listed on Euronext Paris over the period 2001-2010, we find that board gender diversity plays an important role in earnings management. Initially, our findings highlight that the presence of women on the board is

negatively related with the level of earnings management. After we add statutory and demographic attributes in regression models, the results provide evidence of a positive relationship between female directors and earnings management. With regard to statutory and demographic attributes, we find that business expertise and audit committee memberships are key attributes of women directors to ensure the detection and correction of earnings manipulation. An important implication of our findings is that the decision to appoint females on corporate boards should be based on specific criteria (e.g. business expertise and monitoring skills) rather than blind implementation of gender quotas. Further, the evidence provided by our findings negates the public policy initiatives for gender quotas on corporate boards based on the proposition that gender balance improves firms' effectiveness related to earnings management.

The article proceeds as follows. Section 2 briefly discusses and highlights the value of studying the French institutional background. Section 3 concisely reviews the literature regarding gender diversity and earnings quality and presents our research hypothesis. Section 4 describes our data, methodology and variables used in this study. Section 5 presents the findings of our study, and the last segment contains closing comments.

2. The French institutional background

The French context is of interest for various reasons. The French civil law-based legal system does not offer adequate investor protection (La Porta, Lopez-de-Silanes, & Shleifer, 1999). Obviously enough, aggressive earnings management may occur in countries with less protection for minority shareholders, resulting in an environment that is more conducive to weaker financial reporting transparency and where managers enjoy greater discretion (Bushman, Chen, Engel, & Smith, 2004; Duh, Lee, & Lin, 2009). Further, as noted by Faccio and Lang (2002), concentration of ownership and the separation of ownership and control are distinctive features of French institutions. These

authors report that 70.92% of non-financially controlled firms are family owned and managed. These controlling family owners exercise control of their firms (Hwang & Kim, 2016) through their associated directors serving on the board (Cuervo, 2002). Furthermore, top managers have close relationships with controlling family owners (Cuervo, 2002; Faccio & Lang, 2002; Boubaker & Labégorre, 2008). Concentration of ownership therefore probably decreases the agency problems between controlling shareholders and managers but provides a favourable environment for expropriating minority shareholders (Johnson, La Porta, Silanes, & Shleifer, 2000). Hence the main issue is to protect minority shareholders in a meaningful way from being expropriated by controlling shareholders through earnings management (Chin, Chen, & Hsieh, 2009; Liu & Lu, 2007).

The role of the board of directors and of board characteristics (i.e. board independence and gender diversity) is usually associated with the protection of shareholder interests (Gul et al., 2011; Kim, Kitsabunnarat-Chatjuthamard, & Nofsinger, 2007; Liu & Lu, 2007; Nekhili & Gatfaoui; 2013). This role is particularly crucial with regard to the issue of earnings management, in that one of the responsibilities of boards is to monitor management (Klein, 2002; Rahman & Ali, 2006; Xie, Davidson & Dalton, 2003). More closely related to our particular focus, there is considerable evidence to suggest that women are strict monitors of management (Adams & Ferreira, 2009) and that firms with gender-diverse boards are less likely to manage earnings (Arun et al., 2015; Gaviouis et al., 2012; Labelle et al., 2010; Srinidhi et al., 2011). These arguments lead us to explore whether board gender diversity in France has a favourable effect with regard to earnings management.

3. Background and hypothesis development

3.1. Board gender diversity and earnings management

The dilemma of earnings quality includes monetary and ethical issues. Prior studies that examine monetary and ethical dilemmas commonly consider gender as a predicting factor (Krishnan & Parsons, 2008). Females have different capabilities than males because of differing socialisation processes for men and women (Srinidhi et al., 2011). Betz, O'Connell, and Shepard (1989) explain differences in behavior of males and females in monetary and financial matters. They find that women emphasise on assisting others, whereas men focus on moving upwards in the organisational hierarchy as well as making money. Most importantly, women are more ethical in their professional life and unlikely to engage in immoral activities to gain monetary benefits than are men (Betz et al., 1989; Kaplan, Pany, Samuels, and Zhang, 2009). With regard to financial fraud, Kaplan et al. (2009) suggest that women have a higher tendency to report incidents of fraudulent financial reporting.

Difference in gender characteristics have also been noted in decision-making and risk-taking behavior. Prior studies reveal that females exhibit less forbearance to opportunistic behavior while making organisational decisions (Krishnan & Parsons, 2008) and place less importance on personal interests, appropriateness and common practices. Further, females are more likely to exhibit a higher tendency towards risk averseness than men (Barber & Odean, 2001; Powell & Ansic, 1997). Women are very cautious and show less aggression than men in a variety of decision-making contexts (Byrnes, Miller, & Schafer, 1999), and have a low probability of risk-taking, especially in financial decision-making environments (Powell & Ansic, 1997). More specifically, women tend to act more decisively than men to enhance earnings quality because they are highly sensitive to the reputational losses and risk of lawsuits (Srinidhi et al., 2011). Therefore, women are highly

expected to exhibit a restrained approach towards earnings management (Gul, Fung, & Jaggi, 2009).

Krishnan & Parsons (2008) find that firms with more women in their senior management report high quality earnings. The findings of Srinidhi et al. (2011) also indicate a favourable effect of women directors on earnings quality. In parallel, Gavious et al. (2012) suggest a positive effect of female directors on earnings quality. A recent study by Arun et al. (2015) confirms that firms in the United Kingdom with a majority of female and independent female directors on their boards have adopted restrained earnings management practices. However, findings of previous studies do not support this conclusion regarding the relationship between gender diversity and earnings management. For example, Sun, Liu, and Lan (2011) were unable to find any association between female participation on audit committees and earnings management. Similarly, Peni and Vahamma (2010) do not observe an association between gender of the firm's chief executive officer and earnings management. Several authors (Arun et al., 2015; Gavious et al., 2012; Krishnan & Parsons, 2008) claim that, to date only a few studies have investigated the relationship between earnings management and gender diversity of corporate boards. The present research aims to fill this gap.

Consistent with the findings above (Arun et al., 2015; Gavious et al., 2012; Krishnan & Parsons, 2008; Labelle et al., 2010; Srinidhi et al., 2011), we state our first hypothesis as follows:

H1. *Female directors constrain earnings management.*

3.2. Statutory diversity of the board and earnings management

Statutory diversity is imperative for effective monitoring of management to protect shareholders' interests (Fama & Jensen, 1983). Statutory or fiduciary governance focuses on highly recommended governance practices, e.g. the presence of more independent

directors on the board and separation of the CEO and chairman's office. This is commonly known as leadership structure (Ben-Amar et al., 2013). Similarly, audit committee independence is globally recognised as a "best practice" of corporate governance. Fiduciary governance is based on the idea that board independence from management will improve the overseeing quality of board, which will indirectly enhance the firm performance (Fama & Jensen, 1983; John & Senbet, 1998). The governance literature comprehensively explores the propositions of agency theory and suggests that the board's monitoring function is a key element of an organisation's governance system (Dalton, Daily, Ellstrand, & Johnson, 1998; John & Senbet, 1998). In accordance with the premise of fiduciary governance, statutory diversity is likely to enhance board effectiveness, which in turn improves firm performance by reducing agency costs (Ben-Amar et al., 2013). Recent studies provide evidence that measures of statutory diversity (female independent directors, female audit committee members and women leadership) can play an active role to ensure the quality of reported earnings (Arun et al., 2015; Gaviious et al., 2012; Srinidhi et al., 2011). Similarly, in the context of this study, statutory diversity is expected to enhance the board effectiveness at monitoring management activities while discouraging the practice of earnings management. To measure the degree to which statutory diversity of the board affects the relationship between female directors and earnings management, we consider three proxies of statutory diversity: women independent directors, audit committee members and women chairs. We further subdivide these variables into two groups based on the monitoring and leadership roles assigned to women directors.

3.2.1. Appointment of women to key monitoring positions and earnings management

The ability of board to oversee management largely depends on key monitoring positions, e.g. independent directorships and audit committee memberships (Fama & Jensen, 1983; Klien, 2002; Millstein, 1999; Sarbanes Oxley Act, 2002). The primary duty

of the audit committee is to monitor the firm's financial reporting process (Klein, 2002; Sarbanes Oxley Act, 2002). Independent directors exhibit better monitoring skills, which in turn minimises the chances of both earnings management and financial fraud (Beasley, 1996; Fama & Jensen, 1983; Larcker, Richardson, & Tuna, 2007). The audit committee and board independence are negatively related to earnings management, and boards structured to be more independent are highly effective at monitoring the financial reporting process (Klein, 2002). Similarly, diversity promotes independent thinking in the boardroom, which enhances the board's monitoring ability (Adams & Ferreira, 2009). Diverse boards might also monitor management more effectively because board independence is associated with board diversity (Adams, Haan, & Terjesen, 2015).

Ferreira (2015) argues that board independence is affected by the gender of directors. The literature provides evidence that gender diverse boards are more likely to exhibit independent thinking and stronger monitoring ability (Adams & Ferreira, 2009; Carter, Simkins, & Simpson, 2003). Regarding earnings quality, Bruns and Merchant (1990) highlight that earnings management is an ethical dilemma. Meanwhile, females ponder well of ethical issues than men (Krishnan & Parsons, 2008; Labelle et al., 2010). Empirical support to this conjecture is provided by Srinidhi et al. (2011), who find a negative association among non-executive female directors and earning management. In a more recent article, Arun et al. (2015) assert that firms with a higher proportion of independent female directors tend to adopt restrained earnings management practices.

With regard to board committees, Adams and Ferreira (2009) propose that female directors are more likely to sit on monitoring-related committees than are male directors. In particular, females are more likely to be placed on audit committees. They find that the proportion of women on board committees is higher than the proportion of women on boards. Few studies discuss the impact of audit committee's gender diversity on earnings

management, but the reported findings are inconsistent. For instance, Gaviouis et al. (2012) demonstrate that accounting aggressiveness (measured by earnings management) is associated with the proportion of women on audit committees. Firms that have at least one woman on their audit committees produce high quality earnings (Srinidhi et al., 2011). Conversely, Sun et al. (2011) find no evidence linking the presence of women on audit committees and earnings management. Thiruvadi and Huang (2011) negate the findings of Sun et al. (2011) and suggest that inclusion of female directors on audit committee restrains earnings management.

The studies above suggest that the placement of women to key monitoring positions (e.g. independent directorships and audit committee) enhances the board's efficiency at overseeing the activities of management, which in turn decreases the probability of earnings management. Hence, the following hypothesis is proposed:

H2. *The appointment of women directors to key monitoring positions is negatively associated with earnings management.*

3.2.2. Women leadership and earnings management

The leader's management style is crucial for organisational success (Leblanc, 2005). In our study, we focus on understanding the board chair's involvement in assessing earnings quality. The prime duty of the chair is to run the board effectively by promoting the participation of all board members to monitor the performance of executives and manage board dynamics (Machold, Huse, Minichilli, & Nordqvist, 2011). The chairperson is supposed to lead the board by capturing the value of diversity of opinions and maintaining coherence among board members to bring everyone around common organizational goals (Daily & Dalton, 1997; Machold et al., 2011). The literature on psychology and management has proved that substantial gender differences prevail in the leadership style of males and females (Kim & Shim, 2003; Peni & Vähämaa, 2010).

Females tend to follow a transformational and democratic or participative leadership style, whereas men are observed to adopt a transactional and autocratic leadership style (Eagly, Johannesen-Schmidt, & Van Engen, 2003). Further, the transformational leadership style is based on ethical, personal and social values to a much greater extent than the transactional leadership style (Hood, 2003). In line with the arguments above, the position of chair requires a transformational leader to monitor the executives' performance by making sure the participation of all members, and transformational leadership is based on higher ethical values. While, earnings management is also an ethical issue (Bruns & Merchant, 1990). Scholars suggest that females tend to adopt transformational or participative leadership styles, and have higher ethical standards than men (Eagly et al., 2003; Hood, 2003; Krishnan & Parsons, 2008). Hence, we can predict that female leaders will be more appropriate for assessment of earnings quality.

H3. *Women chairs are likely to decrease the level of earning management.*

3.3. Demographic diversity of the board and earnings management

Demographic diversity is likely to have a direct effect on the board's decision-making ability by enhancing the level of skills and competencies of directors (Ben-Amar et al., 2013). According to the perspective of human capital theory, an individual's demographic attributes (e.g. education, skills and experience) can enhance cognitive and productive abilities, which benefits both the individual and his organisation (Becker, 1964). Regarding board membership, Kesner (1988) asserts that individuals should have a wide range of human capital or demographic attributes in order to be considered for directorships. Similarly, in the French context Nekhili and Gatfaoui (2013) suggest that women are hired by boards, based on their demographic characteristics. Therefore, boards tend to appoint women if they possess different demographic attributes (e.g. behaviour, education background and experience) than males.

The study by Labelle et al. (2010) affirms that diversity other than required by standards and codes of corporate governance is likely to be part of governance practices to defend stakeholders' interests. Diversity that is not required by standards of corporate governance is demographic diversity (education, business expertise and experience). Further, Carter et al. (2003) contend that agency theory (statutory differences of board members) is not enough to demonstrate an actual relationship between board diversity and organisational performance. Statutory diversity has an effect, but it depends upon the individual characteristics or demographic attributes of board members (Ben-Amar et al., 2013). In the context of this study, we also expect a similar effect of demographic diversity of female board members. Demographic diversity of female board members is likely to complement statutory diversity, which is expected to improve the monitoring function of the board to decrease earnings management by managers. Studies on diversity mostly take into account the effect of one element of demographic diversity at one time (Ben-Amar et al., 2013). Contrary to existing studies, we consider the effect of education level, business expertise, nationality, tenure and multiple directorships of women. We further categorise these attributes into two groups on the basis of educational expertise (education level and background) and experience (tenure, multiple directorships and nationality) of women directors.

3.3.1. Educational expertise of female directors and earnings management

Individuals with and without business education tend to exhibit different decision-making styles (Hambrick & Mason, 1984; O'Fallon & Butterfield, 2005). In a recent article, Nekhili and Gatfaoui (2013) propose that women directors must have business education and expertise to reach key positions (e.g. membership of different board committees) in the organisation. Further, financial expertise of audit committee members is an important element to ensure the quality of reported earnings (Bédard & Gendron,

2010). Though, irrespective of all other traits, business expertise (such as MBA degree) can enhance an individual's chances of success and appointment to the board in today's complex business environment (Ruigrok, Peck, & Tacheva, 2007).

Regarding education level, Papadakis and Barwise (2002) suggest that highly educated individuals can make better decisions due to their cognitive abilities to process and analyse available information. For managing boardroom diversity, it is important to consider the qualifications (education level and background) of directors (Ruigrok et al., 2007). Further, Smith, Smith, and Verner (2006) report a favourable impact of women executives on corporate performance, which they attribute to the female managers with the best qualifications in terms of education. Daily and Dalton (1994) argue that most women directors have a business education background. These studies provide evidence that irrespective of background (business or non-business); education level can enhance an individual's chances of success and appointment to a board of directors. Therefore, we expect that educational expertise⁵ of women directors will decrease the magnitude of earnings management. Hence, the following hypothesis is tested:

H4. *Educational expertise of women directors is likely to restrain earnings management.*

3.3.2. Experience of female directors and earnings management

Experience and familiarity with business enhance the competencies of individuals' contributing to the complex and highly sensitive proceedings of boards (Kesner, 1988). The experience and expertise of outside directors strengthen their advisory abilities and are likely to improve the quality of strategic decision making (Kroll, Walters, & Wright, 2008; McDonald, Westphal, & Graebner, 2008). Most importantly, firms should hire and retain outside directors whose experience matches with their strategic plans (McDonald et al., 2008). Scholars conclude that by acquiring experience, directors improve their advisory

⁵ The term "educational expertise" is used interchangeably with the terms education level and background of women directors.

skills, which in turn will improve the decision-making ability of the board (Kroll et al., 2008; McDonald et al., 2008). In the context of this study, we consider three proxies of experience (tenure, multiple directorships and nationality of women directors) commonly used in the literature.

The organisational demography research shows that director's tenure has a strong effect on firm performance (Kosnik, 1990). One study found that it takes directors three to five years to gain an adequate understanding of a firm and the way it operates (Bacon & Brown, 1973); a detailed understanding of firm requires more time (Kesner, 1988). Concerning financial reporting, Beasley (1996) states that chances of financial statement fraud decrease as the tenure of outside directors increases. Similarly, Bédard, Chtourou, and Courteau (2004) conclude that the level of earnings management (abnormal accruals) is inversely associated with average tenure of outside committee members.

Holding multiple board seats enables directors to build a reputation as monitoring experts (Fama & Jensen, 1983). The literature provides strong support for the positive reputation effect of multiple directorships (measured by number of board seats held by independent directors) in several corporate governance scenarios (Vafeas, 1999). Multiple directorships can facilitate the exchange of information, and such information might be vital for organisations to find and assess evolving opportunities (Connelly & Van Slyke, 2012). Indeed, multiple directorships enhance the level of an individual's understanding of the business environment and organisational issues, which in turn improves directors' monitoring efficiency (Connelly & Van Slyke, 2012; Fama & Jensen, 1983; Vafeas, 1999). More recently, Shu, Yeh, Chiu, and Yang (2015) suggest that externally connected directors gain financial expertise from their external connectedness, which help them to reduce the level of earnings management.

Masulis, Wang, and Xie (2012) provide evidence that foreign directors have a positive effect on decision-making processes related to cross-border acquisitions. From the perspective of resource dependence theory, cultural knowledge and know-how of overseas directors are valuable for firms in the domestic market of foreign directors (Ruigrok et al., 2007). Consistent with resource dependence theory, we consider overseas female directors as a proxy of international experience. In a previous study of foreign directors, Choi, Park, and Yoo (2007) reported a positive impact of foreign board members on firm performance. Similarly, Oxelheim and Randøy (2003) conclude that Norwegian and Swedish firms that appointed foreign directors on their boards experience higher valuations than do their competitors without foreign independent directors. In the context of this study, foreign women directors are expected to have a positive impact on the quality of reported earnings. Collectively, these studies suggest that all proxies of experience (tenure, multiple directorships and nationality) enhance the monitoring ability of the board, which is likely to reduce the chances of earnings manipulation by managers. Hence, the following hypothesis:

H5. *Women directors' experience is negatively associated with earnings management.*

4. Research methodology

Our initial sample comprises of the CAC All-Shares index listed companies on Euronext Paris with a trading volume higher than 5% of their share capital, irrespective of market capitalisation during the 2001-2010 periods. We exclude real estate, foreign, and financial firms from the initial sample due to their different regulations. After applying the data restrictions above, our final sample is composed of 394 firms in the 2001-2010 periods, for a total of 3160 unbalanced firm-year observations. Accounting and financial data were collected from Thomson Datastream. The Thomson One database was utilised to collect information about ownership structure. Data regarding governance variables,

women directors and their specific attributes were collected from annual reports and cross-checked with information available on www.whoswho.fr and www.dirigeant.societe.com.

Prominent scholars suggest that managers use accruals mostly to manipulate earnings because accruals are hard to be detected by external stakeholders (Dechow, Sloan, & Sweeney, 1995; Jones, 1991; Kothari, Leone, & Wasley, 2005). Further, earnings can be managed through short or long-term discretionary accruals (Arun et al., 2015). Becker, DeFond, Jiambalvo, and Subramanyam (1998) assert that managers have more discretion over short-term or current accruals than long-term accruals. In this study, we gauge earnings management (i.e. current discretionary accruals) using the Modified Jones Model (Dechow et al., 1995),⁶ which is widely used to measure current discretionary accruals (Arun et al., 2015; Gavious et al., 2012; Park & Shin, 2004; Shu et al., 2015). Following Dechow et al. (1995), we estimate current accruals by using the cross-sectional regression equation⁷ below:

$$CA_{it}/A_{it-1} = \beta_{it}[1/A_{it-1}] + \beta_{it}[(\Delta SALES_{it} - \Delta TR_{it}) / A_{it-1}] + \varepsilon_{it} \quad (1)$$

Where CA_{it} are current accruals, measured as net income before extraordinary items minus operating cash flow, A_{it-1} denotes total assets at the beginning of each year, $\Delta SALES_{it}$ is the change in sales, and ΔTR_{it} is the change in trade receivables. The residual (ε_{it}) of the equation is current discretionary accruals (CDA). The subscripts i and t stand for firm and year.

⁶ Jones (1991) relates total accruals to the change in sales ($\Delta SALES$) and gross property plant and equipment (PPP) as given below:

$$TA_{it}/A_{it-1} = \alpha_1[1/A_{it-1}] + \alpha_2(\Delta SALES_{it} / A_{it-1}) + \alpha_3(PPT_{it})$$

Sales are subject to earnings management by managers (i.e. increasing the sales recognition by the end of year), by using the Jones Model, we remove the portion of discretionary accruals (Arun et al., 2015). Due to this limitation of the Jones Model, we follow the modified version of the Jones Model developed by Dechow et al., (1995).

⁷ Consistent with the studies of Arun et al. (2015) and Park and Shin (2004), industry groups with fewer than six observations are excluded from the sample.

In our study, firm-specific characteristics that can influence the level of accruals and gender diversity are considered. Board size (*B_SIZE*) is the number of directors in a board. There is disagreement in the literature regarding the effect of board size on earnings management. Xie, Davidson, and DaDalt (2003) find negative association between board size and earnings management. Inversely, Rahman and Ali (2006) suggest a positive relationship between board size and earnings management. Prior studies support the idea that board independence (*B_IND*) can reduce earnings management (Beasley, 1996; Klein, 2002). Board meetings (*B_MEET*) represent the degree of board activity and are therefore expected to decrease the level of earnings management (Xie et al., 2003). Similar to Ahn, Jiraporn, and Kim (2010), we control for CEO duality (*DUAL*) to measure CEO entrenchment. In line with the study by Gaviious et al. (2012) a positive impact of CEO duality (*DUAL*) on earnings management is expected. Davidson, Xie, Xu, and Ning (2007) assert that CEOs who are approaching the retirement age are more prone to manage earnings through accruals. In light of this finding, it is interesting to study the influence of CEO tenure (*CEO_TEN*) on earning management. Family ownership (*FAM_OWN*) is the percentage of shares held by families. With regard to family ownership (*FAM_OWN*), Jaggi and Leung (2007) state that concentration of ownership in the hands of families is the right move to discourage earnings management. Similarly, higher levels of institutional ownership (*INST_OWN*) limit the management's ability to manipulate earnings (Koh, 2003; Park & Shin, 2004). To control for audit quality, we use the variable "*BIG*" because the presence of Big auditor is associated with higher earnings quality (Gaviious et al., 2012). Leverage and loss are proxies for the firm's financial condition. To date, empirical findings for the impact of leverage (*LEV*) on earnings management are inconclusive (Vasilescu & Millo, 2016). Several studies indicate that managers in financially distressed firms exert less discretion over accruals estimates (Arun et al., 2015; Gaviious et al., 2012;

Srinidhi et al., 2011). Subsequently, we expect a negative relationship between financial loss (*LOSS*) and earning management. The Tobin's Q (*TQ*) is used as a proxy for firm financial performance. Similar to Shu et al. (2015) a negative relationship is expected between Tobin's Q and earnings management. Research and development (*R&D*) intensity of firms may affect earnings management. With respect to operating cash flow (*CASH*), Gul et al. (2009) report that firms with a higher level of operating cash flows are less likely to engage in earnings manipulation. We consider foreign assets (*FOR_ASSETS*) of sample firms to account for the effect of foreign investments on the level of earnings management. The systematic risk is measured by *BETA*; firms with high risk will exert more discretion on earnings to reduce the perceived risk. Following Labelle et al. (2010), we expect a positive association between market risk and earnings management. Cross-listed firms are considered as the control variable to observe their earnings management practices; Lang, Raedy, and Wilson (2006) find evidence of earnings management in cross-listed (*CROSS*) firms. Finally, firm size (*F_SIZE*) measured by natural logarithm of total assets is expected to have a negative relationship with earnings management (Peni & Vähämaa, 2010; Shu et al., 2015). Given that the extent of earnings management may differ over time and industries, we also add dummies to control for the possible effect of time and industry.

[Please insert Table 1.1 here]

5. Data analysis and results

5.1. Descriptive statistics

Table 1.2 present descriptive statistics for our sample firms. The average value of current discretionary accruals (*CDA*) measured by the Modified Jones Model (MJM) is 0.012, which indicates that on average French firms are involved in income-increasing earnings management. With regard to women directors (*WDIR_BIN* & *WDIR_NB*), we

find that on average sample firms appoint less than one female director on their boards. On these boards, the mean percentage of women (*WDIR_%*) is 10.72, and 4.62% of chair persons are female (*WCHAIR*). The mean of independent women directors (*WIND*) is 8.9%, and only 2.37% women directors are appointed to audit committees (*WACOM*). Note that 46.82% of women directors are highly educated (*WEDUC*), and 45.82% come from a relevant business education background (*WBUS*). Approximately 9% of women directors are foreign nationals (*WNAT*). As for experience, the majority (61.6%) of women directors has multiple directorships (*WMUL*), and average tenure of women directors (*WTEN*) is 6.51 years. These statistics are comparable to the findings of Nekhili and Gatfaoui (2013). Table 1.2 also provides descriptive statistics for control variables. The average boards (*B_SIZE*) have 7.7 directors, 27.54% of whom are independent (*B_IND*). The average number of board meetings (*B_MEET*) is 6.36 per year, and in 62.58% of the firm-years there is CEO/Chairperson duality (*DUAL*). The average tenure of chief executive officers (*CEO_TEN*) is 7.82 years. We also find that on average 36.84% shares are held by family owners and institutional shareholding is 18%. These statistics reveal that families hold more shares than institutions. The median proportion of big auditor (*BIG*) is 1 across our sample firms. The mean of financial leverage (*LEV*) is 23.10% and Tobin's Q (TQ) is slightly higher than unity (1.041). Almost 24% of firms report incidents of financial loss (*LOSS*) in their financial statements. The research and development intensity (*R&D*) is 1.81% on average and the mean cash flow from operations is 9.88%. Our sample firms invest 18.77% of their assets in overseas countries (*FOR_ASSETS*) and their systematic risk (*BETA*) is less than unity (0.658). Some 8.6% of the firms are cross-listed (*CROSS*) in the United States, and average firm size (*F_SIZE*) is 4,919.765 million euros. These statistics are quite comparable to prior studies conducted on French corporations (e.g. Nekhili & Gatfaoui, 2013).

[Please insert Table 1.2 here]

Table 1.3 presents the summary statistics regarding the proportion of women directors across our sample firm-years. These statistics highlight that in 1629 (51.53%) firm-years, our sample firms have no women on their boards. In 1053 (33.2%) firm-years, only one woman is present on these boards. In 357 (11.30%) firm-years, two female directors are appointed to the board. These statistics demonstrate that less than half (48.47%) of our sample firms have gender diverse boards. Further, 33.32%, 11.30%, 2.56% and 1.27% of sample firm-years have 1, 2, 3 and 4 female directors on their boards, respectively. The majority (33.2%) of our sample's gender diverse firms has only one female on their boards, and the number of observations is very low for firms that have more than one female on board. For these reasons, we consider three different measures of women directorships (i.e. dummy variable, percentage and number of women directors), commonly used by scholars (Arun et al., 2015; Gaviious et al., 2012; Srinidhi et al., 2011).

[Please insert Table 1.3 here]

5.2. Propensity Score Matching (PSM)

The possible effect of gender diversity may be due to firm-related factors that affect gender diversity and earnings management simultaneously. In this scenario, the direct analysis of all firms is not appropriate due to differences in firm-level characteristics. To eliminate differences in firm-specific factors, we use propensity score matching of Rosenbaum and Rubin (1983). Meaningfully, we match gender diverse firms (with one female director) with a set of control firms (with all-male directors) that have almost identical characteristics (the nearest predicted propensity score) to gender diverse firms. Bad matching occurs if the nearest neighbour is far away. By using a calliper

distance of 1% without replacement,⁸ we impose a restriction on the maximum propensity score (calliper) to eliminate the probability of bad matching. Propensity score matching yields a matched sample consisting of 1894 cases: 947 treatment (gender-diverse firms) and 947 control cases (all-male firms). Table 1.4 shows that post-match pairwise differences of the control variables decrease in magnitude with respect to the pre-match sample and become statistically insignificant. While comparing the results of the entire sample to those of the matched sample, we do not have any significant difference in firm-specific characteristics of both gender-diverse and non-gender diverse firms.

[Please insert Table 1.4 here]

In Table 1.5, we report the findings of the Pearson correlation analysis and variance inflation factors (VIF) for dependent, independent and control variables. The correlation among all variables is below 0.5 and variance inflation factors (VIF) are also less than the critical value of 10, as suggested by (O'brien, 2007). Therefore, we do not have any multicollinearity issue that can influence our results.

[Please insert Table 1.5 here]

5.3. Principal Component Analysis (PCA)

Principal component analysis (PCA) is a statistical tool used to summarise large amounts of data in comparatively fewer “components,” which explains maximum possible variation from original variables in order to make interpretations more understandable (Abdi & Williams, 2010). The variance of each component is the eigenvalue of that particular component, while the component loadings matrix is the correlation among the original variables and derived components. Kaiser's rule suggests retaining only those

⁸ Matching without replacement means that the same gender-diverse firm can be matched to only one non-gender-diverse firm.

components that have eigenvalues more than unity. We can use PCA only if there is sufficient correlation between the original variables. A commonly used measure for sampling adequacy is Kaiser-Meyer-Olkin (KMO), which assumes values between 0 and 1. Low values are an indication of low correlation, A KMO value of higher than 0.5 is considered satisfactory to justify the use of PCA.

Initially, we included eight variables regarding statutory and demographic attributes of women directors in our study. To make interpretations more meaningful, we opt to reduce variables by using PCA. We applied the KMO measure of sample adequacy to justify the use of PCA. The KMO test in PCA by using eight original attributes shows that the KMO index is high (0.72), with significance equal to 0. Therefore, KMO index of higher than 0.5 validates the use of PCA. We have eight components with calculated eigenvalues corresponding to eight original variables. However, only four components with eigenvalues more than unity are retained for further analysis.

Table 1.6 presents the four derived components with their “names” and loadings. These derived components are named after the variables with which they are highly correlated. The first component has the highest correlation (0.531) with business education (*WBUS*). It means that the first component is explained by the variable business education. Therefore, the first component is named “*EXPERTISE*.” The second component is named “*LEADERSHIP*” because it loads highly (0.671) on women chairperson (*WCHAIR*), which is proxy of leadership. Similarly, the third component ranks high on both proxies of experience: multiple directorships (0.622) and tenure of women directors (0.548). Accordingly, the third component is named “*EXPERIENCE*.” Finally, the fourth component loads heavily (0.660) on audit committee membership of women directors and is named committee membership (*COM_MEMB*). The remaining attributes that loaded on these components are given in Table 1.6. In total, these four retained components account

for 60.6% of the variance in the original attributes. Scholars suggest that a component analysis that explains 60% of the variance in the original variables is considered satisfactory (Carcello, Hermanson, & McGrath, 1992). For further analysis, these four components are used as endogenous variables in our model to investigate the effect of women directors and their specific attributes (statutory and demographic) on earnings management.

[Please insert Table 1.6 here]

5.4. Multivariate analysis

Our study considers that both gender diversity and earnings management are endogenous. In this scenario, the potential effect of gender diversity may be driven by some firm specific characteristics affecting both gender diversity and earnings management concurrently. This is the classical endogeneity effect. By following Blundell and Bond (1998) to control for the possible endogeneity effect, we use the two-step General Method of Moments (GMM) estimation approach to capture the relationship between gender diversity and earnings management. This method is commonly known as the system GMM.⁹

$$\begin{aligned} CDA_{i,t} = & \alpha_0 + \alpha_1 \text{Lag } CDA_{i,t} + \alpha_2 WDIR_{i,t} + \alpha_3 B_{SIZE_{i,t}} + \alpha_4 B_{IND_{i,t}} + \alpha_5 B_{MEET_{i,t}} + \\ & \alpha_6 DUAL_{i,t} + \alpha_7 CEO_{TEN_{i,t}} + \alpha_8 FAM_{OWN_{i,t}} + \alpha_9 INST_{OWN_{i,t}} + \alpha_{10} BIG_{i,t} + \alpha_{11} LEV_{i,t} + \\ & \alpha_{12} TQ_{i,t} + \alpha_{13} LOSS_{i,t} + \alpha_{14} R\&D_{i,t} + \alpha_{15} CASH_{i,t} + \alpha_{16} FOR_{ASSETS_{i,t}} + \alpha_{17} BETA_{i,t} + \\ & \alpha_{18} CROSS_{i,t} + \alpha_{19} F_{SIZE_{i,t}} + INDUSTRY_{FE} + YEAR_{FE} + \varepsilon_{it} \end{aligned} \quad (2)$$

Where ε_{it} is the error term and the subscripts i and t stand for industry and year, respectively.

Table 1.7 presents the results of the system GMM regression for the matched sample to examine whether there is a relation between women directorships, our proxy for

⁹ The standard GMM considers only the first difference of each variable in a regression, while the lagged levels of explanatory variables are used as instruments. Blundell and Bond (1998) introduce the levels equation in the estimation procedure to produce a system GMM of two equations involving both the levels equation itself and the first-differenced equation.

gender diversity, and current discretionary accruals, our proxy of earnings management. We use three different measures of gender diversity. In Model 1, women directorships are measured by creating a dummy variable (*WDIR_BIN*) and in other Models (2 & 3) women directorships are considered as the percentage of women directors to total directors (*WDIR_ %*) and number of woman directors (*WDIR_NB*) on boards of sample firms, respectively. As stated in hypothesis H1, results in Table 1.7 show a negative and significant relationship between women directorships and current discretionary accruals in all models. These results provide evidence of the positive association between gender diversity of the board and earnings quality (Arun et al., 2015; Gaviious et al., 2012; Krishnan & Parsons, 2008; Srinidhi et al., 2011).

Consistent with the findings of Shu et al. (2015), board size (*B_SIZE*) is negatively related to current discretionary accruals in Models 1 and 2. Board independence (*B_IND*) is negatively associated with the level of discretionary accrual. In line with Klein (2002), this means that the higher the level of board independence, the lower the magnitude of earnings management. Similarly, the number of board meetings (*B_MEET*) has a negative impact on our proxy of earnings management. Board meetings show the degree of board activity and are expected to curb the magnitude of earnings management (Xie et al., 2003). CEO duality (*DUAL*) does not have any association with current discretionary accruals. In contrast, CEO tenure (*CEO_TEN*) is negatively associated with earnings management as measured by current discretionary accruals. In this regard, our findings suggest that long tenured CEOs are not likely to engage in earnings management. Concerning ownership structure, we find no association between family or institutional owners and earnings management. As these results demonstrate, the use of big auditor (*BIG*) is positively associated with the magnitude of discretionary accruals. This finding contradicts the study of Gaviious et al. (2012). Both proxies (*LEV & LOSS*) of the financial condition of the firm

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are negatively related to the proxy of earnings management (*CDA*). These results corroborate the findings of Arun et al. (2015). Further, managers have less discretion regarding accrual estimates in financially distressed firms (Srinidhi et al., 2011). Tobin's Q (*TQ*) and our proxy of earnings management (*CDA*) are negatively associated with each other. This result indicates that earnings management can impede financial performance of organisations as measured by Tobin's Q. Iatridis (2012) find that firm value is negatively associated with discretionary accruals and managers' opportunistic behaviour. The intensity of research and development (*R&D*) is inversely related to current discretionary accruals. This finding suggests that firms with high growth opportunities are less likely to engage in earnings management. Similar to Gul et al. (2009), we find that the higher the level of operating cash flows (*CASH*), the lower the magnitude of earnings management as measured by current discretionary accruals. The remaining control variables (*FOR_ASSETS*, *BETA*, *CROSS* & *F_SIZE*) do not have a significant effect on earnings management.

[Please insert Table 1.7 here]

Table 1.8 contains the results of three different models that predict the effect of women directorships and their specific (statutory and demographic) attributes on earnings management measured by current discretionary accruals. In Model 1, we study the relationship between specific (statutory and demographic) attributes of female directors and current discretionary accruals on firms that appoint at least one female to their boards by using four components derived through PCA instead of original variables. In Model 2 and 3, we investigate the impact of female directors on earnings management by considering the combined effect of women directors and their specific (statutory and demographic) attributes. In Model 2 and 3, women directorships are measured as the

percentage of women directors to total directors ($WDIR_ \%$) and the number of woman directors ($WDIR_NB$) on boards of sample firms, respectively.

$$\begin{aligned} CDA_{i,t} = & \alpha_0 + \alpha_1 LagCDA_{i,t} + \alpha_2 WDIR_{i,t} + \alpha_3 COM_{MEMB_{i,t}} + \alpha_4 LEADERSHIP_{i,t} + \\ & \alpha_5 EXPERTISE_{i,t} + \alpha_6 EXPERIENCE_{i,t} + \alpha_7 B_{SIZE_{i,t}} + \alpha_8 B_{IND_{i,t}} + \alpha_9 B_{MEET_{i,t}} + \\ & \alpha_{10} DUAL_{i,t} + \alpha_{11} CEO_{TEN_{i,t}} + \alpha_{12} FAM_{OWN_{i,t}} + \alpha_{13} INST_{OWN_{i,t}} + \alpha_{14} BIG_{i,t} + \\ & \alpha_{15} LEV_{i,t} + \alpha_{16} TQ_{i,t} + \alpha_{17} LOSS_{i,t} + \alpha_{18} R\&D_{i,t} + \alpha_{19} CASH_{i,t} + \alpha_{20} FOR_{ASSETS_{i,t}} + \\ & \alpha_{21} BETA_{i,t} + \alpha_{22} CROSS_{i,t} + \alpha_{23} F_{SIZE_{i,t}} + INDUSTRY_{FE} + YEAR_{FE} + \varepsilon_{it} \end{aligned} \quad (3)$$

Where ε_{it} is the error term and the subscripts i and t stand for industry and year, respectively.

The key finding is that results of Model 2 and 3 provide evidence of a significant and positive link between women directorships ($WDIR$) and current discretionary accruals (CDA), our proxy of earnings management. These results indicate that the negative effect of women directorships on earnings management in models presented in Table 1.7 was not caused by the presence of female directors on board alone. In fact, the negative impact of women directorships on earnings management was due to their specific (statutory and demographic) attributes. Meaningfully, the addition of specific attributes in regression models changes the nature of the association between women directors and earnings management.

In accordance with hypothesis H2, we find a negative relationship between the audit committee memberships (COM_MEMB) of women directors and the level of discretionary accruals. Prior studies also highlight that the appointment of women directors to audit committee can minimise incidents of earnings manipulation (Gavious et al., 2012; Srinidhi et al., 2011; Thiruvadi & Huang, 2011). For instance, Gavious et al. (2012) provide evidence that accounting aggressiveness is affected by the gender diversity of the audit committee. Further, the presence of women on audit committees restrains earnings management (Srinidhi et al., 2011; Thiruvadi & Huang, 2011). In line with these studies,

our findings suggest that audit committee memberships are a key attribute that enables women directors to detect and correct the practice of earnings management.

Regarding female leadership, we find that women chairs have a positive and statistically significant impact on current discretionary accruals. As stated by Gabrielsson, Huse, and Minichilli (2007) the chairperson is part of the board but has no statutory position. By law, all board members have same rights and responsibilities. Therefore, the chairperson has equal power to the other members. His/her authority is simply derived from the firm's board of directors. He/she is chosen among and by the directors to lead the board. The role of chair is more of a facilitator to ensure the participation of every director and decide on organisational issues with the consent of all board members (Machold et al., 2011). Accordingly, the board chair is not at the top of any decision hierarchy like the CEO (Gabrielsson et al., 2007). Consequently, board chairs do not have discretion over the decision-making process and are required to make decisions by obtaining the consent of all of the board of directors. Due to these differences in the decision-making process of the CEO and Chair, women chairs are less likely to exert their influence on current discretionary accruals. Hence, the third hypothesis is not supported by our results.

Consistent with hypothesis H4, we find that business education and expertise of women directors is an important attribute to curb earnings management. The impact of business expertise on current discretionary accruals is negative and significant at the 1% level. Women directors with business educational background and financial expertise are therefore more likely to reduce the tendency of managers to manipulate earnings. This result consolidates the findings of Nekhili and Gatfaoui (2013) that business expertise is the most important attribute of women directors. Finally, in line with prior studies (Bédard & Gendron, 2010; Park & Shin, 2004), we maintain that business education and financial

expertise of women directors is an important attribute for effective monitoring of earnings management.

Contrary to hypothesis H5, our results illustrate that experience has a positive effect on the magnitude of current discretionary accruals. This result is in accordance with the hypothesis of busyness and the contagion effect. In support of the busyness hypothesis, Lipton and Lorsch (1992) suggest that multiple directorships reduce the monitoring quality of the board, because directors with multiple board seats has less time available to consider managerial issues of all firms in detail. Similarly, Ahn et al. (2010) observe that multiple directorships adversely affect the quality of monitoring by board. According to the premise of the contagion effect, Chiu, Teoh, and Tian (2013) state that earnings management is a virus that spread from one organisation to other through multiple directorships. With regard to tenure, Xie et al. (2003) also find that the tenure of independent directors and the level of current discretionary accruals are positively associated. We therefore reject the fifth hypothesis.

Concerning control variables, we find that board size (*B_SIZE*) is negatively related to current discretionary accruals in Models 1 and 3. In Model 2, we observe a positive effect of board size on level of current discretionary accruals. The literature suggests a positive or negative effect of board size on earnings quality. While Xie et al. (2003) find a negative association between board size and earnings management, Rahman and Ali (2006) suggest a positive relationship between board size and earnings management. Board independence (*B_IND*) is negatively associated with the level of discretionary accrual. In line with Klein (2002), this means that the higher the level of board independence, the lower the magnitude of earnings management. As depicted by the results in Model 2, the number of board meetings (*B_MEET*) has a negative impact on our proxy of earnings management. Board meetings show the degree of board activity and are

expected to reduce the magnitude of earnings management (Xie et al., 2003). According to our expectations, CEO duality (*DUAL*) promotes the practice of earnings management (Gavious et al., 2012), and CEO tenure (*CEO_TEN*) is negatively associated with earnings management as measured by current discretionary accruals. This result contradicts the study by Davidson et al. (2007) which asserts that CEOs near retirement are more likely to engage in earnings manipulation. Concerning ownership structure, we find a negative effect of both family and institutional shareholdings on the level of earnings management. These findings are in accordance with those of prior studies (Jaggi & Leung, 2007; Koh, 2003; Park & Shin, 2004). The use of Big auditors (*BIG*) enhances the level of earnings management. In support of this finding, Francis and Wang (2008) state that earnings quality will be high for firms audited by Big 4 auditors in regimes with strong investor protection. Simply, in regimes with strong investor protection, Big auditors have incentives to enforce high quality earnings and risk mitigation from their clients. With regard to investor protection, La Porta, Lopez-de-Silanes, and Shleifer (1999) states that the French legal system provides poor investor protection. In line with these studies, we suggest that due to weak investor protection in France, Big auditors do not have incentives to mitigate incidents of earnings manipulation by their clients. Similar to the findings of Arun et al. (2015), leverage (*LEV*) exerts a negative effect on the level of current discretionary accruals in Model 1. The proxy of firm's financial performance, Tobin's Q (*TQ*) is negatively associated with earnings management. This result provides evidence that earnings management has a negative impact on firms' financial performance. The variable loss demonstrates a negative association with earnings management as measured by *CDA*. Further, managers have less discretion on accrual estimates in financially distressed firms (Srinidhi et al., 2011). The intensity of research and development (*R&D*) is positively related to current discretionary accruals in the third model. In line with Gul et

al. (2009), we find that the higher the level of operating cash flows, the lower the magnitude of earnings management as measured by current discretionary accruals. Firms with offshore investments (*FOR_ASSETS*) exhibit positive relationship with current discretionary accruals. Chin, Chen, and Hsieh (2009) demonstrate that corporate internationalisation (ratio of foreign assets to total assets) is associated with a higher level of earnings management as measured by discretionary accruals. In contrast to the study by Labelle et al. (2010), our results suggest that market risk measured by beta minimises the chances of earnings manipulation. Contrary to the study of Lang et al. (2006), we find that cross-listed (*CROSS*) firms are highly likely to manipulate earnings through current discretionary accruals. Our findings are mixed with regard to firm size. In the first model, firm size is negatively related to *CDA*, while in the second model the nature of the association is positive. The third model suggests no relationship between firm size (*F_SIZE*) and *CDA*.

[Please insert Table 1.8 here]

6. Summary and conclusions

This study extends the literature related to the association between board gender diversity and earnings management by considering specific (statutory and demographic) attributes of women directors. Aligned with the notion of the agency theory, statutory diversity indirectly enhances the board effectiveness to create value for shareholders by reducing agency cost (Dalton et al., 1998; John & Senbet, 1998). In our case, statutory diversity is also expected to create value by minimizing the probability of earnings manipulation by managers. Further, Carter et al. (2003) assert that agency theory (statutory differences of board members) is not enough to demonstrate an actual relationship between board diversity and organisational performance. In this regard, the human capital theory

states that an individual's demographic attributes (e.g. experience and education level) can enhance cognitive and productive abilities, which benefit the both individual and the organisation (Becker et al., 1998). Further, Ben-Amar et al. (2013) propose that statutory diversity has an effect, but that this effect is subject to individual characteristics or demographic attributes of board members. In this conjecture, it is important to consider the effect of both statutory and demographic attributes of female directors while studying the impact of board gender diversity. Studies that examine the effect of board gender diversity on earnings management have largely considered the percentage or proportion of female directors. In addition to the existing studies, we provide deep insight by discussing the channel (i.e. statutory and demographic attributes) through which female directors constrain earnings management.

We apply the system GMM estimation approach to a matched sample of 394 French firms listed on Euronext Paris during the period 2001-2010 to investigate the nature of the relationship between female directors and earnings management by considering the role of statutory and demographic attributes. Consistent with prior studies, our initial findings validate a negative link between female directorships and earnings management (Arun et al., 2015; Gaviouis et al., 2012; Srinidhi et al., 2011). However, when we add specific attributes in regression models, results provide evidence of a positive relationship between female directors and earnings management. Our results indicate that specific (statutory and demographic) attributes of women directors count more for effective monitoring of earnings management than just the presence and/or the percentage of women on board. Prominently, our findings highlight that business expertise and audit committee memberships are key attributes of women directors to detect and correct earnings management practices. Concerning these finding, prior studies provide evidence that financial expertise and appointment of female directors to audit committees minimise

the probability of earnings management (Bédard & Gendron, 2010; Srinidhi et al., 2011; Thiruvadi & Huang, 2011). In contrast, women chair leadership and experience is positively associated with the magnitude of earnings management. This finding supports both the busyness and the contagion effect hypotheses. With regard to experience measured by multiple directorships, Lipton and Lorsch (1992) assert that multiple directorships undermine the monitoring function of board, due to insufficient time available to oversee managerial issues of all firms. Further, the contagion effect asserts that earnings management is a virus that spreads from one organisation to another through multiple directorships (Chiu et al., 2013).

Our results complement existing academic research and have important implications for managers and regulators with regard to female directorship. First, our results extend previous work and provide deep insights into the relation between board gender diversity and earnings management, by explaining the channel through which female directors affect the magnitude of earnings management. In this regard, an important implication of our findings is that the decision to appoint women to corporate boards should be based on specific criteria (e.g. business expertise and monitoring skills) rather than blind implementation of gender quotas. Studying the impact of quotas without considering the attributes of female directors may then lead to inconclusive results.

While our results offer a new perspective about the effectiveness of board gender diversity by exploring the effect of female directors' specific attributes on earnings management, we recognize at least two limitations to our study, which in turn suggest directions for future research. First, our study uses only current discretionary accruals to measure earnings management. In this regard, it will be interesting to test the association among female directors, their specific attributes and other proxies of earnings management (e.g. earnings smoothing or loss avoidance). Second, different measures for women

directors' attributes should be considered to better understand the influence of women directors' attributes on earnings management. For instance, we measure multiple directorships or busyness as the percentage of women directors serving on more than one board of directors simultaneously rather than the number of boards in which they are members. By doing so, we rule out the possibility to see whether the level of busyness affects the magnitude of earnings management or not. This would be then interesting to classify women holding multiple directorships into quartiles based on the number of boards on which each serves by considering, for example, women directors in the top quartile as "super-busy." Third, our study deals only with board gender diversity by capturing the influence of female directors' attributes. Accordingly, one should examine the influence of female executives' (CEOs and CFOs) attributes on earnings management in order to show which of their specific attributes promote more effectively the monitoring of earnings management. Finally, this study considers the appointment of female directors on a voluntary rather than mandatory basis. Therefore, with regard to earnings quality, we suggest investigating the impact of female directors' appointment on a mandatory basis and the possible changes in their specific attributes after implementation of gender quotas (20% from 2014 and 40% from 2016).

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Table 1.1: Definition of Variables

Variable	Definition	Measure¹⁰
Dependent variable:		
<i>CDA</i>	Current discretionary accruals	Current discretionary accruals calculated by using modified Jones model.
Endogenous variables:		
<i>WDIR_NB</i>	Number of women directors	Total number of women directors.
<i>WDIR (%)</i>	Percentage of women directors	Percentage of women directors to total directors.
<i>WDIR_BIN</i>	Women on board	Dummy variable coded 1 if firm has one woman on board and 0 otherwise.
<i>WCHAIR</i>	Woman chair	Dummy variable coded 1 if woman is chair and 0 otherwise.
<i>WIND</i>	Independent women directors	Percentage of non-executive independent women directors to total women directors.
<i>WAUDCOM</i>	Audit committee memberships held by women directors	Percentage of women directors who are members of one of the relevant operating committees to total women directors.
<i>WEDUC</i>	Education level of women directors	Percentage of women with master diploma or with doctorate (PhD) degree to total women directors.
<i>WBUS</i>	Business education of women directors	Percentage of women with formal education, specializing in business, to total women directors.
<i>WANT</i>	Nationality of women directors	Percentage of foreign women directors to total women directors.
<i>WMUL</i>	Multiple directorships held by women directors	Percentage of women directors who are members of another firm's board to total women directors.
<i>WTEN</i>	Tenure of women directors	The average number of years that women directors served on the board.
Exogenous variables:		
<i>B_SIZE</i>	Board size	Natural logarithm of the total number of directors.
<i>B_IND</i>	Board independence	Ratio of non-executive independent directors to total number of directors.
<i>B_MEET</i>	Board meetings	Natural logarithm of number of annual board meetings.
<i>DUAL</i>	CEO duality	Dummy variable coded 1 if the CEO serves as board chair and 0 otherwise.
<i>CEO_TEN</i>	CEO tenure	No. of years served at company before selection as CEO.
<i>FAM_OWN</i>	Family ownership	Percentage of capital held by family investors.
<i>INST_OWN</i>	Institutional ownership	Percentage of capital held by institutional investors.
<i>BIG</i>	Audit by big auditor	Ordinal variable coded 0 if company is audited by non-big auditors, 1 if one of the two auditors is big, and 2 if both auditors are big.
<i>LEV</i>	Leverage	Ratio of financial debt to total assets.
<i>TQ</i>	Tobin's Q	The book value of assets minus book value of equity, plus the market value of equity, scaled by the book value of assets.
<i>LOSS</i>	Financial loss	Dummy variable = 1 if firm reports loss and 0 otherwise.
<i>R&D</i>	Research and Development	Ratio of investment in R&D to total assets.
<i>CASH</i>	Operating cash-flow	Cash-flow from operations, scaled by total assets.
<i>FOR_ASSETS</i>	Foreign assets	Ratio of foreign assets to total assets.
<i>BETA</i>	Market risk	Equity beta.
<i>CROSS</i>	Cross listing	Firms listed in France and USA simultaneously.
<i>F_SIZE</i>	Firm size	Natural logarithm of firm's total assets.
<i>Industry</i>	Industry	A binary variable coded 1 if the company belongs to the sector in question and 0 otherwise.

¹⁰ Variables from ThomsonOne are winsorized at the 1% and 99% levels.

Table 1. 2: Descriptive statistics for entire sample

	Mean	Median	Standard Deviation	Minimum	Maximum
<i>CDA</i>	0.012	0.021	0.103	-0.473	0.337
<i>WDIR_BIN</i>	0.48	0	0.50	0	1
<i>WDIR (%)</i>	10.72%	0	15.06%	0	75%
<i>WDIR_NB</i>	0.688	0	0.865	0	4
<i>WCHAIR</i>	4.62%	0	20.99%	0	1
<i>WIND</i>	8.90%	0	26.55%	0	1
<i>WAUDCOM</i>	2.37%	0	9.64%	0	90.2%
<i>WEDUC</i>	46.82%	50%	46.26%	0	1
<i>WBUS</i>	45.48%	33.33%	46.67%	0	1
<i>WANT</i>	9.37%	0	27.46%	0	1
<i>WMUL</i>	61.60%	1	45.42%	0	1
<i>WTEN (No. of years)</i>	6.51	5	6.32	0	42
<i>B_SIZE (No. of directors)</i>	7.70	7	3.86	4	26
<i>B_IND</i>	27.54%	25.5%	25.40%	0	1
<i>B_MEET (No. of meetings)</i>	6.36	6	3.39	0	30
<i>DUAL</i>	62.58%	1	48.40%	0	1
<i>CEO_TEN (No. of years)</i>	7.82	6	6.193	0	42
<i>FAM_OWN</i>	36.84%	39%	27.65%	0	99.37%
<i>INST_OWN</i>	17.93%	4.44%	26.47%	0	98.63%
<i>BIG</i>	0.922	1	0.659	0	2
<i>LEV</i>	23.10%	21.47%	16.85%	0	74.45%
<i>TQ</i>	1.041	0.807	0.830	0.197	5.38
<i>LOSS</i>	24.176%	0	42.82%	0	1
<i>R&D</i>	1.815%	0	7.55%	0	57.22%
<i>CASH</i>	9.883%	7.26%	10.02%	-7.47%	52.80%
<i>FOR_ASSETS</i>	18.77%	3.67%	25.46%	0	91.87%
<i>BETA</i>	0.658	0.642	0.289	0.132	1.508
<i>CROSS</i>	8.60%	0	28.03%	0	1
<i>F_SIZE (In billions of euros)</i>	4.919	0.225	16.992	0.001	240.560

Variables are as defined in Table 1.1.

Table 1. 3: Proportion of women in sample firms

Number of women directors	Number of observations	Percentage of observations
0	1629	51.55
1	1053	33.32
2	357	11.30
3	81	2.56
4	40	1.27
Total	3160	100

Table 1. 4: Mean difference test between gender diverse firms and non-gender diverse firms for the entire sample and the matched sample

Variables	Entire Sample			Matched Sample		
	GD Firms	Non-GD firms	t-value	GD firms	Non-GD firms	t-value
<i>B_SIZE (No. of directors)</i>	8.107	7.326	4.07*** ^a	7.747	7.651	-1.03 ^a
<i>B_IND</i>	0.303	0.273	2.96***	0.297	0.292	0.42
<i>B_MEET (No. of meetings)</i>	6.453	6.268	3.85*** ^a	6.337	6.538	-0.06 ^a
<i>DUAL</i>	0.662	0.588	3.94***	0.630	0.627	0.10
<i>CEO_TEN (No of years)</i>	8.632	7.097	6.33*** ^a	8.227	8.108	0.11 ^a
<i>FAM_OWN</i>	0.364	0.360	0.35	0.360	0.348	0.91
<i>INST_OWN</i>	0.180	0.191	-1.12	0.188	0.191	-0.25
<i>BIG</i>	1.013	0.913	3.87***	0.952	0.967	-0.50
<i>LEV</i>	0.230	0.231	-0.37	0.226	0.224	0.27
<i>TQ</i>	0.997	1.025	-0.91	1.022	1.016	0.15
<i>LOSS</i>	0.208	0.267	-3.51***	0.240	0.236	0.22
<i>R&D</i>	0.014	0.012	0.78	0.012	0.012	0.15
<i>CASH</i>	0.098	0.096	0.46	0.097	0.097	0.04
<i>FOR_ASSETS</i>	0.195	0.210	-1.37	0.198	0.203	-0.38
<i>BETA</i>	0.711	0.673	3.40***	0.680	0.690	-0.83
<i>CROSS</i>	0.104	0.079	2.26**	0.082	0.088	-0.49
<i>F_SIZE (in millions of euros)</i>	7208	3019	3.71*** ^a	5659	4763	-0.33 ^a
<i>Number of observations</i>	1355	1355		947	947	

, * represent significance at 0.05 and 0.01 levels respectively.

All variables are as defined in Table 1.1.

^a t-tests are based on natural logarithm transformed values.

Table 1. 5: Pairwise correlation matrix

	1	2	3	4	5	6	7	8	9	10	VIF
1. CDA	1.000										—
2. LCDA	-0.031	1.000									—
3. WDIR_BIN	-0.023	-0.011	1.000								1.03
4. WDIR (%)	-0.016	-0.014	0.738*	1.000							1.78
5. WDIR_NB	-0.013	-0.008	0.840*	0.820*	1.000						1.13
6. WCHAIR	0.006	0.001	0.162*	0.134*	0.193*	1.000					1.16
7. WIND	-0.012	-0.040	0.010	-0.093*	0.025	-0.001	1.000				1.23
8. WAUDCOM	0.000	0.000	0.240*	0.218*	0.230*	-0.044	0.050	1.000			1.18
9. WEDUC	0.023	-0.036	0.036	-0.048	-0.084*	-0.042	0.101*	-0.007	1.000		1.17
10. WBUS	0.019	0.005	0.032	-0.061	0.002	-0.088*	0.230*	0.160*	0.219*	1.000	1.31
11. WANT	-0.002	0.000	0.011	-0.060	-0.030	-0.073	0.075	0.043	-0.004	0.048	1.30
12. WMUL	-0.007	-0.002	0.044	-0.180*	-0.050	-0.043	0.138*	0.158*	0.146*	0.168*	1.24
13. WTEN	0.044	0.047	0.078	0.148*	0.131*	-0.001	-0.082	0.002	-0.044	-0.178*	1.29
14. B_SIZE	-0.003	-0.001	-0.023	-0.350*	0.028	0.051	0.153*	0.014	-0.012	0.090*	2.07
15. B_IND	-0.020	-0.021	0.009	-0.117*	-0.001	0.088*	0.151*	0.167*	-0.063	0.092*	1.46
16. B_MEET	-0.066*	-0.031	-0.001	-0.035	0.003	-0.033	0.022	0.044	-0.006	0.047	1.22
17. DUAL	-0.020	-0.020	0.002	0.000	-0.048	-0.121*	0.101*	-0.062*	0.080	-0.043	1.25
18. CEO_TEN	-0.052	-0.057	0.002	-0.007	0.027	-0.010*	0.132*	0.088*	-0.114*	0.063	1.34
19. FAM_OWN	0.015	0.003	0.021	0.144*	0.047	-0.033	-0.152*	-0.061*	-0.108*	-0.190*	2.10
20. INST_OWN	-0.005	-0.002	-0.005	-0.061*	-0.030	0.008	0.060	-0.023	0.127*	0.076	1.78
21. BIG	0.011	-0.002	-0.011	-0.141*	0.001	-0.003	0.045	0.062*	-0.038	0.082	1.58
22. LEV	-0.014	-0.017	0.006	-0.054	-0.005	-0.008	-0.036	0.085*	0.058	0.095*	1.22
23. TQ	-0.037	0.090*	0.003	0.016	0.008	-0.043	0.113*	0.018	-0.060	-0.031	1.19
24. LOSS	-0.133*	-0.036	0.005	0.035	-0.020	-0.037	0.001	-0.041	0.020	0.021	1.15
25. R&D	-0.072*	0.050	0.003	-0.036	-0.013	-0.015	0.064	-0.022	0.030	-0.051	1.15
26. CASH	-0.033	-0.022	0.001	-0.024	-0.020	-0.061*	-0.006	0.020	-0.032	0.040	1.18
27. FOR_ASSETS	-0.015	-0.002	-0.008	-0.140*	-0.017	0.022	0.154*	0.122*	0.003	0.105*	1.45
28. BETA	-0.020	-0.030	-0.020	-0.131*	-0.026	-0.013	0.173*	0.071*	0.016	0.138*	1.63
29. CROSS	-0.007	-0.003	-0.011	-0.098*	-0.008	-0.008	0.111*	0.061*	0.021	0.100*	1.34
30. F_SIZE	0.002	0.013	-0.007	-0.221*	0.000	0.024	0.166*	0.092*	-0.046	0.093*	1.69

* represent significance at 0.01 level.

All variables are as defined in Table 1.1.

Table 1.5 (Continued)

	11	12	13	14	15	16	17	18	19	20	21
11. <i>WANT</i>	1.000										
12. <i>WMUL</i>	0.215*	1.000									
13. <i>WTEN</i>	-0.100*	0.044	1.000								
14. <i>B_SIZE</i>	0.080	0.221*	-0.123*	1.000							
15. <i>B_IND</i>	0.218*	0.044	-0.024	0.343*	1.000						
16. <i>B_MEET</i>	0.109*	-0.047	-0.041	0.074*	0.086*	1.000					
17. <i>DUAL</i>	0.052	0.043	0.030	-0.103*	-0.197*	0.030	1.000				
18. <i>CEO_TEN</i>	0.108*	0.066	0.274*	0.087*	0.080*	0.050	0.102*	1.000			
19. <i>FAM_OWN</i>	-0.098*	-0.066	0.128*	-0.214*	-0.180*	-0.068*	0.010	0.055	1.000		
20. <i>INST_OWN</i>	-0.025	0.122*	-0.158*	0.076*	-0.013	-0.065*	0.095*	-0.010*	-0.430*	1.000	
21. <i>BIG</i>	0.098*	0.100*	-0.030	0.452*	0.286*	0.086*	-0.113*	0.035	-0.128*	0.060*	1.000
22. <i>LEV</i>	0.063	0.155*	-0.034	0.197*	0.081*	0.075*	0.016	0.036	-0.087*	0.104*	0.060*
23. <i>TQ</i>	-0.044	-0.043	0.020	-0.060*	-0.042	0.007	-0.011	0.046	0.070*	-0.094*	0.013
24. <i>LOSS</i>	0.041	-0.004	-0.013	-0.150*	-0.085*	0.038	0.012	-0.066*	-0.048	-0.000	-0.071*
25. <i>R&D</i>	0.055	0.021	0.052	0.094*	0.086*	0.045	0.035	0.056	0.024	-0.071*	0.111*
26. <i>CASH</i>	0.008	0.010	0.002	-0.062*	0.060*	0.093*	0.025	0.037	0.002	-0.140*	0.048
27. <i>FOR_ASSETS</i>	0.305*	0.166*	-0.030	0.362*	0.291*	0.143*	-0.037	0.183*	-0.226*	0.008	0.308*
28. <i>BETA</i>	0.165*	0.122*	-0.035	0.213*	0.228*	0.208*	-0.086*	0.090*	-0.212*	-0.010*	0.256*
29. <i>CROSS</i>	0.194*	0.024	-0.081	0.274*	0.212*	0.105*	-0.180	0.048	-0.113*	-0.081*	0.178*
30. <i>F_SIZE</i>	0.231*	0.207*	-0.024	0.421*	0.460*	0.187*	-0.180*	0.135*	-0.098*	-0.290*	0.380*

	22	23	24	25	26	27	28	29	30
22. <i>LEV</i>	1.000								
23. <i>TQ</i>	-0.162*	1.000							
24. <i>LOSS</i>	0.021	-0.105*	1.000						
25. <i>R&D</i>	-0.087*	0.203*	0.041	1.000					
26. <i>CASH</i>	-0.250*	0.137*	-0.027	0.168*	1.000				
27. <i>FOR_ASSETS</i>	0.084*	0.007	-0.070*	0.113*	0.005	1.000			
28. <i>BETA</i>	-0.027	0.161*	0.101*	0.082*	0.123*	0.339*	1.000		
29. <i>CROSS</i>	0.054	0.067*	0.054	0.138*	0.085*	0.178*	0.262*	1.000	
30. <i>F_SIZE</i>	0.160*	0.050	-0.136*	0.073*	0.068*	0.456*	0.430*	0.325*	1.000

* represent significance at 0.01 level.

All variables are as defined in Table 1.1.

Table 1. 6: Derived components

Variables	Eigenvalue	Description
Component 1: <i>EXPERTISE</i> (21.7%)	1.736	<i>WCHAIR</i> (-0.150) <i>WIND</i> (0.399) <i>WAUDCOM</i> (0.302) <i>WEDUC</i> (0.334) <i>WBUS</i> (0.531) <i>WNAT</i> (0.320) <i>WMUL</i> (0.370) <i>WTEN</i> (-0.306)
Component 2: <i>LEADERSHIP</i> (13.2%)	1.060	<i>WCHAIR</i> (0.671) <i>WIND</i> (0.344) <i>WAUDCOM</i> (-0.378) <i>WEDUC</i> (0.174) <i>WBUS</i> (0.181) <i>WNAT</i> (-0.323) <i>WMUL</i> (-0.174) <i>WTEN</i> (-0.297)
Component 3: <i>EXPERIENCE</i> (13%)	1.041	<i>WCHAIR</i> (0.503) <i>WIND</i> (0.115) <i>WAUDCOM</i> (0.076) <i>WEDUC</i> (-0.140) <i>WBUS</i> (-0.087) <i>WNAT</i> (0.114) <i>WMULTI</i> (0.622) <i>WTEN</i> (0.548)
Component 4: <i>COM_MEMB</i> (12.7%)	1.015	<i>WCHAIR</i> (0.070) <i>WIND</i> (0.243) <i>WAUDCOM</i> (0.660) <i>WEDUC</i> (-0.416) <i>WBUS</i> (0.163) <i>WNAT</i> (-0.437) <i>WMULTI</i> (-0.187) <i>WTEN</i> (-0.006)

Note: The first number in parentheses after the factor label is the variance accounted for by the component. The numbers in parentheses after the original variables explanation are the component loadings. The extraction method is principal component analysis and the factor loading coefficient cut-off is 0.50. All variables are as defined in Table 1.1.

Table 1. 7: The system GMM regression of earnings management on women directorships

Variables	Model 1		Model 2		Model 3	
	Coef.	t-test	Coef.	t-test	Coef.	t-test
<i>Lag CDA</i>	-0.009***	-5.57	-0.001***	-5.72	-0.011***	-8.37
<i>WDIR_BIN</i>	-0.118***	-7.89				
<i>WDIR (%)</i>			-0.561***	-11.16		
<i>WDIR_NB</i>					-0.044***	-5.91
<i>B_SIZE</i>	-0.020**	-2.08	-0.070***	-6.69	-0.006	-0.74
<i>B_IND</i>	-0.058***	-3.67	-0.060***	-3.61	-0.055***	-4.38
<i>B_MEET</i>	-0.042***	-5.91	-0.042***	-6.03	-0.036***	-6.06
<i>DUAL</i>	0.003	0.37	-0.011	-1.39	-0.010	-1.56
<i>CEO_TEN</i>	-0.037***	-5.15	-0.018***	-2.87	-0.030***	-5.13
<i>FAM_OWN</i>	0.010	0.88	0.007	0.44	-0.002	-0.20
<i>INST_OWN</i>	0.008	0.46	-0.018	-1.11	-0.018	-1.34
<i>BIG</i>	0.011	1.46	0.016**	2.37	0.010	1.74
<i>LEV</i>	-0.077***	-6.35	-0.073***	-6.34	-0.082***	-7.79
<i>TQ</i>	-0.007	-1.75	-0.008**	-2.28	-0.008***	-2.70
<i>LOSS</i>	-0.121***	-24.37	-0.130***	-26.57	-0.120***	-27.41
<i>R&D</i>	-0.213***	-3.11	-0.207***	-3.70	-0.228***	-4.28
<i>CASH</i>	-0.197***	-6.83	-0.233***	-7.92	-0.214***	-8.20
<i>FOR_ASSETS</i>	0.026	1.44	0.007	0.05	0.005	0.36
<i>BETA</i>	0.005	0.35	0.015	1.14	0.016	1.46
<i>CROSS</i>	0.030	1.86	0.024	1.73	0.024	1.90
<i>F_SIZE</i>	0.002	1.81	0.008	0.55	0.001	1.49
Intercept	0.311***	7.49	0.410***	10.08	0.260***	7.98
Industry (?)	Yes		Yes		Yes	
Years (?)	Yes		Yes		Yes	
Number of observations	1751		1751		1751	
F (Prob > F)	7015.63 ($p = 0.000$)		8718.96 ($p = 0.004$)		6568.28 ($p = 0.000$)	
Arellano–Bond test AR(1) (z, p -value):	-2.87 ($p = 0.004$)		-2.91 ($p = 0.000$)		-2.83 ($p = 0.005$)	
Arellano–Bond test AR(2) (z, p -value):	-1.01 ($p = 0.314$)		-0.97 ($p = 0.335$)		-1.05 ($p = 0.296$)	
Sargan test (Chi-square, p -value):	2960.80 ($p = 0.000$)		2964.18 ($p = 0.000$)		2999.78 ($p = 0.000$)	
Hansen test (Chi-square, p -value):	165.82 ($p = 0.271$)		167.09 ($p = 0.231$)		169.06 ($p = 0.332$)	

, * represent significance at 0.05 and 0.01 levels respectively.

All variables are as defined in Table 1.1.

Table 1. 8: The system GMM regression of earnings management on women directorships and attributes derived from PCA

Variables	Model 1		Model 2		Model 3	
	Coef.	t-test	Coef.	t-test	Coef.	t-test
<i>Lag CDA</i>	0.070***	27.38	0.085***	13.11	0.082***	12.96
<i>WDIR (%)</i>			0.366***	21.90		
<i>WDIR_NB</i>					0.054***	20.04
<i>COM_MEMB</i>	-0.010***	-10.47	-0.016***	-10.11	-0.013***	-6.37
<i>LEADERSHIP</i>	0.016***	14.41	0.025***	15.87	0.024***	13.47
<i>EXPERTISE</i>	-0.004***	-4.74	-0.009***	-7.43	-0.006***	-3.74
<i>EXPERIENCE</i>	0.029***	19.20	0.020***	12.05	0.017***	11.83
<i>B_SIZE</i>	-0.016***	-5.04	0.042***	8.11	-0.033***	-7.71
<i>B_IND</i>	-0.030***	-6.84	-0.015***	-2.61	-0.004	-0.87
<i>B_MEET</i>	0.002	1.50	-0.006**	-2.20	-0.005	-1.63
<i>DUAL</i>	0.008***	3.35	0.019***	6.82	0.019***	6.83
<i>CEO_TEN</i>	-0.004**	-2.27	-0.002	-0.77	-0.004	-1.50
<i>FAM_OWN</i>	-0.078***	-19.70	-0.082***	-11.03	-0.065***	-8.35
<i>INST_OWN</i>	-0.056***	-10.28	-0.061***	-9.75	-0.050***	-9.71
<i>BIG</i>	0.012***	7.18	0.007***	2.72	0.008***	3.56
<i>LEV</i>	-0.040***	-5.82	-0.012	-1.38	-0.015	-1.55
<i>TQ</i>	-0.002***	-4.34	0.001	0.56	0.002	1.59
<i>LOSS</i>	-0.102***	-54.28	-0.098***	-41.13	-0.098***	-38.49
<i>R&D</i>	0.060	1.72	0.060	1.31	0.111**	2.25
<i>CASH</i>	-0.168***	-13.20	-0.143***	-7.99	-0.141***	-9.29
<i>FOR_ASSETS</i>	0.008**	2.00	0.016***	2.63	0.028***	5.45
<i>BETA</i>	-0.027***	-9.67	-0.015***	-3.30	-0.016***	-3.63
<i>CROSS</i>	0.050***	17.35	0.040***	7.81	0.037***	7.57
<i>F_SIZE</i>	-0.001***	-3.37	0.001**	2.30	0.000	0.97
Intercept	0.070***	5.22	-0.160***	-6.90	-0.009***	-0.50
Industry (?)		Yes		Yes		Yes
Years (?)		Yes		Yes		Yes
Number of observations		886		886		886
F (Prob > F)		10321.53 ($p = 0.000$)		88858.18 ($p = 0.000$)		60070.59 ($p = 0.000$)
Arellano–Bond test AR(1) (z, p -value):		-3.33 ($p = 0.001$)		-3.67 ($p = 0.000$)		-3.56 ($p = 0.000$)
Arellano–Bond test AR(2) (z, p -value):		0.08 ($p = 0.934$)		-0.19 ($p = 0.849$)		-0.16 ($p = 0.870$)
Sargan test (Chi-square, p -value):		1226.03 ($p = 0.000$)		1183.83 ($p = 0.000$)		1199.65 ($p = 0.000$)
Hansen test (Chi-square, p -value):		163.45 ($p = 0.286$)		155.73 ($p = 0.220$)		145.20 ($p = 0.433$)

, * represent significance at 0.05 and 0.01 levels respectively.

All variables are as defined in Table 1.1.

Chapter 2: Gender-diverse boards and related party transactions: The role of female directors' attributes

ABSTRACT

In this study, we apply the system GMM estimation approach on the propensity score matched sample of 394 French firms over the period 2001-2010 to investigate the nature of the relationship between board gender diversity and related party transactions (RPTs) by considering the statutory and demographic attributes of female directors. Our results show that the consideration of specific (i.e., statutory and demographic) attributes in the regression analysis changes the nature of the association between female directors and RPTs from negative to positive, suggesting that the simple presence of female directors is a necessary but not sufficient condition for effective board decision making. With regard to specific attributes of female directors, we find that business expertise and audit committee memberships discourage the use of RPTs. On the other hand, leadership and experience enhances the disclosure of RPTs. With regard to different categories of RPTs, we observe that female directors along with their specific attributes enhance the disclosure or reduce the number of RPTs in light of the nature of the transaction and the party involved.

Keywords: Female directors; statutory attributes; demographic attributes and related party transactions (RPTs).

Chapitre 2: La diversité du genre au conseil d'administration et les transactions avec des parties liées: Le rôle des attributs des femmes administrateurs

RÉSUMÉ

Dans ce chapitre, nous avons choisi l'approche d'estimation GMM sur un échantillon apparié composé de 394 entreprises Françaises durant la période 2001-2010 pour étudier la relation entre les femmes directrices et les transactions avec des parties liées en considérant leur attributs statutaires et démographiques. Nos résultats montrent que la prise en compte des attributs spécifiques (statutaires et démographiques) dans l'analyse de la régression change la nature de la relation entre les femmes administrateurs et les transactions avec des parties liées, passant de négative à positive, suggérant que la simple présence de femmes est une condition nécessaire mais non suffisante pour une prise de décision efficace du conseil d'administration. En ce qui concerne les attributs spécifiques des femmes administrateurs, nous constatons que l'expertise dans le domaine comptable et financier et l'appartenance au comité d'audit découragent l'utilisation des transactions avec des parties liées. En revanche, le leadership et l'expérience améliorent la divulgation des transactions avec des parties liées. En ce qui concerne les différentes catégories de transactions avec des parties liées, nous observons que les femmes administrateurs et leurs attributs spécifiques améliorent la divulgation ou réduisent le nombre de transactions avec des parties liées selon la nature de la transaction et de la partie concernée.

Mots-clés: Femmes administrateurs; attributs statutaires; attributs démographiques ; transactions avec des parties liées (RPT).

1. Introduction

Transactions conducted between an organization and its managers, directors, shareholders, affiliated firms or subsidiaries are known as related party transactions (RPTs). RPTs are considered to be the main cause of recent accounting scams in the U.S. (e.g., Enron, WorldCom, Adelphia and Tyco) and in European companies (e.g., Vivendi and Parmalat). RPTs might sometimes be used for legitimate business reasons (Gordon, Henry, & Palia, 2004), but due to their involvement in high profile frauds, such transactions are usually perceived by regulators and outsiders as tools used by managers and controlling shareholders to expropriate minority shareholders (Berkman, Cole, & Fu, 2009; Cheung, Rau, & Stouraitis, 2006). The OECD (2012) report outlines practices covering related party transactions that might have to be denounced with regard to minority shareholders' protection. Proxinvest, a French proxy voting advisory firm, recently denounced the participation of interested parties, namely controlling shareholders, in the vote on RPTs at general meetings of shareholders, which is a violation of the law.¹¹ As a way to control the potential misuse of RPTs, different regulators have enforced rules for monitoring the use and disclosure of these transactions. The process of disclosure and approval of such transactions usually relies on the efficacy of individuals in charge of monitoring the activities of management, namely auditors and the board of directors (Gordon et al. 2004; Cheung et al. 2006; Bennouri, Nekhili, & Touron, 2015).

The role played by the board in the process of approval and disclosure of RPTs is central but not sufficiently developed in the literature. The board of directors is recognized as the main watchdog on which regulators and outsiders rely to monitor and approve important organizational decisions (Fama & Jensen, 1983), whereas the efficacy of the board in its monitoring role is not uniform across firms, because the composition of the

¹¹ <http://www.proxinvest.fr/>

board affects the monitoring and advising ability of the board (Hermalin & Weisbach, 2003). A growing stream of literature highlights the important influence of diverse directors on the efficacy of the monitoring and advisory functions of the board. Examples of the discussed measures of diversity are director independence, experience (Ben-Amar, Francoeur, Hafsi, & Labelle, 2013), skills obtained by education level or some specific expertise (Ruigrok, Peck, & Tacheva, 2007), and gender (Adams & Ferreira, 2009). In fact, the board of directors plays a key role in the approval of RPTs (Cheung et al., 2006). For instance, RPTs are largely affected by the voting rights of main shareholders, board size, level of the board and audit committee independence (Nekhili & Cherif, 2011). Further, Dahya, Dimitrov, and McConnell (2008) report a negative relation between the independence of directors and the number of reported RPTs. They argue that independent directors are less likely to approve such transactions. Using a sample of Chinese listed companies, Cheung, Qi, Rau, & Stouraitis (2009) show that the presence of an audit committee minimizes the risk of expropriation through RPTs. Similarly, Lo, Wong, and Firth (2010) find that audit committees with more independent directors and financial experts have fewer tendencies to manipulate prices in related party sales transactions.

This paper analyzes the way female directors can affect boards' ability to monitor management by focusing on related party transactions. More specifically, we ask three main questions: What is the nature of the association between female directors and RPTs? Do specific (statutory and demographic) attributes affect the relationship between female directors and RPTs? Is there any relationship between specific (statutory and demographic) attributes of female directors and RPTs? We endeavor to answer these questions by using a sample of 394 French firms listed on Euronext Paris from 2001 to 2010. The French setting is suitable for this study for several reasons. First, the French civil-law-based legal

system is characterized by weak protection of minority shareholders (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998). As illustrated by Proxinvest, a French proxy voting advisory firm, the violation of the law by allowing the interested parties to vote on the RPTs at the general assemblies of the shareholder did not face any sanction from the FMA (Financial Markets Authority).¹² This suggests that the monitoring role of the board is amplified. Second, as reported by Faccio and Lang (2002), Boubaker and Labégorre (2008) and Nekhili and Cherif (2011), French firms have concentrated ownership and are characterized by a higher degree of separation between ownership (cash-flow rights) and control (voting rights). These features make French firms more conducive to a proliferation of RPTs (Nekhili & Cherif, 2011). In a recent study on RPTs carried out by, Bona-Sánchez, Fernández-Senra, and Pérez-Alemán (2017) state that in the presence of concentrated ownership, controlling shareholders' ability to appoint directors provides them with opportunities to serve their personal interests by gaining control of corporate decisions through their well-connected directors. In this study, the authors report 99.84% of transactions with large shareholders. Finally, the OECD (2012) report states that in France, audit committees and external auditors are not legally responsible for reviewing or making recommendations on the adequacy or usefulness of RPTs. In the absence of strong internal (audit committee) and external (auditor) control mechanisms for the monitoring of RPTs, the board of directors has statutory responsibility for reviewing or making recommendations on RPTs.

Gender diversity might affect the use/reporting of RPTs. The presence of women on boards and in top management positions is usually associated with a positive impact on the monitoring function of the board (Krishnan & Parsons, 2008; Adams & Ferreira,

¹² The Financial Markets Authority “regulates participants and products in France’s financial markets. It regulates, authorizes, monitors, and, where necessary conducts investigations and issues sanctions. In addition, it ensures that investors receive material information, and provides a mediation service to assist them in disputes”.
(<http://www.amf-france.org>).

2009). Indeed, gender diversity improves the decision-making quality of boards (Francoeur, Labelle, & Sinclair-Desgagne, 2008; De Cabo, Gimeno, & Nieto, 2012), allows the introduction of ethical behavior among boards of directors (Franke, Crown, & Spake, 1997; Labelle, Gargouri, & Francoeur, 2010), and diminishes malpractice because female directors are often highly concerned about ethics (Rodriguez-Dominguez, Gallego-Alvarez, & Garcia-Sanchez, 2009). Consistent with these results, Adams and Ferreira (2009) find that women are more likely to sit on monitoring-related board committees than men due to their superior monitoring skills. Despite the significant contribution of previous studies in explaining the role of women directors in the protection of shareholders, namely the minority shareholders (Hillman & Dalziel, 2003; Nekhili & Gatfaoui, 2013; Post & Byron, 2015), no research has been conducted to explore the importance of gender-diverse boards in limiting the expropriation of minority shareholders by insiders (i.e., managers and controlling shareholders) through RPTs.

However, the relation between female directorship and related party transactions might be tainted because of two important factors. First, gender diversity on a board is usually associated with a significant change in the characteristics of the board because of the numerous differences between the attributes of male and female directors (Ahern & Dittmar, 2012). Nevertheless, Carter, Simkins, and Simpson (2003) claim that the agency theory (statutory diversity) alone does not perfectly predict the relationship between board diversity and organizational performance. Along similar lines, Ben-Amar et al. (2013) highlight that the impact of statutory diversity depends on the demographic attributes of the board directors. To address this issue, we include the statutory and demographic attributes of female directors to shed light on what attributes influence the relationship between female directors and RPTs. Second, as suggested by Adams and Ferreira (2009) and Terjesen Aguilera, and Lorenz (2015), female directors' appointments are a strategic

decision by firms that may be used to signal some specificities of the firm. On the other hand, because of their rarity, female directors may choose to sit on the boards of firms that demonstrate a lower tendency to use/report RPTs. This suggests that the relation between gender diversity and RPTs can be biased because of endogeneity or omitted variables. To control for omitted variables, we perform Propensity Score Matching between firms with at least one female director and the subsample of firms with only male directors. Then, we control for endogeneity biases by using a system GMM estimation model on the matched sample (Roodman, 2009). This method provides consistent and efficient coefficient estimators, and controls for both omitted variables and endogeneity issues (Wintoki, Link, & Netter, 2012; Flannery & Hankins, 2013).

To the best of our knowledge, this is the first study to discuss the relationship between female directors and RPTs. We have three main results. First, we find that female directors are negatively related to the number of reported RPTs. Second, when we control for specific attributes (statutory and demographic) in the regression analysis, the association between female directors and RPTs becomes positive. This finding highlights that specific attributes have a strong influence on the relationship between female directors and RPTs. Finally, with regard to specific statutory and demographic attributes of women, our results provide evidence that business expertise and audit committee memberships of women directors limit the use of RPTs. However, female leadership and experience enhances the disclosure of RPTs. We complement our analysis by using different categories of RPTs. This analysis allows us to emphasize the tradeoff made by female directors between discouraging certain RPTs and calling upon the disclosure of other transactions. All these results suggest a fundamental impact of female directors on both the approval and reporting of RPTs.

We organize the remainder of the article as follows. First, we present the conceptual framework and the main features of the French reporting and approval process of RPTs. In the third section, we review the literature and develop our testable hypotheses. Section four describes the data and methodology, and the fifth section discusses the results. The final section concludes the paper.

2. Conceptual framework and institutional background

The French system is well suited for this research because of the specific procedure that firms must follow in the reporting and approval of RPTs. According to French Commercial Code, RPTs are divided into two categories: routine (current) and regulated (abnormal) transactions. Routine transactions are conducted between the organization and its related entities at normal market terms. Public reporting of these transactions is not necessary but they are expected to be revealed to the board and external auditors (Conac, Enriques, & Gelter, 2007). The other type of RPTs, named “conventions réglementées” (regulated transactions), are non-routine business deals and are executed at non-market terms. These transactions are usually perceived as harmful for minority shareholders. All regulated (abnormal) transactions, irrespective of their material affect are subject to an organized communication and reporting procedure. Initially, board approval is required for every abnormal transaction. After board approval, the Chair of the board notifies the external auditors about these transactions within a month. Then, it is the obligation of the auditors to prepare an independent special report by citing all the communicated abnormal transactions. Finally, this special report is presented to the shareholders at the Annual General Meeting for ex post approval of each reported RPT (OECD, 2012).

In this process, the role of the directors and auditors is very important. Primarily, auditors are not required to evaluate or judge the adequacy and usefulness of the

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transactions listed in the special report. Also, they are not expected to make any systematic search for hidden RPTs (those with the highest probability of being fraudulent), but to limit their reporting only to those transactions approved by the board and communicated by the Chair (Bennouri et al., 2015). Consequently, the reporting process is largely affected by the initial decision of the managers to classify a transaction as current or non-current (abnormal), since shareholders may disapprove some reported transactions.¹³ Subsequently, the board of directors is a key position in this process. Indeed, the boards should monitor the RPT reporting process actively to reduce the probability of misclassification of transactions by the managers.

Another motivation for the use of the French setting is that the French civil law-based legal system does not provide enough protection to minority shareholders (La Porta et al., 1998). Furthermore, French institutions are characterized by concentrated ownership and the separation of ownership and control (Faccio & Lang, 2002). In this scenario, dominant shareholders exercise control of organizations through their affiliated directors sitting on the board (Cuervo, 2002). Hence, ownership concentration is likely to decrease the agency conflict between managers and shareholders but it will increase the probability of minority shareholders' expropriation by managers and controlling owners (Johnson, La Porta, Silanes, & Shleifer, 2000). Here, the main issue is to protect minority shareholders from expropriation by controlling shareholders through RPTs. The role of the board is crucial with regard to the issue of RPTs because these transactions are approved in board meetings (Cheung et al., 2006). Prior studies provide evidence that women tend to be better prepared for board meetings than men (Israeli, 2000; Huse & Solberg, 2006) and improve the decision-making ability of boards (Bear, Rahman, & Post, 2010; Post, Rahman, & Rubow, 2011; De Cabo et al., 2012). According to this

¹³Although it is a rare event, specialized French newspapers reported cases of disapproval by shareholders of several transactions for some companies (e.g., in 2006, shareholders of the company HAVAS did not approve the retirement plans and the remuneration packages of some members of the management board).

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conjecture, female directors are likely to exert a strong influence on the RPT decision making process. These arguments draw our attention to study the role of female directors and their specific attributes with respect to the reporting of RPTs in French context.

It is important to understand the expected role of the board with regard to the reporting and approval of RPTs. Directors will have to choose among two available options: whether to disapprove or to enhance the disclosure of RPTs. Let us suppose that managers present some RPTs for approval in a board meeting. In board proceedings, directors can respond in three different ways by considering the nature and parties involved in such a transaction:

Case 1: Transactions are not aligned with organizational needs and may be “conflict of interest” transactions. In this case, directors will ask the board to disapprove such RPTs.

Case 2: Controlling shareholders and connected managers can easily obtain the board approval for their proposed RPTs. In such cases, directors will ask the board to disclose these transactions.

Case 3: Directors feel that any particular transaction is aligned with organizational needs and the interest of stakeholders and should ask the board to approve and disclose such RPTs.

In case 1, directors are in a position to reduce the number of RPTs by rejecting transactions proposed by management. In case 2, due to the involvement of controlling shareholders, directors are not able to prevent the board from approving RPTs, but they should play their role by enhancing the disclosure of such deals. Finally, in case 3, directors will encourage the board to approve and disclose RPTs, which are in the best interest of the organization and the stakeholders.

3. Background and hypothesis development

3.1. Board gender diversity and RPTs

The board composition and its effectiveness are still considered as a “black box” (Daily, Dalton, & Cannella, 2003; Hambrick, Werder, & Zajac, 2008). A growing number of studies discuss the effect of gender diversity on the monitoring ability of the board and on the quality of corporate governance and organizational performance (e.g., Farrell & Hersch, 2005; Peterson & Philpot, 2007). Some recent studies have found that females play a major role in the decision-making process of boards (Bear et al., 2010; Post et al., 2011), and their influence on strategic decision-making increases with their percentage on the board (Elstad & Ladegard, 2012). Given that RPTs require approval in board meetings (Cheung et al., 2006), we expect female directors to exert their influence on the board of directors to disclose or discourage the use of RPTs.

As suggested by the literature in psychology and management, women tend to follow a more interactive and participative style of leadership (Eagly, Johannesen-Schmidt, & Van Engen, 2003; Trinidad & Normore, 2005). Also, women perform better than men on tasks that require communication with different people and groups (Schubert, 2006). Further, females are better at obtaining voluntary information which may reduce information asymmetry between female directors and managers (Gul, Fung, & Jaggi, 2009). We argue that these skills allow women to facilitate the flow of information between management and the board, which is expected to enhance the board's RPT decision making ability.

Another stream of literature suggests that women are more sensitive to ethical issues than men in their decision making (Bruns & Merchant, 1990; Krishnan & Parsons, 2008). Specifically, female directors reduce transgressions because they are highly concerned about ethics (Rodriguez-Dominguez et al., 2009). Firms with more female

directors have a better chance of being nominated as one of the “top hundred organizations to work for” and the “most ethical entities” (Larkin, Bernardi, & Bosco, 2012). These findings suggest that boards with female directors will monitor management strictly in order to protect the firm’s reputation capital (Fama & Jensen, 1983; Gilson, 1990) and to avoid legal liability (Gilson, 1990; Sahlman, 1990), especially in situations characterized by ethical dilemma.

However, as discussed in the previous section, the strict monitoring of RPTs might result in less RPTs because gender diverse boards will not approve such transactions; or the result might be more RPTs because gender diverse boards will tend to increase the transparency of RPT reporting by enhancing their disclosure. Since each of these effects may prevail, we present our first hypothesis.

H1. *In light of the nature of the transaction and the party involved, female directors are likely to enhance the disclosure or reduce the number of RPTs.*

If gender diversity affects the reporting of RPTs, we might question the channel through which women might affect the process of RPT reporting and approval. According to Eagly and Carli (2003), the glass ceiling effect requires women to demonstrate higher competence in order to reach senior (e.g., managerial and board) positions in the organization. Furthermore, according to Huse and Solberg (2006), gender diversity may improve board effectiveness and behavior because women directors tend to be better prepared for board meetings than men. Finally, Heminway (2007) posits that women are more trustworthy than men and may help avoid the manipulation and distortion of important information. Taken together, these results suggest that it is not only the presence of women on boards but their skills that may explain the channel through which female directors exert influence on RPT reporting.

3.2. Statutory diversity of the board and RPTs

Statutory diversity of boards is assigned by law or is a highly recommended practice of corporate governance set forth in different countries (Ben-Amar et al., 2013). The measures of statutory diversity, namely board independence (Lo et al., 2010; Nekhili & Cherif, 2011), leadership structure (Lo et al., 2010) and audit committees (Cheung et al., 2009; Nekhili & Cherif, 2011) affect the use of related party transactions. The diversity along these dimensions also mitigates agency conflicts and improves the monitoring function of the board (Ben-Amar et al., 2013). Given that RPTs are an important source of agency conflicts, we argue that statutory diversity enhances the ability of boards to monitor these transactions. To study the influence of statutory attributes of female directors on RPTs, we consider three proxies of statutory diversity: independence, audit committee membership and female leadership (women Chairs). We further categorize these variables on the basis of monitoring and leadership roles assigned to women directors.

3.2.1. Women Leadership and RPTs

While serving at an important leadership position, the board Chair is required to promote a cooperative attitude among board members, and to coalesce them around common goals and outcomes (Machold, Huse, Minichilli, & Nordqvist, 2011). The leadership style and skills of the board Chair are therefore critical for the effective functioning of the board because Chairpersons play a vital role in engaging board members and setting board culture (Gabrielsson, Huse, & Minichilli, 2007; Leblanc, 2005; Roberts, McNulty, & Stiles, 2005). By considering the nature of board proceedings and the relationship of board members (e.g., all directors have equal status), a democratic and interactive leadership style is more appropriate than an authoritative one (Vandewaerde, Voordeckers, Lambrechts, & Bammens, 2011). Meanwhile, many studies argue that

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gender differences prevail in leadership styles (e.g., Druskat, 1994; Nekhili, Chakroun, & Chtioui, 2016; Trinidad & Normore, 2005). For instance, females are likely to be democratic and transformational leaders, while males tend to be authoritative and transactional leaders (Eagly et al., 2003; Trinidad & Normore, 2005). Additionally, female leaders exhibit better skill levels than men when coping with uncertain situations (Rosener, 1990) and they make more cautious and conservative decisions related to financial reporting practices (Krishnan & Parsons, 2008). As women may exhibit more transformational leadership than men, they seem also to be more able to enhance followers' effectiveness by stimulating them to accomplish their tasks in compliance with values and higher moral standards (Avolio, 1999). In line with these arguments (shared leadership, conservatism, risk aversion, ethical behavior, etc.), Nekhili et al. (2016) point out that hiring women to the top management position, namely Chair, could provide better protection of the rights of minority shareholders. Similarly, we expect that women Chairs enhance the board's effectiveness to protect minority shareholders from expropriation by insiders (e.g., managers and controlling shareholders) through RPTs. Hence, we develop the following hypothesis.

H2. *Depending on the nature of transactions and the party involved, women Chairs are likely to enhance the disclosure or reduce the number of RPTs.*

3.2.2. Appointment of women to key monitoring positions and RPTs

Boards are likely to oversee the activities of management through key monitoring positions like independent directorships and audit committees (Fama & Jensen, 1983; Millstein, 1999). The findings regarding board independence and audit committees suggest that, by strengthening the monitoring function of the board, these positions reduce the probability that managers will expropriate minority shareholders through RPTs (Cheung et al., 2009; Lo et al., 2010). There is considerable evidence to suggest that females are more

strict and independent monitors of management (Carter et al., 2003; Adams & Ferreira, 2009) than male directors. In support of an audit committee's gender diversity, Kesner (1988) states that boards do not appoint women to board committees just for the sake of diversity. The criterion for the appointment of women to board committees is their potential impact on the operating efficiency of these committees. Further, Adams and Ferreira (2009) find that more females are appointed to audit committees than males due to their superior monitoring quality.

While RPTs are considered as a tool to manage earnings (Aharony, Wang, & Yuan, 2010; Jian & Wong, 2010; Lo et al. 2010), other studies point out that earnings management is an ethical issue (e.g., Bruns & Merchant, 1990; Krishnan & Parsons, 2008). Since, women have higher ethical standards than men and are more likely to reduce malpractices because of their higher ethical concerns (Rodriguez-Dominguez et al., 2009). Further, the appointment of women as independent directors and to audit committee mitigates the tendency of managers to engage in earnings management (Krishnan & Parson, 2008; Labelle et al., 2010; Srinidhi et al., 2011). If women restrain managers from managing earnings by enhancing the monitoring ability of boards then it is reasonable to assume that appointing women to key monitoring positions (e.g., independent directorships and audit committees) can limit the tendency of insiders to expropriate minority shareholders through RPTs. This is stated in the following hypothesis.

H3. *Appointment of women to key monitoring positions limits the use of RPTs.*

3.3. Demographic diversity of the board and RPTs

From an advisory point of view, demographic diversity is expected to have a direct effect on strategic decision making by raising the level of skills and general competence of board members (Ben-Amar et al., 2013). Diversity also enriches the monitoring process of a group by promoting creativity, knowledge and a high quality of decision making among

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group members (Watson, Kumar, & Michaelsen, 1993; Erhardt, Werbel, & Shrader, 2003). Similarly, Agrawal and Knoeber (2001) assert that firms tend to appoint directors on the basis of their personal traits or attributes. In our study, we consider the joint effect of education level, business education, nationality, multiple directorships and tenure of female directors. In order to simplify, we categorize these variables into two groups on the basis of educational expertise and experience of women directors.

3.3.1. Educational expertise of female directors and RPTs

The qualification (e.g., education level and background) of directors is an important determinant of board diversity (Ruigrok et al., 2007). In this regard, Hillman, Cannella, and Harris (2002) demonstrate that many female directors of Fortune 1000 boards have higher levels of education and join other boards quickly than their male colleagues. A generally believed notion of board jury members is that females do not possess the required skills to be appointed as directors (Burke, 2000). Singh, Terjesen, and Vinnicombe (2008) dismiss this notion in their research by highlighting that newly appointed women directors are significantly more likely to bring international diversity to their boards and to possess a higher business degree. In a similar vein, Nekhili and Gatfaoui (2013) find evidence that females are appointed to boards on the basis of their distinct attributes (e.g., business education and expertise). Further, the financial expertise of audit committees is an important tool for ensuring higher earnings quality (Bédard & Gendron, 2010) and the use of RPTs for legitimate business reasons (Lo et al., 2010). The favorable effect of financial experts on earnings quality and RPTs is attributed to their in-depth accounting and financial knowledge. It is reasonable to believe that, everything else being equal, educational expertise raises boards' skill level so that they monitor insiders (managers and controlling shareholders) more effectively and thereby protect minority shareholders from being abused by managing earnings or using RPTs (Bédard & Gendron,

2010; Lo et al., 2010). Therefore, we hypothesize that the educational expertise (education level and background) of women will help them to mitigate the negative effect of RPTs.

H4. *Educational expertise of women is expected to reduce the number of RPTs.*

3.3.2. Experience of female directors and RPTs

Experience improves the ability of directors to monitor and advise management (Carpenter & Westphal, 2001). Directors with more experience exert more influence on both performance and strategic decisions of their firms (McDonald, Westphal, & Graebner, 2008). Along similar lines, we argue that the experience of women directors (e.g., tenure, nationality and multiple directorships) will enhance their monitoring and advising ability, which in turn will improve the efficiency of the RPT decision making process. According to Bacon and Brown (1973), directors need 3 to 5 years to have adequate understanding of a firm and the way it operates, though an in-depth understanding of a firm requires more time (Kesner, 1988). Directors acquire firm-specific knowledge over time, so tenure may influence their ability to monitor and advise management (Carpenter & Westphal, 2001). With regard to nationality, Ruigrok et al. (2007) posit that foreign directors provide necessary human capital to the board and are more independent than domestic directors. Further, they have expertise, awareness and contacts with external networks (Hillman & Dalziel, 2003). Given this, we argue that a higher level of independence and expertise of foreign directors might be helpful with regard to reporting of RPTs.

Further, multiple directorships are seen as increasing the reputations and monitoring quality of directors, and they provide a channel through which firms gain knowledge and develop professional relationships with other boards (Harris & Shimizu, 2004; Shu, Yeh, Chiu, & Yang, 2015). Minority (female) directors having prior experience will perform more effectively in board proceedings (Westphal & Milton, 2000). In this

regard, Singh et al. (2008) find that female directors have prior board experience and more multiple directorships than males. This conjecture allows us to claim that more multiple directorships of women are an indication of their better monitoring skills and reputation in the market. Hence, we postulate that experience (e.g., tenure, nationality and multiple directorships) of women directors might be favorable for firms with regard to monitoring of RPTs.

H5. *Experienced women directors are likely to affect the reporting of RPTs.*

4. Research methodology

4.1. Data

We collected information between 2001 and 2010 about French firms in the CAC All-Shares index. This index contains all firms listed on Euronext Paris with an annual trading volume that exceeds 5% of its total market capitalization. We begin our sample in 2001 because the quality of governance information is greatly enhanced after the introduction of the New Economy Regulation in May 2001 by the French parliament. Our sample period ends in 2010 because we consider only the appointment of women directors on a voluntary basis. In January 2011, the French parliament introduced a law ordering quota for the gender balance of company boards.¹⁴ After studying the Norwegian case, Ahern and Dittmar (2012), report that this law affects the characteristics of female directors.

In December 2010, the CAC All-Shares index incorporated 511 companies. From this initial population, we eliminate financial, real estate and foreign firms. All firms with missing data are also eliminated. The final sample consists of 394 firms and an unbalanced panel sample totaling 3,324 firm-year observations. Accounting and financial data are

¹⁴ The Copé-Zimmermann law establishes that, five years after its promulgation in 2011, female directors must represent at least 40 % of board members for the largest listed and non-listed French firms (those having at least 500 employees and a turnover exceeding EUR 50 Million).

collected from Thomson DataStream. Data on ownership are collected from Orbis (Bureau Van Dijk) and completed from annual reports. All the information about female directors' attributes is manually collected from annual reports and other sources such as www.whoswho.fr and www.dirigeant.societe.com.

4.1.1. Dependent variables

Information about RPTs is collected manually from special reports found in annual reports of French listed firms. For each firm-year observation, we count the number of RPTs reported by the auditors and we classify these RPTs according to the renewal of transactions and the related party involved. Hence, besides the number of RPTs, we observe for each firm-year the number of new RPTs (NRPT), the number of renewed RPTs (RRPT), the number of transactions with managers, directors and shareholders (TMDS) and the number of RPTs with subsidiaries and affiliated firms (TSAF).

RPT activity is measured in the literature using either a transaction dollar-value based measure (Cheung et al., 2006; Ryngaert & Thomas, 2012) or a dummy variable identifying companies involved in such transactions (Dahya et al., 2008; Kohlbeck & Mayhew, 2010). Our objective is to deal with the relation between female directors and the approval/disclosure of RPTs. We argue that using the dollar-value of transactions is in deep contradiction with the ethical judgment arguments, we use in this paper. We follow Bennouri et al. (2015) by using the number of transactions reported in the special report. We have at least three reasons for this choice. First, French regulation requires the reporting of all abnormal RPTs in the special report. Hence, what is important is not the materiality of a transaction but rather its occurrence. Second, as argued by Kohlbeck and Mayhew (2010), the non-desirability of RPTs and their impact on investors does not depend on their dollar-value. The mere existence of these transactions is important for outsiders irrespective of their economic value. For instance, Yermack (2006) finds that

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firms allowing their CEOs to use official airplanes for private visits underperformed by an average of 4 % as compared to market benchmarks. Finally, what should be important for investors is not the value of a transaction but rather the losses left to the counterparty of the transaction. Estimating these losses requires the knowledge of the “fair” market value of each transaction. As argued by Ryngaert and Thomas (2012), this would be a very difficult task. All these arguments suggest that the use of the number of RPTs instead of their dollar-value is more relevant to our research question.

4.1.2. Female directors' variables

We capture gender diversity on the board by the variable WDIR, which is the proportion of female directors appointed to the boards of our sample firms. We also collect information about each female director in order to understand the channel through which female directors might affect RPT reporting.

If any relation between female directorships and RPT reporting exists, it should be amplified if key positions are occupied by women. Consequently, we consider three key positions within the board of directors, whether the female is appointed as Chairperson (WCHAIR), independent director (WIND) or audit committee member (WAUDCOM). Then, we collect different attributes that indicate the experience and expertise of female directors. For expertise, we follow Hambrick and Mason (1984) and collect information about the education level of each female director. We construct the variable WEDUC, which represents the fraction of females having a higher education degree (a master's or Ph.D.). Beyond degrees, what seems to be important is the ability to understand the complex business environment, which is more likely with a degree in business (Ruigrok et al., 2007). For this, we include the variable business education of female directors (WBUS). As for experience, Masulis, Wang, and Xie (2012) highlight the importance of the geographic diversity of board members as a way to bring new perspectives and

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experiences to the board. We define WNAT as the proportion of foreign female directors among female directors. The other measures capturing experience are tenure (WTEN), measured by the average number of years the female director has served on the board (Carpenter & Westphal, 2001), and the external connectedness of female directors, captured by their multiple directorships (Shu et al., 2015).

4.1.3. Control variables

There is abundant literature that has analyzed the way board characteristics affect the reporting of RPTs by firms (Bennouri et al., 2015; Gordon et al., 2004; Nekhili & Cherif, 2011). We consider the board's independence (B_IND), the board's size (B_SIZE) and the number of board meetings per year (B_MEET). We expect a positive relation between these variables and the reporting of RPTs by firms since independent and more diligent boards would detect more RPTs and push for a higher degree of transparency (Bennouri et al., 2015; Dahya et al., 2008; Gordon et al., 2004). A dual leadership structure (DUAL) is an indication of a weak monitoring mechanism and provides opportunities to manage earnings through RPTs (Lo et al., 2010). We also control for CEO tenure (CEO_TEN), which might affect the ability of the board to efficiently monitor the CEO (Lewis, Walls, & Dowell, 2014). With regard to ownership structure, Hartzell and Starks (2003) state that large shareholders would affect the quality of monitoring. Therefore, we capture the effect of ownership concentration by using both family (FAM_OWN) and institutional ownership (INST_OWN).

Many other variables affect the reporting of RPTs by firms. As suggested by Bennouri et al. (2015), auditors in France play a central role in the RPT reporting process. They report that the quality of auditors, proxied by the size of the auditing firm, is an important explanatory variable of the reported RPTs by French firms. In France, regulators

impose joint auditing for listed firms;¹⁵ therefore we construct a dummy variable (TWOBIG) if the auditors of the firm are members of the Big 4 group. Additionally, we consider debt ratio (LEV), the return on assets (ROA), the intensity of investment in research and development (R&D), the ratio of foreign assets to total assets (FOR_ASSETS), the effect of cross listing in the U.S. (CROSS), the impact of changes to accounting standards in 2005 (IAS24) and the size of the company (F_SIZE). Different studies (Bennouri et al., 2015; Berkman et al., 2009; Kohlbeck & Mayhew, 2010; Lo et al., 2010; Nekhili & Cherif, 2011) show that these variables affect the use and reporting of RPTs by firms. Finally, we include industry and year dummies in which our sample firms operate. All variables used in our model are defined in Table 2.1.

[Please insert Table 2.1 here]

4.2. Model

The relation between gender diversity and RPT reporting might be due to some unobservable features that affect both variables. For example, hiring female directors might be used by the managers as a signal sent to outsiders of good practices by the firm. Alternatively, more transparent firms may be more inclined to hire female directors because of unobservable reasons. On the other hand, skilled female directorship candidates may choose more transparent firms as a way to preserve their reputation. To deal with this endogeneity problem, we first control for firm level characteristics that might affect the appointment of female directors and the reporting of RPTs by performing Propensity Score Matching between firms with at least one female director and the subsample of firms with only male directors. Second, we estimate the determinants of the number of RPTs by using a system GMM (Generalized Method of Moments) estimation method (Blundell & Bond,

¹⁵ In a joint audit, two different auditors produce and sign a single report on a firm and share the effort of producing it and the legal liabilities (Francis et al., 2009). See Bennouri et al. (2015) for a detailed analysis of the impact of joint auditing on RPT reporting in France.

1998).¹⁶ This methodology makes it possible to have consistent estimators, in particular for panel samples with a short study period (in number of years) compared to the number of individuals (Roodman, 2009; Wintoki et al., 2012; Flannery & Hankins, 2013).

We then run the following model by using system GMM regression analysis on the propensity score matched sample to predict the nature of the association between female directorships and related party transactions.

$$RPT_{it} = \beta_1 \text{Lag}RPT_{it} + \beta_2 \text{WDIR}_{it} + \beta_3 \text{CORPORATE_GOV}_{it} + \beta_4 \text{CONTROL}_{it} + \varepsilon_{it} \quad (1)$$

Where ε_{it} is the error term and the subscripts i and t stand for industry and year, respectively.

CORPORATE_GOV is a vector of the corporate governance variables that we consider in this study (B_SIZE, B_IND, B_MEET, DUAL, CEO_TEN, FAM_OWN and INST_OWN). In the same way, CONTROL is a vector of control variables (LEV, ROA, R&D, FOR_ASSETS, CASH, CROSS, TWO_BIG, IAS24, F_SIZE).

5. Results

5.1. Descriptive statistics and univariate analysis

Table 2.2 reports descriptive statistics for all variables considered in this study. Our sample contains a total of 33,065 abnormal transactions reported by French firms. This result in an average of 10.58 transactions per special report, out of which 3.83 transactions are new RPTs and 6.75 transactions are renewed RPTs. Similarly, the average number of RPTs with managers, directors and control shareholders (TMDS) is 2.82, while 7.76 transactions are conducted with subsidiaries and affiliated firms (TSAF). The total number of RPTs is highly volatile, with a minimum of 0 transactions and a maximum of 232 transactions observed in one special report. These numbers are higher than those reported

¹⁶ See Roodman (2009) for a formal presentation of the “system” GMM model. Wintoki et al. (2012) present the model with a focus on a corporate governance application.

Chapter 2: Gender-diverse boards and related party transactions: The role of female directors' attributes by (Bennouri et al., 2015). Although both studies analyze French firms, our sample is more inclusive because it considers smaller firms. This difference is consistent with the idea that firms with non-Big 4 auditors (more likely to be smaller firms) are inclined to report more RPTs.

The average percentage of female directors (WDIR) on boards is 10.79. From this population of female directors, only 4.62% are elected as Chairperson and almost 9% are independent directors. The mean percentage of females appointed to audit committees is 2.07 out of all female directors. On average, we have 46.82% of female directors with a master's or a PhD degree and 44.39% of female directors have a specialized background of business education. More than 9% of female directors are foreigners and 61.63% of females sit on more than one board of directors. Finally, the average tenure of female directors is 6.51 years.

For corporate governance variables, the boards contain an average of 7.7 members from whom around 27% are independent, and they organize an average of 6.36 meetings per year. The Chairperson is also the CEO for 62.57% of the observed firm-years and the CEO tenure is on average 7.82 years. Compared with the French sample-based analysis of Nekhili and Gatfaoui (2013), ROA in both studies is close (2.73% versus 2.32%). Similarly, we find differences between the descriptive statistics of our sample and those of Sabatier (2015), who uses a sample of the largest French firms (CAC-40 index members) for the period between 2008 and 2012. For the same reason, our ownership statistics show a higher concentration of ownership for families and relatively smaller ownership of institutional investors. On average, 18% of our sample firms have two Big Four auditors. This is much less than the 44.13% firms with two Big Four auditors reported by (Bennouri et al., 2015). This might be due to the addition of small firms in our sample, which are less likely to hire Big Four auditors. The average debt ratio (LEV) is 23.10%, while R&D

investment represents on average 1.17%. Finally, the average value of total assets is EUR 4,919.76 million, which confirms that the average firm size in our sample is much smaller than what we can find in the empirical literature studying French firms (Bennouri et al., 2015; Jeanjean & Stolowy, 2009).

[Please insert Table 2.2 here]

Table 2.3 displays the results of the variance-covariance matrix, the Pearson correlation test and variance inflation factors (VIF) for all variables considered in this study.¹⁷ Correlation among variables is within acceptable limit and all Variance Inflation Factors (VIF) are less than 3, which is very far from the critical value of 10 (O'Brien, 2007). Hence, we believe that our sample does not suffer from strong multicollinearity problems that might bias our results.

[Please insert Table 2.3 here]

5.2. Propensity Score Matching (PSM)

Although the proportion of female directors in our sample is 10.79 %, many firms have boards exclusively containing male directors. Table 2.4 (entire sample columns) present a comparison between the characteristics of firms with at least one female director to those having only male directors. The firms with female directors are significantly larger, more likely to have two Big Four auditors and to be cross listed on U.S. markets. Both subsamples are significantly different with regard to corporate governance variables. This suggests the existence of structural contrasts between the two subsamples. These differences might result in biased estimations. In order to control for the differences between firms, we perform a matched sample analysis using Propensity Score Matching (Rosenbaum & Rubin, 1983). This procedure allows us to construct two close subsamples

¹⁷ These tests are conducted on matched sample.

based on different criteria.¹⁸ The (score) difference between the matched observations is required to not exceed 1%.¹⁹ This matching procedure yields a matched sample with 2016 observations (firm-year): 1008 treatment observations (firms with at least one female director) and 1008 comparison observations (firms with only male directors). These matched subsamples are supposed to have no observable differences. Table 2.4 (matched sample columns) confirms this by presenting the descriptive statistics for the two matched subsamples. Compared to the original subsamples, the differences highlighted before disappear and we have two subsamples which are statistically identical based on the different characteristics considered in this study. We will use this new sample in the remainder of this paper in order to control for the structural dissimilarities between firms with and without gender diverse boards.

[Please insert Table 2.4 here]

For our dependent variables, Table 2.5 highlights significant differences in the mean of RPTs in both samples (entire and matched) for gender diverse and non-gender diverse firms. For the un-matched sample, we do not find any significant difference in RPT activity of gender-diverse and non-gender diverse firms. The results of the matched sample demonstrate that firms with gender-diverse boards are significantly less engaged in RPTs than firms with all-male boards. For different categories of RPT, there is no significant difference for new and renewed RPTs in both types of firms before and after matching. However, we observe significant difference in TMDS and TSAF before and after matching. It is interesting to note that before matching, gender-diverse firms were more involved in TMDS than non-gender diverse firms but in post-match, sample results

¹⁸ See for example Faccio et al. (2016) for a more detailed exposition of the propensity score matching method for a study of corporate risk taking by female CEOs.

¹⁹ To this, we use a caliper distance of 1%. Also, the matching is operated without replacement, i.e. the same firms with female director can be matched to only one non-female director firm.

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are opposite. Finally, gender-diverse firms report fewer transactions with subsidiaries and affiliated firms (TSAF) than firms with all-male boards in both samples (un-matched and matched) but the gap is even bigger as depicted by the results of the matched samples in Table 2.5. These statistics justify the use of matching by indicating that gender-diverse and non-gender diverse firms differ in their RPT reporting behavior.

[Please insert Table 2.5 here]

5.3. Multivariate analysis

5.3.1. Gender-diverse board and RPTs

Table 2.6 reports the results for the system GMM regressions where the dependent variable is the number of reported RPTs, the number of new RPTs (NRPT), the number of renewed RPTs (RRPT), the number of transactions with managers, directors and shareholders (TMDS) and the number of transactions with subsidiaries and affiliated firms (TSAF). Note that we include the lagged value of the dependent variable (the instrument) in our model as required by the system GMM approach.

In line with hypothesis 1, we find that female directors discourage the use of RPTs by being negatively associated with such transactions. This result is in line with existing studies showing that female directors demonstrate superior monitoring skills (Adams & Ferreira, 2009; Heminway, 2007; Huse & Solberg, 2006) and limit the number of reported RPTs. As for different types of RPTs, we observe that female directors improve the disclosure of new RPTs (NRPT) and transactions with managers, directors and shareholders (TMDS). However, female directors reduce the number of renewed RPTs (RRPT) and transactions with subsidiaries and affiliated firms (TSAF). These results are in accordance with our expectations, as we explained in our conceptual framework. Women directors are exerting their influence on board proceedings to disclose NRPT and TMDS and to disapprove other transactions (e.g., RRPT and TSAF). This suggests that some

transactions, specifically with managers and controlling shareholders, may be very difficult for boards to disapprove. This might occur for two reasons. First, top managers have close relationships with controlling shareholders (Cuervo, 2002; Faccio & Lang, 2002; Boubaker & Labégorre, 2008). Second, controlling shareholders influence the composition of the board of directors (Bona-Sánchez et al., 2016) and boards are controlled by their well-connected directors (Cuervo, 2002). Additionally, these transactions may be straightforwardly approved at the shareholders' annual general meeting. As expressed by Proxinvest, a French proxy voting advisory firm, controlling shareholders participate in the vote on RPTs at general meetings of shareholders, thereby violating the law but without facing any sanctions from the FMA (Financial Markets Authority). For new transactions (NRPT), the result obtained can be explained by the fact that it is very difficult for (female) directors to judge the real intention of related parties and, in this case, new transactions may, until proven otherwise, be considered as not self-dealing. Indeed, new transactions are subject to extensive data release, including the names of the related parties, the nature and objective of the transaction, the terms/procedures (as mentioned in the Commercial Code), and the amounts paid or received during the year (Bennouri et al., 2015). In contrast, for renewed transactions (RRPT), the auditors only note in the special report the nature and importance of the services and goods delivered and the amounts paid or received during the year (Bennouri et al., 2015). Undeniably, renewed transactions with related parties are more likely to arouse suspicion than new transactions.

For the control variables, we find a positive relationship between the board activity level, as measured by the number of board meetings (B_MEET) and RPTs. This finding suggests that diligent boards detect more RPTs and push for higher transparency (Bennouri et al., 2015; Dahya et al., 2008). Firms assigning the role of both CEO and Chair (DUAL)

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to the same individual provide a favorable environment for the proliferation of RPTs (Gordon et al., 2004; Lo et al., 2010). Among other control variables, the presence of Big Four auditors (TWOBIG) is negatively related with RPTs. This result is in line with the findings of studies conducted on French data (Nekhili & Cherif, 2011; Bennouri et al., 2015) and highlights that firms audited by Big Four auditors report less RPTs. Similarly, the implementation of international financial reporting standards (IAS24) decreases the number of RPTs. For remaining governance and control variables, we do not find any significant relationship with RPTs in Model 1.

[Please insert Table 2.6 here]

Overall, our mixed results suggest that the relation between women directors and RPTs is not uniform among the different kinds of transactions. The remaining question is: how do the attributes and skills of female directors affect these relations?

5.3.2. Specific attributes of female directors and RPTs

5.3.2.1. Principal Component Analysis (PCA)

Initially, we consider eight attributes (statutory and demographic) of female directors in our study. To make interpretations more meaningful, we opt to reduce variables by using principal component analysis (Abdi & Williams, 2010). First, we apply the KMO (Kaiser- Meyer-Olkin) measure of sample adequacy to assess whether PCA is suitable in our case. The KMO test in PCA using 8 original variables of the scale shows that the KMO index is high (0.72) with significance equal to 0. Therefore, a KMO index of more than 0.5 validates the use of PCA.

For the PCA, we follow eigenvalues to reduce the number of components. Following Carcello, Hermanson, and McGrath (1992), we retain components with eigenvalues more than unity. Among our eight components, only four were retained

because they satisfy this criterion. Table 2.7 presents the four derived components along with their “names” and component loadings. These derived components are named after the variables they are highly correlated with. The component loadings are the correlation between components and the original variable. Collectively, these four derived components explain 60.6% variation in data. Prior research suggests that a component analysis explaining more than 60% of the original variables’ variance is considered satisfactory (Carcello et al., 1992).

As highlighted by component loadings in Table 2.7, the first component has its highest correlation (0.531) with the business expertise of female directors (WBUS). Therefore, we name this first component “EXPERTISE”. The second component loads highly (0.671) on female Chair (WCHAIR). It is named “LEADERSHIP” because WCHAIR is a proxy of leadership. Similarly, the third component ranks high on both proxies of experience: multiple directorships (0.622) and tenure (0.548). Accordingly, the third component is named “EXPERIENCE”. Finally, the fourth component loads heavily (0.660) on audit committee memberships and it is named “AUDCOM_MEMB”. We use these four components as endogenous variables in the system GMM regression analysis to study the effect of female directors and their specific attributes on RPTs.

[Please insert Table 2.7 here]

5.3.2.2. Female directors, specific attributes and RPTs

In Table 2.8, we display the relation between female directors and RPTs by including their specific attributes derived through PCA. We use the following model.

$$\begin{aligned} \text{RPT}_{it} = & \beta_0 + \beta_1 \text{LagRPT}_{it} + \beta_2 \text{WDIR}_{it} + \beta_3 \text{LEADERSHIP}_{it} + \beta_4 \text{AUDCOM}_{\text{MEMB}it} \\ & + \beta_5 \text{EXPERTISE}_{it} + \beta_6 \text{EXPERIENCE}_{it} + \beta_7 \text{CORPORATE}_{\text{GOV}it} \\ & + \beta_8 \text{CONTROL}_{it} + \beta_9 \text{INDUSTRY}_{\text{FE}it} + \beta_{10} \text{YEAR}_{\text{FE}it} + \varepsilon_{it} \end{aligned} \quad (2)$$

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Where ε_{it} is the error term and the subscripts i and t stand for industry and year, respectively.

CORPORATE_GOV and CONTROL are the same as defined in Equation (1) above. In Equation (2), we introduce the four components capturing the attributes of female directors in our sample.

The key finding demonstrated by our results in Table 2.8 is that female directors are positively associated with the number of reported RPTs and they enhance disclosure rather than limiting the use of such transactions. These results highlight that the negative effect of female directors on RPTs in our first model presented in Table 2.6 was not just due to their presence on the board. In fact, the negative impact of female directors on RPTs originates from their specific (statutory and demographic) attributes. The addition of specific attributes in the regression model changes the nature of the association between female directors and RPTs. These findings provide evidence that specific (statutory and demographic) attributes drive the relationship between female directors and RPTs. Hence, it is important to consider the statutory and demographic attributes of female directors while studying the impact of gender diversity.

With regard to our hypothesis 2, our results reveal that firms led by women (LEADERSHIP) are more likely to push for disclosure of related party transactions. Concerning different categories of RPT, at the first level we find that women leadership (LEADERSHIP) is enhancing the disclosure of new RPTs and does not have any effect on renewed transactions. More interestingly, at the second level, woman led firms are discouraging the use of transactions with managers, directors and shareholders (TMDS) by mitigating the influence of large shareholders on board proceedings. On the other hand, women leadership enhances the disclosure of transactions with subsidiaries and affiliated firms (TSAF). As discussed above, these transactions may be aligned with organizational

needs and are not always made to the detriment of minority shareholders (Nekhili & Cherif, 2011). If woman chair feels that any particular transaction is aligned with organizational needs and the interest of stakeholders, she may ask the board to approve and disclose such related party transaction. In sum, these results provide evidence that women leadership improves the ability of a board to report RPTs by ensuring that approved transactions are disclosed to shareholders in special reports.

In accordance with our hypothesis 3, the results of regression analysis validate a negative and statistically significant impact of female audit committee members (AUDCOM_MEMB) on RPTs. For different categories of RPTs, we observe that female audit committee members restrain the managers from using renewed RPTs (RRPT) and transactions with subsidiaries and affiliated firms (TSAF) but do not have any influence on other transactions (i.e., NRPT and TMDS). These results highlight that gender diverse audit committees do not provide opportunities to abuse minority shareholders through RPTs due to their higher ability to monitor managers. Our findings consolidate the argument made by Adams and Ferreira (2009) that females are appointed on audit committees due to their higher monitoring skills.

As with AUDCOM_MEMB, we find that the business expertise of female directors (EXPERTISE) is negatively and significantly associated with aggregate RPTs and minimizes the chances of minority shareholders' expropriation (Lo et al., 2010). With regard to different categories of RPT, the results indicate that the business expertise of females is simultaneously enhancing the disclosure of new RPTs and decreasing the number of renewed RPTs. As discussed above, renewed transactions with related parties (NRPT) are more vulnerable to suspicion than new transactions (NRPT). At the second level of RPTs, the business expertise of females does not have any impact on TMDS but discourages the use of transactions with subsidiaries and affiliated firms (TSAF). In a

recent study in the French context, Nekhili and Gatfaoui (2013) rate business expertise as a key attribute of female directors. Further, they argue that female directors having business expertise exhibit better monitoring skills to mitigate the probability of malpractices by controlling shareholders. Similarly, in our case, female directors coming from business educational backgrounds are utilizing their specific skills and expertise to limit the adverse effects of RPTs. These results are consistent with our fourth hypothesis.

In support of our hypothesis 5, the results reveal that the EXPERIENCE of female directors measured by multiple directorships and tenure is positively and significantly related to aggregate and all categories of RPT (e.g., NRPT, RRPT, TMDS, and TSAF). These results demonstrate that the prior experience of female directors is more likely to affect the reporting of RPTs by ensuring the disclosure of all approved transactions in special reports. From the point of view of organizational learning, directors' prior experience enhances their understanding of organizational issues and their ability to oversee the activities of management (Carpenter & Westphal, 2001; Harris & Shimizu, 2004; Westphal & Milton, 2000). They are then more able than less experienced directors to assess the economic value of RPTs. In contrast to organizational learning, the management friendliness hypothesis upholds the view that long tenure of directors (i.e., reappointment over time) is an indication of their friendly relationship with management, which affects their ability to monitor managers independently (Vafeas, 2003; Xie, Davidson, & DaDalt, 2003). In this scenario, directors are not in a position that allows them to disapprove transactions proposed by managers. So they will push for disclosure of such related party transactions.

[Please insert Table 2.8 here]

While looking at governance variables, we observe that board size (B_SIZE) is positively associated with RPTs. This finding supports the idea that large boards are weak monitors and unable to decrease the number of reported RPTs (Gordon et al., 2004). Similar to the findings of Nekhili and Cherif (2011), the level of board independence (B_IND) demonstrates a positive impact on RPTs. This is related to the French weak governance structure, where RPTs demoralize the function of independent directors by turning them into affiliated or gray directors (Denis & Sarin, 1999; Klein, 2002). Further, weak governance mechanisms enhance the chances of the occurrence of RPTs even in the presence of independent directors (Gordon et al., 2004; Nekhili & Cherif, 2011). The number of board meetings (B_MEET) does not have a significant effect on RPTs, except on new transactions (NRPT). CEO duality (DUAL) is positively associated with the level of RPTs. This result is in line with our expectation that concentration of power in the hands of a CEO leads to weak monitoring which in turn will increase the number of RPTs (Gordon et al., 2004; Lo et al., 2010). However, longer tenured CEOs (CEO_TEN) decrease the level of TMDS but do not affect any other category of RPTs. With regard to ownership structure, we find similar results as reported by Bennouri et al. (2015) that family owned firms (FAM_OWN) are less likely to exhibit opportunistic behavior, as they are enhancing the disclosure of new transactions (NRPT) and limiting the use of renewed transactions (RRPT) and TMDS. However, institutional ownership (INST_OWN) does not have any significant impact on the aggregate, or on any category of RPTs.

Regarding other control variables, it can be seen that highly leveraged (LEV) firms are more likely to engage in RPTs (NRPT, RRPT and TSAF). This result confirms the findings of Bennouri et al. (2015) that a higher level of debt favors transactions that potentially entail the expropriation of minority shareholders. In accordance with Kohlbeck and Mayhew (2010), return on assets (ROA) demonstrates a negative effect on RPTs.

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Firms investing more in research and development (R&D) exhibits a negative relationship with RPTs. This finding validates the results of Bennouri et al. (2015) that firms with high R&D intensity will have more opportunities to grow so they will not engage in RPTs. Foreign investment measured by the proportion of foreign assets (FOR_ASSETS) and operating cash-flow (CASH) is positively associated with RPTs. Contrary to the results obtained by Nekhili and Cherif (2011), the cross listing of firms in the U.S. market (CROSS) demonstrates a negative impact on RPTs. This finding affirms that, due to the strict listing requirements of the U.S market and the threat of being sued by minority shareholders, cross listed firms avoid the use of RPTs. The engagement of Big Four auditors (TWOBIG) decreases the level of RPTs (RRPT), and the implementation of international accounting standards (IAS24) enhances the disclosure of related party transactions (RRPT and TMDS). These results consolidate the findings of Bennouri et al. (2015) that firms audited by Big Four auditors report less RPTs and IAS24 promote the transparency of the RPT reporting process by enhancing the disclosure of these transactions. Finally, firm size (F_SIZE) is negatively related to NRPT and TMDS but positively associated with RRPT. This suggests that the size of the firm does not provide opportunities for controlling owners to expropriate minority shareholders through RPTs (Nekhili & Cherif, 2011).

6. Conclusion

In this study, we extend the existing literature by creating links between female directors and RPTs. In addition to prior studies on board gender diversity, we shed light on the role played by statutory and demographic attributes of female directors with regard to the reporting of RPTs. To the best of our knowledge, our study is the first to examine the relation between female directors, their specific attributes (statutory and demographic) and RPTs. Gender diversity is endogenously determined by several variables related to

governance structure, ownership pattern and other firm specific characteristics. Further, we apply propensity score matching specification on our data to have an approximately unbiased estimate of the treatment effect (gender diversity). We match gender-diverse boards (with minimum one female director) with non-gender diverse boards (with no female directors) that are similar in terms of governance structure, ownership patterns and all other characteristics considered in this study. This analysis serves to illustrate whether gender-diverse and non-gender diverse boards intrinsically perform differently regardless of other firm characteristics.

Using a sample of 394 French firms over the period of 2001 to 2010, we apply the system GMM estimation approach on the propensity score matched sample to investigate the nature of the relationship between female directors and RPTs by considering their statutory and demographic attributes. Our initial results support the argument that female directors are efficient monitors of management (Adams & Ferreira, 2009; Nekhili & Gatfaoui, 2013) and minimize the probability of minority shareholders' expropriation by limiting the use of RPTs. However, the consideration of specific (i.e., statutory and demographic) attributes in the regression analysis changes the nature of the association between female directors and RPTs from negative to positive, suggesting that the simple presence of women directors is a necessary but not sufficient condition for effective board decision making.

Further, our findings provide evidence that audit committee membership and the business expertise of female directors are the most important attributes of women for effective monitoring of management and to protect minority shareholders from being abused through RPTs. This is related to the importance of the business expertise of women for active monitoring of management (Lo et al., 2010; Nekhili & Gatfaoui, 2013) and the appointment of women to audit committees because of their superior monitoring skills

(Adams & Ferreira, 2009). On the other hand, we find that female leadership and experience are positively related to the number of reported RPTs in special reports. These results indicate that female leadership and experience affects the reporting of RPTs by enhancing the disclosure of such transactions. With regard to different categories of RPTs, our findings highlight that gender diverse boards disclose or reduce RPTs in light of the nature of the transaction and related party involved.

Our results uphold the notion that the board plays a key role in the monitoring process of RPTs (Cheung et al., 2006), and female directors enhance the decision making and monitoring ability of boards (Adams & Ferreira, 2009; De Cabo et al., 2012; Francoeur et al., 2008). Similarly, statutory and demographic attributes are also important for explaining the channel through which female directors exert influence on board proceedings. In this regard, our findings provide substantial evidence that both the presence of women on the board of directors and their specific (statutory and demographic) attributes enhance the decision-making ability of the board with respect to the issue of RPTs. Finally, we suggest that it is not only the presence of female directors that matters for the efficient working of corporate boards; neither statutory nor demographic attributes alone yield the desired results. Indeed, it is the combination of both statutory and demographic attributes which can fulfill the objective of more effective board decision making with regard to RPTs.

Our findings have important implications for governance of firms with regard to gender diversity and RPTs. We clearly show that boards with female directors discourage the use or enhance the disclosure of RPTs, but the specific (statutory and demographic) attributes drive the nature of the association between female directors and RPTs. Accordingly, a recent study by Adam and Ferreira (2009) states that gender diversity might be detrimental for well governed firms. In this regard, our study provides an

important implication by suggesting that the decision to appoint females should be based on their specific (statutory and demographic) attributes rather than blind implementation of gender quotas. Further, studying the impact of gender diversity without considering the influence of statutory and demographic attributes of females might result in misleading conclusions.

This study opens avenues for future research. In our study, we consider the voluntary appointment of females to corporate boards in order to study the effect of gender diversity on RPTs. Due to the implementation of gender quotas coming into force in 2016, the issue of gender diversity has become more important. In this respect, we suggest investigating whether the mandatory (rather than voluntary) appointment of female directors impacts their ability to monitor RPTs. It would also be interesting to study the mediating effect of female directors on the relationship between RPTs and firm performance and to investigate whether RPTs are more value relevant for firms with gender-diverse boards than for firms with all-male boards.

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Table 2. 1: Definition of variables

Variable	Definition	Measures²⁰
Dependent variables		
RPT	RPTs	Number of RPTs available in the special reports.
NRPT	New RPTs	Number of new RPTs
RRPT	Renewed RPTs	Number of RPTs, renewed from the preceding year.
TMDS	Transactions with managers, directors, and shareholders	Number of transactions between the firm and its managers, directors, and shareholders.
TSAF	Transactions with subsidiaries and affiliated firms	Number of transactions between the firm and its subsidiaries and affiliated firms.
Female directors' variables		
WDIR	Females on board	Proportion of female directors to total directors.
WCHAIR	Female Chair	Dummy variable coded "1" if board is chaired by woman otherwise "0".
WIND	Independent female directors	Percentage of non-executive independent female directors to total female directors.
WAUDCOM	Audit committee memberships held by female directors	Percentage of female directors, members of the audit committee to total female directors.
WEDUC	Education level of female directors	Percentage of females with master's diploma or with doctorate (Ph.D.) degree to total female directors.
WBUS	Business education of female directors	Percentage of females with formal education, specializing in business to total female directors.
WANT	Nationality of women	Percentage of foreign females to total female directors.
WMUL	Multiple directorships held by female directors	Percentage of females members of another firm's board of directors to total female directors.
WTEN	Tenure of female directors	The average number of year females served on board.
Governance and control variables		
B_SIZE	Board size	Natural logarithm of the total number of directors.
B_IND	Board independence	Ratio of independent non-executive directors to total number of directors.
B_MEET	Board meetings	Natural logarithm of number of annual board meetings.
DUAL	CEO duality	Dummy variable coded "1" if the CEO serves as Board Chair and otherwise "0".
CEO_TEN	CEO tenure	Number of years served at a company before appointment to the post of CEO.
FAM_OWN	Family ownership	Percentage of capital held by family investors.
INST_OWN	Institutional ownership	Percentage of capital held by institutional investors.
LEV	Leverage	Ratio of financial debt to total assets.
ROA	Return on assets	Ratio of operating income to total assets.
R&D	Research and development	Ratio of investment in R&D to total sales.
FOR_ASSETS	Foreign assets	Ratio of foreign assets to total assets.
CASH	Operating Cash-flow	Cash-flow from operations, scaled by total assets.
CROSS	Cross listing in US	Dummy variable coded "1" if the firm is listed in U.S. and "0" otherwise.
TWOBIG	Audit by Big auditors	Dummy variable coded "1" if both auditors are Big, otherwise "0".
IAS24	Mandatory adoption of the IFRS rule IAS24	Dummy variable equal to "1" after the adoption of IAS24 rule in 2005 and otherwise "0".
F_SIZE	Firm size	Natural logarithm of firm's total assets.
Industry	Industry	A binary variable coded "1" if the company belongs to the sector in question and otherwise "0".

²⁰ Variables from ThomsonOne are winsorized at the 1 % and 99 % levels.

Table 2. 2: Descriptive statistics for entire sample

Variables	Mean	Median	Standard Deviation	Minimum	Maximum
<i>RPT</i>	10.58	7	13.31	0	232
<i>NRPT</i>	3.83	2	7.33	0	125
<i>RRPT</i>	6.75	4	9.32	0	107
<i>TMDS</i>	2.82	1	5.30	0	54
<i>TSAF</i>	7.76	4	11.38	0	218
<i>WDIR</i>	10.79 %	0	14.84 %	0	75 %
<i>WCHAIR</i>	4.62%	0	20.99%	0	1
<i>WIND</i>	8.94%	0	26.63%	0	1
<i>WAUDCOM</i>	2.07%	0	8.24%	0	90%
<i>WEDUC</i>	46.82%	50%	46.24%	0	1
<i>WBUS</i>	44.39%	30.33%	46.83%	0	1
<i>WNATI</i>	9.37%	0	27.46%	0	1
<i>WMUL</i>	61.63%	1	25.42%	0	1
<i>WTEN</i>	6.51	5	6.32	0	42
<i>B_SIZE (number of directors)</i>	7.70	7	3.86	4	26
<i>B_IND</i>	26.96 %	25 %	24.66 %	0	94.11 %
<i>B_MEET (number of meetings)</i>	6.36	6	3.38	1	30
<i>DUAL</i>	62.57 %	1	48.40 %	0	1
<i>CEO_TEN (number of years)</i>	7.82	6	6.193	0	42
<i>FAM_OWN</i>	36.84 %	39 %	27.65 %	0	99.37 %
<i>INST_OWN</i>	17.74 %	4.44 %	26.30 %	0	98.63 %
<i>LEV</i>	23.10 %	21.41 %	16.85 %	0	74.45 %
<i>ROA</i>	2.72 %	3.55 %	7.13 %	-30 %	18.9 %
<i>R&D</i>	1.17 %	0	4.33 %	0	27.95 %
<i>FOR_ASSETS</i>	18.77 %	3.75 %	25.46 %	0	91.87 %
<i>CASH</i>	9.88 %	7.26 %	10.02 %	-7.47 %	52.80 %
<i>CROSS</i>	8.60 %	0	28.03 %	0	1
<i>TWOBIG</i>	18.14 %	1	38.52 %	0	1
<i>F_SIZE (Total assets in millions of euros)</i>	4,919.76	223.4	16,992.88	0.124	240,559

All variables are as defined in Table 2.1.

Table 2. 3: Pairwise correlation matrix

Variables	1	2	3	4	5	6	7	8	9	10	11	VIF
1. LRPT	1.000											—
2. LNRPT	0.664*	1.000										—
3. LRRPT	0.811*	0.202*	1.000									—
4. LTMD5	0.495*	0.471*	0.360*	1.000								—
5. LTSAF	0.870*	0.539*	0.730*	0.095*	1.000							—
6. WDIR	0.017	0.020	0.016	0.059*	-0.011	1.000						1.04
7. WCHAIR	0.007	0.026	-0.001	0.048*	-0.004	0.198*	1.000					1.14
8. WIND	-0.020	0.042	-0.080*	0.036	-0.054	-0.156*	0.016	1.000				1.23
9. WAUDCOM	-0.038	0.011	-0.056*	0.013	-0.056*	0.155*	-0.041	0.105*	1.000			1.14
10. WEDUC	0.016	0.012	0.026	0.124*	-0.048	-0.031	-0.041	0.108*	-0.013	1.000		1.16
11. WBUS	-0.022	0.090*	-0.065	-0.006	-0.031	-0.127*	-0.070*	0.245*	0.175*	0.200*	1.000	1.30
12. WANT	0.004	-0.006	0.020	0.105*	-0.073*	-0.133*	-0.090*	0.088*	0.047	0.070*	0.089*	1.28
13. WMUL	0.090*	0.040	0.090*	0.057	0.046	-0.172*	0.031	0.107*	0.124*	0.135*	0.183*	1.28
14. WTEN	0.078*	0.031	0.075*	0.074*	0.050	0.101*	0.006	-0.089*	-0.051	-0.093*	-0.182*	1.26
15. B_SIZE	-0.027	0.033	-0.042	0.057*	-0.068*	-0.268*	0.011	0.221*	0.115*	-0.016	0.164*	2.14
16. B_IND	-0.084*	-0.037	-0.070*	0.048*	-0.106*	-0.120*	0.099*	0.176*	0.147*	-0.005	0.101*	1.45
17. B_MEET	0.070*	0.122*	0.027	0.114*	0.020	-0.012	-0.053*	0.055	0.063*	0.027	0.114*	1.25
18. DUAL	0.066*	0.001	0.067*	0.022	0.050*	0.009	-0.099*	0.080*	-0.040	0.036	-0.037	1.22
19. CEO_TEN	0.045	0.038	0.040	0.041	0.035	0.079*	-0.065*	0.128*	0.098*	-0.118*	0.052	1.16
20. FAM_OWN	0.099*	0.040	0.086*	-0.013	0.123*	0.145*	0.001	-0.203*	-0.073*	-0.100*	-0.216*	1.34
21. INST_OWN	-0.010	-0.027	0.014	0.048*	-0.043	-0.058*	0.001	0.048	-0.028	0.121*	0.065*	2.03
22. LEV	0.089*	0.055*	0.098*	0.038	0.084*	-0.078*	-0.064*	0.006	0.080*	0.011	0.074*	1.88
23. ROA	-0.019	-0.006	-0.006	-0.040	0.007	-0.006	-0.023	-0.000	0.041	-0.026	0.023	1.57
24. R&D	-0.035	-0.018	-0.030	0.036	-0.066*	-0.012	0.042	0.020	-0.014	0.011	-0.098*	1.14
25. FOR_ASSETS	-0.058*	0.005	-0.068*	0.018	-0.083*	-0.151*	-0.040	0.154*	0.080*	0.031	0.099*	1.12
26. CASH	-0.050*	-0.030	-0.041	-0.001	-0.047*	-0.019	0.001	0.001	-0.011	-0.052	-0.016	1.06
27. CROSS	-0.037	-0.002	-0.052*	0.011	-0.043	-0.084*	-0.013	0.047	0.080*	0.020	0.147*	1.41
28. TWOBIG	-0.170*	-0.076*	-0.173*	-0.036	-0.193*	0.198*	1.000	0.136*	0.082*	0.032	0.135*	1.65
29. IAS24	0.014	-0.030	0.064*	0.049*	-0.024	-0.156*	0.016	0.076*	0.064*	0.038	0.103*	1.30
30. F_SIZE	-0.097*	-0.009*	-0.110*	-0.021*	-0.193*	-0.129*	-0.024*	0.214*	0.121*	-0.053*	0.141*	2.86

* Represents significance at the 0.01 level.

All variables are as defined in Table 2.1.

Table 2.3: (Continued)

Variables	12	13	14	15	16	17	18	19	20	21	22
12. WNAT	1.000										
13. WMUL	0.187*	1.000									
14. WTEN	-0.113*	0.000	1.000								
15. B_SIZE	0.165*	0.206*	-0.136*	1.000							
16. B_IND	0.206*	0.050	-0.031	0.365*	1.000						
17. B_MEET	0.120*	-0.080*	-0.033	0.137*	0.115*	1.000					
18. DUAL	0.024	0.079*	0.058	-0.079*	-0.156*	0.021	1.000				
19. CEO_TEN	0.055	0.037	0.250*	0.111*	0.098*	0.045*	0.118*	1.000			
20. FAM_OWN	-0.108*	-0.126*	0.154*	-0.220*	-0.189*	-0.104*	-0.014	0.052*	1.000		
21. INST_OWN	0.006	0.158*	-0.170*	0.025	0.011	-0.058*	0.102*	-0.087*	-0.537*	1.000	
22. LEV	0.030	0.118*	-0.063	0.154*	0.025	0.088*	-0.009	0.019	-0.058*	0.055*	1.000
23. ROA	0.053	0.008	-0.005	0.130*	0.073*	0.009	0.001	0.079*	0.063*	-0.066*	-0.014
24. R&D	0.017	-0.022	0.095*	0.032	0.062*	0.045	0.028	0.021	0.025	-0.069*	-0.051*
25. FOR_ASSETS	0.312*	0.113*	-0.025	0.33*	0.271*	0.157*	-0.021	0.137*	-0.198*	0.027	0.071*
26. CASH	-0.014	-0.041	0.051	-0.053*	0.095*	0.083*	0.030	0.045	-0.000	-0.091*	-0.269*
27. CROSS	0.218*	0.089*	-0.076*	0.307*	0.202*	0.138*	-0.033	-0.002	-0.148*	-0.051*	0.054*
28. TWOBIG	0.196*	0.139*	-0.128*	0.421*	0.237*	0.098*	-0.042	0.062*	-0.075*	0.040	0.025
29. IAS24	0.016	0.027	0.125*	0.009	0.117*	0.083*	0.025	0.315*	-0.033	0.076*	-0.044
30. F_SIZE	0.235*	0.170*	-0.012	0.547*	0.424*	0.230*	0.169*	0.137*	-0.106*	-0.277*	0.166*

Variables	23	24	25	26	27	28	29	30
23. ROA	1.000							
24. R&D	-0.027	1.000						
25. FOR_ASSETS	0.097*	0.051*	1.000					
26. CASH	0.018	0.205*	-0.009	1.000				
27. CROSS	0.029	0.061*	0.177*	0.050*	1.000			
28. TWOBIG	0.102*	0.015	0.247*	0.017	0.178*	1.000		
29. IAS24	0.080*	0.032	-0.006	0.073*	-0.061*	0.014	1.000	
30. F_SIZE	0.189*	0.054*	0.376	0.068*	0.337*	0.340*	0.016	1.000

* Represents significance at the 0.01 level.

All variables are as defined in Table 2.1.

Table 2. 4: Mean difference test between gender diverse and non-gender diverse firms for entire and matched sample

Variables	Entire Sample			Matched Sample		
	Gender diverse boards	Non-gender diverse boards	t-value	Gender diverse boards	Non-gender diverse boards	t-value
<i>B_SIZE</i> (Number of directors)	8.107	7.326	4.65*** a	7.676	7.734	-0.29 ^a
<i>B_IND</i>	29.97 %	27.12 %	2.80***	28.57 %	27.72 %	0.73
<i>B_MEET</i> (Number of board meetings)	6.268	6.453	3.93*** a	6.442	6.216	-0.10 ^a
<i>DUAL</i>	66.34 %	58.55 %	4.06***	63.69 %	62.30 %	0.65
<i>CEO_TEN</i> (Number of years)	7.097	8.632	6.23*** a	8.078	8.223	-0.74 ^a
<i>FAM_OWN</i>	35.93 %	35.89 %	0.04	36.57 %	36.82 %	-0.20
<i>INST_OWN</i>	17.92 %	18.87 %	-0.90	17.70 %	17.63 %	0.06
<i>LEV</i>	23.02 %	22.80 %	0.34	22.69 %	22.90 %	-0.28
<i>ROA</i>	3.02 %	2.68 %	1.29	2.82 %	2.71 %	0.35
<i>R&D</i>	1.40 %	1.40 %	-0.01	1.42 %	1.32 %	0.41
<i>FOR_ASSETS</i>	19.21 %	20.60 %	-1.34	18.76 %	18.37 %	0.35
<i>CASH</i>	9.54 %	9.73 %	-0.50	9.79 %	9.66	0.30
<i>CROSS</i>	10.97 %	7.32 %	3.20***	8.63 %	8.33 %	0.24
<i>TWOBIG</i>	0.216	0.179	2.34**	0.181	0.173	0.47
<i>F_SIZE</i> (in millions of euros)	7208	3019	3.69*** a	6305	3875	0.20 ^a
Number of observations	1592	1517		1008	1008	

** , *** Represent significance at 0.05 and 0.01 levels, respectively.

^a t-tests are based on natural logarithm transformed values.

All variables are as defined in Table 2.1.

Table 2. 5: Mean difference test between gender-diverse and non-gender diverse firms on the basis of RPTs for entire and matched sample

Variables	Entire Sample			Matched Sample		
	Gender diverse boards	Non-gender diverse boards	t-value	Gender diverse boards	Non-gender diverse boards	t-value
<i>RPT (Number of transactions)</i>	10.181	10.942	1.491 ^a	9.932	11.767	2.329** ^a
<i>NRPT (Number of transactions)</i>	3.754	3.903	0.226 ^a	3.620	4.140	0.967 ^a
<i>RRPT (Number of transactions)</i>	6.426	7.040	1.070 ^a	6.312	7.627	1.720 ^a
<i>TMDS (Number of transactions)</i>	2.922	2.681	4.137*** ^a	2.950	2.990	2.281*** ^a
<i>TSAF (Number of transactions)</i>	7.259	8.260	4.393*** ^a	6.982	8.778	4.626*** ^a
Number of observations	1592	1517		1008	1008	

** , *** Represent significance at 0.05 and 0.01 levels, respectively.

^a t-tests are based on natural logarithm transformed values.

All variables are as defined in Table 2.1.

Table 2. 6: System GMM regression of RPTs on female directorship

Variables	RPT		NRPT		RRPT		TMDS		TSAF	
	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test
<i>Lag RPT</i>	0.848***	70.47	0.617***	31.12	0.750***	51.38	0.737***	45.10	0.875***	67.21
<i>WDIR</i>	-0.693***	-4.07	0.747***	3.36	-0.460**	-2.27	0.977***	5.11	-1.328***	-6.97
<i>B_SIZE</i>	0.002	0.08	0.185***	3.52	0.032	0.80	0.118***	3.32	-0.034	-0.91
<i>B_IND</i>	-0.045	-1.01	-0.037	-0.61	-0.013	-0.24	0.129**	2.18	-0.074	-1.60
<i>B_MEET</i>	0.060**	2.38	0.112***	3.05	0.036	1.36	0.082***	3.61	0.037	1.32
<i>DUAL</i>	0.061***	2.62	0.050	1.46	0.082***	2.64	0.000	0.02	0.059**	2.26
<i>CEO_TEN</i>	0.005	0.30	-0.056**	-2.23	0.017	0.73	-0.029	-1.47	0.041	1.88
<i>FAM_OWN</i>	0.080	1.61	0.188**	2.32	0.157**	2.34	0.011	0.20	0.077	1.36
<i>INST_OWN</i>	0.030	0.55	0.145	1.61	0.045	0.62	0.090	1.48	-0.005	-0.08
<i>LEV</i>	0.085	1.31	0.226**	1.97	0.260***	2.70	-0.014	-0.17	0.041	0.55
<i>ROA</i>	0.088	0.60	0.063	0.34	0.055	0.28	-0.259	-1.43	0.390**	2.28
<i>R&D</i>	-0.208	-0.90	-0.250	-0.71	-0.172	-0.73	0.205	0.82	-0.410	-1.53
<i>FOR_ASSETS</i>	0.010	0.24	0.055	0.72	-0.084	-1.32	-0.073	-1.44	-0.02	-0.46
<i>CASH</i>	0.086	0.90	-0.006	-0.00	0.388***	3.03	0.182	1.58	0.017	0.16
<i>CROSS</i>	-0.070	-1.81	0.008	0.10	-0.077	-1.46	-0.024	-0.48	-0.065	-1.52
<i>TWOBIG</i>	-0.099***	-3.40	-0.096**	-1.96	-0.137***	-3.72	-0.049	-1.41	-0.104***	-3.48
<i>IAS24</i>	-0.067***	-3.52	-0.010	-0.38	-0.067***	-2.88	0.034	1.82	-0.106***	-4.92
<i>F_SIZE</i>	-0.004	-1.02	-0.001	-0.17	-0.001	-1.88	-0.002	-0.44	-0.008	-1.59
Intercept	0.155	1.35	-0.250	-1.46	0.132	0.97	-0.383***	-2.92	0.334***	2.08
Industry (?)	Yes		Yes		Yes		Yes		Yes	
Years (?)	Yes		Yes		Yes		Yes		Yes	
Number of observations	1649		1649		1649		1649		1649	
F (Prob > F)	276.23 (p = 0.000)		59.91 (p = 0.000)		124.96 (p = 0.000)		104.19 (p = 0.000)		295.79 (p = 0.000)	
Arellano–Bond test AR(1) (z, p-value):	-6.73 (p = 0.000)		-6.86 (p = 0.000)		-6.03 (p = 0.000)		-6.49 (p = 0.000)		-6.75 (p = 0.000)	
Arellano–Bond test AR(2) (z, p-value):	-0.01 (p = 0.992)		0.55 (p = 0.585)		0.92 (p = 0.344)		0.08 (p = 0.937)		1.22 (p = 0.224)	
Hansen test (Chi-square, p-value):	179.66 (p = 0.459)		208.39 (p = 0.428)		182.71 (p = 0.113)		199.12 (p = 0.266)		168.28 (p = 0.318)	

** , *** Represent significance at 0.05 and 0.01 levels, respectively.

All variables are as defined in Table 2.1.

Table 2. 7: Derived Components

Variables	Eigenvalue	Description
Component 1: <i>EXPERTISE</i> (21.7%)	1.736	<i>WCHAIR</i> (-0.150) <i>WIND</i> (0.399) <i>WAUDCOM</i> (0.302) <i>WEDUC</i> (0.334) <i>WBUS</i> (0.531) <i>WNAT</i> (0.320) <i>WMUL</i> (0.370) <i>WTEN</i> (-0.306)
Component 2: <i>LEADERSHIP</i> (13.2%)	1.060	<i>WCHAIR</i> (0.671) <i>WIND</i> (0.344) <i>WAUDCOM</i> (-0.378) <i>WEDUC</i> (0.174) <i>WBUS</i> (0.181) <i>WNAT</i> (-0.323) <i>WMUL</i> (-0.174) <i>WTEN</i> (-0.297)
Component 3: <i>EXPERIENCE</i> (13%)	1.041	<i>WCHAIR</i> (0.503) <i>WIND</i> (0.115) <i>WAUDCOM</i> (0.076) <i>WEDUC</i> (-0.140) <i>WBUS</i> (-0.087) <i>WNAT</i> (0.114) <i>WMULTI</i> (0.622) <i>WTEN</i> (0.548)
Component 4: <i>COM_MEMB</i> (12.7%)	1.015	<i>WCHAIR</i> (0.070) <i>WIND</i> (0.243) <i>WAUDCOM</i> (0.660) <i>WEDUC</i> (-0.416) <i>WBUS</i> (0.163) <i>WNAT</i> (-0.437) <i>WMULTI</i> (-0.187) <i>WTEN</i> (-0.006)

Note: The first number in parentheses after the factor label is the variance accounted for by the component. The numbers in parentheses after the original variables explanation are the component loadings. The extraction method is principal component analysis and the factor loading coefficient cut-off is 0.50.

All variables are as defined in Table 2.1.

Table 2. 8: System GMM regression of RPTs on female directorship and derived attributes from PCA

Variables	RPT		NRPT		RRPT		TMDS		TSAF	
	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test
<i>Lag RPT</i>	0.723***	38.46	0.498***	19.26	0.626***	24.36	0.733***	42.13	0.854***	55.00
<i>WDIR</i>	2.976***	10.03	3.753***	9.78	4.143***	10.83	1.033***	5.12	1.103***	5.89
<i>LEADERSHIP</i>	0.139***	6.84	0.230***	6.94	-0.020	-0.62	-0.062***	-3.62	0.069***	3.04
<i>AUDCOM_MEMB</i>	-0.199***	-6.91	0.005	0.18	-0.288***	-8.28	0.012	0.63	-0.133***	-5.02
<i>EXPERTISE</i>	-0.102***	-4.26	0.178***	6.46	-0.284***	-7.50	0.024	0.94	-0.090***	-3.94
<i>EXPERIENCE</i>	0.227***	8.56	0.240***	6.93	0.085***	3.20	0.093***	3.25	0.141***	5.94
<i>B_SIZE</i>	0.595***	7.80	0.821***	10.17	0.846***	9.81	0.298***	4.99	0.214***	4.22
<i>B_IND</i>	0.199***	3.54	0.198**	2.39	0.143	1.43	0.059	1.05	0.091	1.88
<i>B_MEET</i>	0.061	1.47	0.177***	3.35	0.067	1.44	0.000	0.02	0.052	1.44
<i>DUAL</i>	0.317***	7.39	0.289***	5.13	0.305***	5.44	0.045	1.54	0.177***	4.94
<i>CEO_TEN</i>	-0.054	-1.89	-0.018	-0.57	-0.049	-1.33	-0.066***	-3.40	-0.002	-0.12
<i>FAM_OWN</i>	-0.066	-0.80	0.336***	3.15	-0.249**	-2.00	-0.250***	-3.50	0.006	0.10
<i>INST_OWN</i>	-0.085	-1.15	0.194	1.57	-0.055	-0.43	-0.086	-1.41	0.022	0.29
<i>LEV</i>	0.507***	4.38	0.362**	1.97	0.379**	2.09	0.005	0.05	0.258**	2.65
<i>ROA</i>	-0.471**	-2.14	-0.123	-0.36	-0.420	-1.07	-0.255	-1.64	-0.114	-0.54
<i>R&D</i>	-1.035***	-2.78	-0.522	-1.58	0.191	0.36	0.620***	3.54	-0.477	-1.79
<i>FOR_ASSETS</i>	0.206**	2.32	-0.132	-1.24	0.037	0.36	-0.124**	-2.27	0.092	1.52
<i>CASH</i>	0.491***	2.83	0.033	0.17	0.402	1.92	0.313***	2.83	0.062	0.42
<i>CROSS</i>	-0.187***	-3.07	-0.210**	-2.12	0.003	0.03	-0.115***	-3.26	-0.065	-1.33
<i>TWOBIG</i>	-0.042	-0.61	0.084	1.05	-0.496***	-4.22	0.062	1.18	-0.096	-1.51
<i>IAS24</i>	0.018	0.68	-0.071	-1.88	0.131***	4.05	0.043**	2.11	-0.077***	-3.08
<i>F_SIZE</i>	-0.002	-0.51	-0.028***	-3.15	0.026***	3.12	-0.012**	-2.43	0.003	0.57
Intercept	-1.877***	-6.46	-2.127***	-6.19	-3.266***	-9.16	-0.330	-1.43	-0.849***	-3.82
Industry (?)	Yes		Yes		Yes		Yes		Yes	
Years (?)	Yes		Yes		Yes		Yes		Yes	
Number of observations	837		837		837		837		837	
F (Prob > F)	1167.96 (<i>p</i> = 0.000)		133.45 (<i>p</i> = 0.000)		149.60 (<i>p</i> = 0.000)		218.17 (<i>p</i> = 0.000)		606.43 (<i>p</i> = 0.000)	
Arellano–Bond test AR(1) (<i>z</i> , <i>p</i> -value):	-4.39 (<i>p</i> = 0.000)		-4.10 (<i>p</i> = 0.000)		-3.66 (<i>p</i> = 0.000)		-4.08 (<i>p</i> = 0.000)		-4.26 (<i>p</i> = 0.000)	
Arellano–Bond test AR(2) (<i>z</i> , <i>p</i> -value):	-1.33 (<i>p</i> = 0.182)		-0.63 (<i>p</i> = 0.529)		1.62 (<i>p</i> = 0.105)		0.97 (<i>p</i> = 0.331)		0.57 (<i>p</i> = 0.570)	
Hansen test (Chi-square, <i>p</i> -value):	124.73 (<i>p</i> = 0.126)		132.05 (<i>p</i> = 0.382)		119.85 (<i>p</i> = 0.257)		101.56 (<i>p</i> = 0.171)		117.62 (<i>p</i> = 0.256)	

, * Represent significance at 0.05 and 0.01 levels, respectively.

All variables are as defined in Table 2.1.

Chapter 3: Gender-diverse boards and audit fees: The role of female directors' attributes

ABSTRACT

In this chapter, we show that board gender diversity and the specific attributes (i.e., statutory and demographic) of female directors have a significant impact on the demand for audit effort, measured by audit fees. Using a large sample of French listed firms included in the CAC All-Shares index between the years 2002 and 2010, we find that gender diverse boards pay lower audit fees. In addition, our results highlight that certain specific attributes also have a substantial effect on the relationship between female directors and audit fees. Specifically, we find that some key attributes, such as audit committee memberships, financial expertise, and experience exhibited by female directors, reduce the level of audit fees. However, female leadership, proxied by female chairs, is not correlated with audit fees.

Keywords: Female directors; statutory attributes; demographic attributes; audit fees and audit quality.

Chapitre 3: La diversité des genres au conseil d'administration et les honoraires d'audit: Le rôle des attributs des femmes directrices

RÉSUMÉ

Dans ce chapitre, nous montrons que la diversité du genre au sein du conseil d'administration et les attributs spécifiques (statutaires et démographiques) des femmes membres du conseil d'administration ont un impact significatif sur la demande d'effort d'audit accru mesuré par les honoraires d'audit. En utilisant un large échantillon d'entreprises françaises cotées appartenant à l'indice CAC entre les années 2002 et 2010, nous constatons que les entreprises ayant des conseils d'administration diversifiés en termes de genre payent moins honoraires d'audit. En outre, nos résultats soulignent que certains attributs des femmes administrateurs ont également une incidence importante sur la relation entre la présence et le pourcentage des femmes dans le conseil d'administration et les honoraires d'audit. Plus précisément, nous constatons que l'appartenance à un comité d'audit, l'expertise comptable et financière et l'expérience sont des attributs clés des femmes administrateurs réduisant le niveau des honoraires d'audit. Cependant, le leadership féminin mesuré par la présidence du conseil d'administration par une femme n'exerce aucun un impact significatif sur les honoraires d'audit.

Mots-clés: Femmes administrateurs; attributs statutaires; attributs démographiques; honoraires d'audit.

1. Introduction

Audit fees are an important determinant of audit quality (Lai, Srinidhi, Gul, & Tsui, 2017). The core objective of statutory audit is to protect the rights of shareholders by detecting incidents of expropriation by insiders (Newman, Patterson, & Smith, 2005). More specifically, external auditors verify that all stakeholders are treated equally and that financial records comply with statutory requirements. Audit quality may therefore enhance shareholders' belief in the accuracy of financial reports (Newman et al., 2005). In the external audit process, auditors consider the board of directors as their client, because the board reviews the audit scope and the proposed audit fee (Blue Ribbon Committee, 1999). The board is responsible for making sure that "appropriate information and reporting systems" are present in order to provide timely and accurate information to ensure corporate compliance and performance. Directors can avoid liability claims by being duly diligent and by making sure that standards are met. The board of directors generally does this by purchasing high quality audits in order to protect its reputation capital, to avoid legal liability, and to promote shareholders' interests (Carcello, Hermanson, Neal, & Riley, 2002).

In response to corporate failures such as Enron, WorldCom, and Parmalat, there has been increased interest in the role played by the board of directors in providing efficient monitoring. Existing studies investigate how board characteristics such as CEO duality, board independence, ownership structure, gender diversity, and constitution of the audit committee affect financial reporting quality (Carcello et al., 2002; Carcello, Hollingsworth, & Neal, 2006; DeFond & Francis, 2005; Harjoto, Laksmana, & Lee, 2015; Hay & Knechel, 2004; Ittonen, Miettinen, & Vähämaa, 2010; Lai et al., 2017; Mitra, Hossain, & Deis, 2007). In this study, we explore the connection between board gender diversity and audit fees, which we use as a proxy for audit quality. Specifically, we

examine the relationship between female directors and audit quality by highlighting the importance of the specific attributes of this population.²¹ If there is any relationship between female directors and audit quality, it should be amplified because of these specific attributes. Empirical studies provide a strong basis for believing that the statutory attributes (e.g. independence level, audit committee membership, and leadership structure) of board members affect audit quality (Harjoto et al., 2015; Hay, Knechel, & Wong, 2006; Ittonen et al., 2010). Similarly, demographic attributes (e.g. educational expertise and experience) enhance the ability of directors to understand the financial reporting process (Ben-Amar, Francoeur, Hafsi, & Labelle, 2013; Carcello et al., 2002; Gul & Leung, 2004; Harjoto et al., 2015). It is therefore important to consider the attributes of female directors when studying the impact of board gender diversity (Carter, Simkins, & Simpson, 2003; Gull, Nekhili, Nagati, & Chtioui, 2017).

Four reasons motivate our focus on the relationship between gender diverse boards and audit quality. First, there has been a substantial upsurge in regulatory and academic interest regarding the role of board gender diversity in strengthening corporate governance, particularly after the implementation of gender quotas for corporate boards. Second, despite the recent increase in the number female directors on corporate boards following gender quotas, there is a paucity of studies exploring the link between board gender diversity and audit quality. Third, one stream of corporate governance literature suggests that female directors monitor management more strictly, exhibit higher levels of independence, and are more likely to protect shareholders' interests (Adams & Ferreira, 2009; Carter et al., 2003; Gull et al., 2017; Lai et al., 2017). Finally, there is a consensus among scholars that female directors tend to be more risk averse and ethical when making organizational decisions than men (Byrnes, Miller, & Schafer, 1999; Klenke, 2003;

²¹ The term "specific attributes" is used interchangeably for both statutory and demographic attributes of female directors.

Schubert, 2006). If boards with female directors exhibit higher monitoring skills, are more independent, risk averse, highly sensitive to ethical issues, and safeguard shareholders' interests, then they are likely to provide higher levels of vigilance for ensuring audit quality.

To the best of our knowledge, only one recently published article in the literature is somewhat related to our research. Lai et al. (2017) conducted a study in a U.S context to examine the impact of board gender diversity on audit quality, measured by audit fees and auditor choice. Their findings highlight that boards with female directors pay more for audit services and tend to appoint industry specialist auditors compared with boards composed of only male directors. Our study is different from Lai et al. (2017) and also adds to the existing literature in different ways. The first and most important contribution of our study is that it not only examines the effect of board gender diversity, but also explains the channel (i.e. by considering the influence of specific attributes) through which female directors affect audit quality in terms of audit effort, measured by audit fees. Second, Hay et al. (2006) conducted a meta-analysis of the last 25 years' audit research and revealed that the majority of studies have been conducted on Anglo-Saxon data. In addition to this, they observe inconsistencies, anomalies, and gaps in the existing literature and suggest studying the effects of different forms of ownership and of local institutional factors on audit quality. Similarly, the Lai et al. (2017) study is also based on Anglo-Saxon (U.S.) data. We therefore study a French setting, which provides a different ownership pattern and legal and institutional environment from that of the United States and other Anglo-Saxon economies. The main features of French companies are the concentration of ownership and separation of ownership and control (Bennouri, Nekhili, & Touron, 2015; Boubaker & Labégorre, 2008; Faccio & Lang, 2002; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998), whereas in the U.S., ownership is dispersed. With regard to external

auditing, two unique features of French companies are joint auditing (e.g. Audoussert-Coulier, 2015; Bennouri et al., 2015) and the appointment of statutory auditors by the board of directors rather than the audit committee in accordance with Article L. 225-228 of the French Commercial Code. Accordingly, this study adds to the existing literature by providing empirical evidence on the relationship between board gender diversity and audit fees in a French context.

By using a sample of French listed firms included in the CAC All-Shares index from 2002 to 2010, we find that board gender diversity has a substantial impact on audit fees. Our findings reveal that board gender diversity is negatively correlated with the demand for audit effort, measured by audit fees. However, when we control for specific attributes in our regressions, the negative effect of board gender diversity on audit fees becomes more significant. In addition to this, we find a significant relationship between certain specific attributes of female directors and audit fees. Specifically, the key attributes of audit committee memberships, financial expertise, and experience affect the monitoring quality of gender diverse boards, thereby reducing audit fees. In contrast, female leadership has no significant effect on the demand for audit effort, measured by audit fees.

The rest of the article proceeds as follows. In the next section, we discuss the main features of the French market. Section 3 concisely reviews the literature related to gender diversity and the value relevance of specific attributes and presents our hypotheses. We then discuss our data, methodology, and variables in Section 4. In Section 5, we analyze the data and discuss our results. Finally, we conclude and highlight areas for future research.

2. The French institutional background

The French setting is relevant to our research question because investor protection is a serious concern in France given the country's civil law based legal system (La Porta et

al., 1998). Gull et al. (2017) and Nekhili and Cherif (2011) argue that the absence of effective procedures for protecting minority shareholders provides opportunities for managers to expropriate outsiders' assets, either by manipulating earnings or by using self-dealing transactions. This may raise serious questions regarding the veracity of financial reports (Bushman, Chen, Engel, & Smith, 2004). Furthermore, the concentration of ownership in the hands of families and the separation of ownership and control are distinctive features of the French market (Boubaker & Labégorre, 2008; Faccio & Lang, 2002) that are normally associated with weaker protection of outside shareholders. Family owners influence the appointment of key officials (e.g. managers and directors) and in return these officials serve the interests of the controlling families (Boubaker & Labégorre, 2008; Cuervo, 2002; Faccio & Lang, 2002; Hwang & Kim, 2016). The existence of family firms may therefore mitigate agency conflicts among controlling shareholders and management but is likely to provide ample opportunities for minority shareholder expropriation. In this scenario, the major concern is to protect minority shareholders from being abused through earnings management or self-dealing transactions. It is essential to detect and punish expropriations by insiders (i.e. managers and controlling shareholders) in order to protect outside investors (Newman et al., 2005). An extensive external audit may be a good way of detecting expropriations as it may promote the interest of minority shareholders and enhance the quality of financial reporting (Carcello et al., 2002).

The French external audit process differs from that of the United States and other Anglo-Saxon economies for at least two reasons. First, joint auditing is mandatory by law in France (e.g. Audoussert-Coulier, 2015; Bennouri et al., 2015). On July 24, 1966, Article 223-3 of the French Companies Act made it mandatory for listed companies and certain other companies to adopt joint audits. In joint auditing, two or more independent auditors collectively perform, sign, and issue an audit report. Joint auditing may also have

implications for investor protection (by reducing the risk of expropriation), audit quality, and fees due to the involvement of two different auditors. Second, in France audit committees do not choose the statutory auditors but propose the names of external auditors for appointment or reappointment to the board of directors in accordance with Article 41 of (EU) Regulation No 537/2014 of 16 April 2014 and Article L.823-3-1 of the French Commercial Code. The choice of statutory auditor is therefore the responsibility of the board of directors rather than the audit committee. In this regard, Article L.225-228 of French Commercial Code states that “the auditors are proposed for appointment by the general meeting in a draft resolution from the board of directors or the supervisory board. If the company's shares are admitted to trading on a regulated market, the board of directors chooses the auditors that it plans to propose”. The direct involvement of the board in the process of appointing the external auditors means that we cannot merely study the audit committee when examining the issue of audit quality in France.

Furthermore, the board of directors is perceived as an important mechanism for protecting shareholders and for ensuring the quality of financial reporting (Bedard & Johnstone, 2004; Carcello et al., 2002). More specifically, board characteristics such as independence, expertise, and gender diversity are highly likely to promote minority shareholders' interests through their requirement for high quality audits (Carcello et al., 2002; Lai et al., 2017). In support of our research question, there is considerable evidence that women are stricter monitors of management (Adams & Ferreira, 2009; Gull et al., 2017), while gender diversity is associated with audit quality (Harjoto et al., 2015; Huang, Huang, & Lee, 2014; Ittonen et al., 2010; Lai et al., 2017). These arguments lead us to examine whether firms with gender diverse boards in France demand high quality audits.

3. Literature review

3.1. Board gender diversity and audit fees

The board of directors is in a key position to monitor the opportunistic behavior of managers (Fama & Jensen, 1983). Boards control managers' opportunistic behavior by demanding higher quality and intensity from independent external auditors (Lai et al., 2017). Existing studies highlight that board characteristics such as the level of board independence and expertise are associated with increased disclosure, a superior quality of financial reporting, and lower earnings management and audit risks (Bedard & Johnstone, 2004; Carcello et al., 2006; Dechow, Sloan, & Sweeney, 1996; Gul & Leung, 2004; Larcker, Richardson, & Tuna, 2007; Xie, Davidson, & DaDalt, 2003). The evidence on the relationship between the board of directors and audit quality supports the argument that superior audit quality is associated with board characteristics such as board independence, diligence, and expertise (Abbott, Parker, Peters, & Raghunandan, 2003; Carcello et al., 2002). Diversity in board expertise is one of the main dimensions to induce greater demand for audit (Carcello et al., 2002). Along similar lines, we argue that board diversity in terms of gender may affect the demand for audit because women are likely to be more independent, diligent, and expert monitors than men (Adams & Ferreira, 2009; Carter et al., 2003; Gull et al., 2017).

Recently, the debate among scholars in corporate finance and accounting has focused on the impact of gender diversity on board proceedings. These studies highlight that gender differences among directors and managers can be explained by differences in their communication skills, decision-making style, level of overconfidence, risk tolerance, diligence, and monitoring intensity (Abbott, Parker, & Presley, 2012; Adams & Ferreira, 2009; Gul, Srinidhi, & Ng, 2011; Harjoto et al., 2015; Huang & Kisgen, 2013; Huang et al., 2014; Ittonen et al., 2010; Schubert, 2006). The ability to communicate effectively is

an important skill for performing well in key managerial positions. There is substantial evidence that women have better communication skills and outperform men in jobs that require communication with different people (Fondas, 1997; Maznevski, 1994; Schubert, 2006). Moreover, female colleagues are likely to reduce information asymmetry by collecting voluntary information from managers and sharing it with the board of directors (Gul, Fung, & Jaggi, 2009).

Another school of thought holds that women, in comparison to men, rely more heavily on ethics while making decisions (Bernardi & Arnold, 1997; Bruns & Merchant, 1990; Cohen, Pant, Sharp, 1998). An implication of the effect of gender difference on ethical behavior is that female board members may provoke a greater demand for audit in situations characterized by ethical dilemma in order to protect personal and organizational reputation and to avoid the risk of potential law suits (Fama & Jensen, 1983; Gilson, 1990; Sahlman, 1990). Together, these arguments suggest that women are likely to strengthen the monitoring function of the board.

A vast body of literature confirms that, in comparison to men, women are more conservative and risk-averse (Byrnes et al., 1999; Jianakoplos & Bernasek, 1998; Powell & Ansic, 1997). According to Schubert (2006) and Watson and McNaughton (2007), women prefer to abstain from losses by not taking extreme risks. Their presence on the board of directors may also help to prevent excessive risk-taking. So it might possible that boards with female directors require their audit committees to acquire higher quality audits compared to all-male boards. This may result in higher audit fees for gender diverse boards. This argument is supported by Lai et al. (2017), who find that firms with gender diverse boards pay more for audit services. Another argument is that, due to the higher accounting conservatism and risk-averse behavior of women, auditors may perceive firms with gender diverse boards as being less likely to make financial misstatements. The

auditors may therefore be prepared to limit the scope of their audit, leading to a lower audit fee. This argument is corroborated by the study of Ittonen et al. (2010), who report that gender diverse audit committees tend to pay less for audit services. It may thus be argued that gender diversity enriches the monitoring and oversight function of the board. The conservatism and risk-aversion of female board members may also have consequences for the credibility of the financial reporting process.²² According to the findings of a recent study by García-Sánchez, Martínez-Ferrero, and García-Meca (2017), the presence of women on the board of directors is instrumental in promoting accounting conservatism and producing higher quality earnings reports in the banking industry. Female executives and directors are known for their favorable impact on the quality of financial reporting (Abbott et al., 2012; Barua, Davidson, Rama, & Thiruvadi, 2010; Srinidhi, Gul, & Tsui, 2011), which may reduce the need for assurance provided by external auditors. This may reduce audit fees for firms with gender diverse boards.

In addition to the potential effects of the traits discussed above, there are several additional benefits of gender diversity. First, as highlighted by Fondas and Sassalos (2000), women have higher expectations regarding their responsibilities as directors, which may lead them to perform well. Second, female directors tend to be better prepared for board meetings than their male colleagues (Huse & Solberg, 2006). Gender diversity is therefore likely to improve board behavior and efficiency. Another argument in support of gender diversity might be that, due to the glass ceiling effect, women are required to exhibit a higher level of competence than men to reach key managerial and board positions (Eagly & Carli, 2003). Consequently, female representation may increase the proficiency of corporate boards because female directors are highly diligent and competent.

²² Anecdotal evidence based on well-known accounting scams maintains that women frequently play the role of whistleblowers (for example, Sherron Watkins at Enron and Cynthia Cooper at WorldCom).

To date, and to the best of our knowledge, only one study by Lai et al. (2017) discusses the relationship between board gender diversity and audit quality measured by auditor fees. By focusing on a sample of U.S. firms over the period from 2001 to 2010, Lai et al. (2017) find that boards with female directors demand higher monitoring in the form of increased audit effort from the external auditor, which results in higher audit fees for firms with gender diverse boards. In accordance with the findings of Lai et al. (2017) and documented gender differences in ethics, risk taking behavior, reputational concerns, the level of diligence, and monitoring intensity, we argue that gender diverse boards are expected to purchase higher quality audits. We therefore present our hypothesis as follows:

H1. Board gender diversity is positively associated with audit fees.

3.2. Statutory board diversity and audit fees

Statutory board diversity respects the rules mandated by law or strongly suggested by the governance practices or recommendations set forth in different countries (Ben-Amar et al., 2013). These regulated or recommended governance practices promote board independence and discourage the existence of dual leadership structures (i.e. CEO duality). Likewise, the existence and independence of an audit committee is also known to be a “highly recommended” corporate governance practice. In line with the premise of agency theory, statutory diversity advocates that directors’ independence from management enhances their monitoring ability, which will indirectly improve performance (Fama & Jensen, 1983). Statutory diversity indirectly influences board efficiency by improving monitoring ability and creates value by minimizing agency problems (Ben-Amar et al., 2013). The statutory attributes (e.g. independent directorships, audit committee appointments, and leadership) of women also play an important role in the active monitoring of managers by ensuring higher quality earnings, financial reporting, and auditing (Abbott et al., 2012; Gull et al., 2017; Harjoto et al., 2015; Ittonen et al., 2010; Lai

et al., 2017). Accordingly, we argue that the statutory attributes of women will augment the board's monitoring function to create value for shareholders by influencing audit quality in terms of the demand for audit effort, proxied by audit fees. We use three different measures of statutory board diversity to examine the effect of statutory attributes on the connection between gender diversity and audit quality: the appointment of women to key monitoring (independent directorships, audit committee) and leadership (e.g. board chair) positions.

3.2.1. Appointment of women as monitoring experts and audit fees

The boards of directors exercise their monitoring function through independent directors and audit committees (Fama & Jensen, 1983; Klein, 2002). The monitoring of the financial reporting process is a core responsibility of the audit committee (Klein, 2002) and independent directors are highly vigilant in discharging their monitoring duties as well as in supporting the external audit process (Hay & Knechel, 2004). Consistent with these arguments, Carcello et al. (2002) report that independent boards demand high quality audits to safeguard their reputational capital, avoid legal liability, and defend stockholders' interests. With regard to the independence of women, Adams and Ferreira (2009) argue that women do not belong to the "old boys' club," and are therefore expected to challenge the opinions of their colleagues, champion the debate of sensitive issues, and provide concrete evidence to defend their arguments (McInerney-Lacombe, Bilimoria, & Salipante, 2008). They are therefore strongly expected to exhibit activism and an independent approach in board proceedings (Adams & Ferreira, 2009; Carter et al., 2003). Adams and Ferreira (2009) explore the issue in detail and emphasize that boards appoint more women than men to audit committees due to their better monitoring skills. In addition to monitoring skills, female directors have higher ethical standards, are more risk averse, exhibit less opportunistic behavior, want to avoid the risk of litigation, and are

highly concerned about personal and organizational reputation (Krishnan & Parsons, 2008; Powell & Ansic, 1997; Sahlman, 1990; Srinidhi et al., 2011). Support for this conjecture is offered by Lai et al. (2017), who report that gender diverse boards and audit committees appoint industry-specialist auditors and demand higher audit effort, resulting in higher audit fees. This might be due to female directors' higher concerns regarding audit quality, risk oversight, and control mechanisms (Rosener, 2003). In line with these studies, we argue that female independent directors and audit committee members may demand higher audit effort to ensure high quality financial reporting and to protect their personal and organizational reputation.

Bearing in mind the effective monitoring skills and favorable impact of women on financial reporting quality (Abbott et al., 2012; Adams & Ferreira, 2009; Barua et al., 2010), an alternative explanation might be that the appointment of women as monitoring experts may reduce the level of audit risk as well as the need for assurance provided by external auditors in terms of audit effort. This argument is confirmed by the findings of two relevant studies (Harjoto et al., 2015; Ittonen et al., 2010). Ittonen et al. (2010) studied a sample of S&P 500 firms over the period 2006 to 2008 and find that the appointment of women to the audit committee is negatively associated with the level of audit fees. Harjoto et al. (2015) extend a similar line of research to analyze a sample of U.S. firms over an 11-year period (2000-2010) and find an inverse relationship between gender diverse audit committees and audit fees.

In short, existing studies suggest that the relationship between the appointment of women as monitoring experts (i.e. independent directors and audit committee members) and audit effort, measured by audit fees, may be either positive or negative. We therefore posit two alternative hypotheses:

H2a. The appointment of women to monitoring positions is positively associated with audit fees.

H2b. The appointment of women to monitoring positions is negatively associated with audit fees.

3.2.2. Women leadership and audit fees

The leadership styles adopted by men and women tend to vary largely, affecting the operations of the whole organization (Bilimoria, 2000; Burke & Mattis, 2013; Leblanc, 2005). Men tend to adopt a transactional or dictatorial leadership style while women are inclined to display a transformational and democratic leadership style by transforming their subordinates' self-interest into a concern for the whole organization (Eagly, Johannesen-Schmidt, & Van Engen, 2003; Rosener, 1990; Trinidad & Normore, 2005). Klenke (2003), suggesting that women in top management deploy different tactics to exercise power, manage conflict, and to build trust in the workplace. Specifically, women consider the rules of fairness when exercising power, employ a collaborative style to manage conflict (in contrast to the competitive style of men), and build trust by using transformational strategies.

Similarly, the chair is responsible for leading the board effectively by upholding a cooperative and collaborative culture among board members (Machold, Huse, Minichilli, & Nordqvist, 2011). The chair is supposed to lead the board by focusing on the value diversity of opinions and by creating harmony among directors to unite all members around the company's objectives (Machold et al., 2011). In this regard, Trinidad and Normore (2005) provide evidence that women adopt a highly participative leadership style with a transformational perspective. We therefore argue that the interactive and participative leadership style adopted by women is more appropriate for the chair position than the transactional and autocratic leadership style of men.

In addition, female leaders seem to create an environment more suitable for communicating information (Jelinek & Adler, 1988). Similarly, Gul et al. (2011) report that firms with female top executives (directors) are more likely to disclose private information and, due to their higher communication skills, women are expected to perform well on tasks that require communication within and among different groups (Fondas, 1997; Maznevski, 1994; Schubert, 2006). The external audit process requires communication between the board of directors, the audit committee, managers, and external auditors. Female leaders may therefore facilitate the flow of information between audit-related parties by creating an environment that elicits incremental effort from auditors to ensure audit quality.

Finally, transformational leadership is more strongly based on the rules of fairness and ethics compared to a transactional leadership style (Hood, 2003). A strand of accounting literature contends that women are more ethical, less likely to take risks, and seek more clarity in their decision-making than men (Bernardi & Arnold, 1997; Bruns & Merchan, 1990; Cohen et al., 1998; Jianakoplos & Bernasek, 1998; Powell & Ansic, 1997). An important finding of a major study by the Conference Board of Canada in 2002 was that women are more sensitive to audit, risk monitoring, and control than men (Rosener, 2003). Together, these studies imply that, due to their higher ethical concerns, female leaders will demand greater audit effort from external auditors to protect the company's reputation and to circumvent the risk of litigation (Fama & Jensen, 1983; Gilson, 1990; Sahlman, 1990). In order to test the relationship between female chairs (our proxy for female leadership) and audit fees, we propose the following hypothesis:

H3: There is a positive relationship between female leadership and audit fees.

3.3. Demographic diversity of board and audit fees

Demographic diversity improves the board's ability to make decisions on organizational issues by raising its skill level (Gull et al., 2017). According to human capital theory, demographic attributes such as educational expertise and experience enrich the intellect and creativity level of employees, benefiting both the employees and their organization (Becker, 1964). With respect to the appointment criterion of directors, Kesner (1988) state that firms are more likely to appoint candidates who demonstrate versatile demographic skills or attributes. There is substantial evidence that firms hire directors on the basis of their personal characteristics (Agrawal & Knoeber, 2001; Hermalin & Weisbach, 1988). A more recent study by Nekhili and Gatfaoui (2013) in the French context finds that women's recruitment to the board of directors is related to their demographic attributes (e.g. business expertise, specific skills, and network ties). Given the findings of these studies, we believe that boards tend to appoint directors based on their demographic attributes.

Ben-Amar et al. (2013) and Carter et al. (2003) argue that statutory diversity based on agency theory is not sufficient for exploring the influence of board diversity. Likewise, Gull et al. (2017) provide substantial evidence that consideration of both (statutory and demographic) attributes of female directors is essential for capturing the real effect of board gender diversity. We therefore consider the effect of both statutory and demographic attributes in this study. We use five different measures of demographic diversity and divide these variables into two groups according to the educational expertise (the level and background of education) and experience (tenure, nationality, and multiple directorships) of female directors.

3.3.1. Educational expertise of women and audit fees

Ruigrok, Peck, and Tacheva (2007) propose that directors' qualifications (in terms of education level and background) are an important element of board diversity. Education level is associated with cognitive skills and enhances the ability of individuals to innovate and find creative solutions in complex situations (Bantel & Jackson, 1989; Kimberly & Evanisko, 1981). The diversity of education level also results in better strategic decisions and firm performance (Bantel, 1993; Simons & Pelled, 1999). By extending a similar line of research, Smith, Smith, and Verner (2006) highlight the positive impact of female executives on firm performance, with this impact being attributed to female directors' educational qualifications.

Beyond education level, the ability to understand a complex business environment is also important and is obtained through relevant business education (e.g. an MBA degree or any other business diploma). Many proposals for governance reform explicitly state the importance of financial experts on boards and audit committees. The Sarbanes Oxley Act and Blue-Ribbon Committee, for example, require firms to have at least one financial expert on their audit committees (Abbott, Parker, & Peters, 2004; DeFond & Francis, 2005) because financial expertise (e.g. an MBA degree in Finance) enhances the board's ability to understand the internal audit program (Raghunandan, Rama, & Read, 2001). This, in turn, ensures the effectiveness of the internal control system by minimizing the incidence of earnings management and the restatement of financial reports (Abbott et al., 2004; Agrawal & Chadha, 2005; Xie et al., 2003). Another argument is that the accounting or financial expertise of directors and the audit committee is negatively associated with the probability of earnings management and financial misstatements, suggesting that relevant expertise is valuable (García-Sánchez et al., 2017; Gull et al., 2017; Sharma & Iselin, 2012). Finally, business education and expertise are key attributes of women in terms of

their appointment to the board of directors as well as to sub-committees of the board (Nekhili & Gatfaoui, 2013).

In short, the education level has a positive effect on organizational decisions and performance. Business education and financial expertise (e.g. business diplomas such as an MBA degree) help directors to understand the financial reporting process and minimize the chances of earnings management and financial restatements. Accordingly, female directors with relevant educational expertise (level and background) may affect the auditor's assessment of audit risk by increasing the efficiency of the internal audit function or by improving the accuracy of the financial reporting process through their greater diligence and monitoring skills (Adams & Ferreira, 2009). Furthermore, the improvement in board diligence and monitoring ability may reduce audit fees by affecting audit planning and execution. This is stated in our hypothesis:

H4: The educational expertise of female directors is negatively associated with audit fees.

3.3.2 Experienced women directors and audit fees

Directors with higher board and governance experience are expected to be efficient monitors of management (Fama & Jensen, 1983; Ferris, Jagannathan, & Pritchard, 2003; Hunton & Rose, 2008; Ruigrok et al., 2007; Vafeas, 2003). Consistent with this argument, we expect the prior experience of female directors to enhance their monitoring ability, helping them to ensure audit quality. Multiple directorships, tenure, and nationality are used as proxies of experience. Directors acquire relevant experience through multiple appointments, which enhances their ability to monitor management more effectively (Fama & Jensen, 1983; Ferris et al., 2003; Hunton & Rose, 2008). Carcello et al. (2002), for example, demonstrate that board expertise (measured by multiple directorships) is positively associated with audit quality (measured by audit fees). A more recent study by Boo and Sharma (2008) confirms the findings of Carcello et al. (2002) that boards with

multiple directorships demand incremental audit effort to protect their reputation. We therefore expect boards whose female directors serve on multiple boards to purchase higher quality audits to protect their reputation.

The expertise hypothesis suggests that longer-tenured directors have more experience and knowledge of the firm and its business environment (Vafeas, 2003). Prior research indicates that directors need three to five years to gain sufficient knowledge of a firm's operations (Bacon & Brown, 1973), while some authors insist that a detailed understanding requires more time and effort (Kesner, 1988). In an audit committee context, Sharma and Iselin (2012) claim that long tenure allows independent directors to accumulate firm-specific knowledge and expertise, which enables them to monitor the financial reporting process more effectively. Further, the chances of financial statement frauds and earnings management are lower in firms with longer-tenured directors (Beasley, 1996; Bedard, Chtourou, & Courteau, 2004). As such, we expect longer-tenured female directors to support the purchase of higher quality audits to ensure the integrity of the financial reporting process.

In accordance with resource dependence theory, foreign directors may enhance board ability by the virtue of their overseas exposure in terms of skills, knowledge, values, norms, and understanding (Ruigrok et al., 2007). Furthermore, foreign directors have no connections with domestic networks and are independent from management. Their presence on the board serves as an indication to investors, most importantly to foreign stockholders, that the firm is professionally managed and that their rights are well protected (Oxelheim & Randøy, 2003). The independence level and specific skills of foreign directors might thus be helpful for ensuring audit quality. This argument is supported by Abdulmalik and Che Ahmad (2016), who report that foreign directors demand higher audit effort to ensure the quality of financial statements and to protect the

reputation of directors. The available evidence seems to suggest that foreign directors tend to be independent from management. They will therefore demand a high-quality audit.

The above discussion implies that prior board and governance experience help directors to discharge their monitoring and advising duties more effectively. In line with the findings of existing studies, experienced women directors are expected to enhance the credibility of the financial reporting process by demanding superior quality audit from external auditors. We therefore develop the following hypothesis:

H5: The experience of female directors is positively associated with audit fees.

4. Research methodology

4.1. Data and sample

To compose our sample, we initially consider all firms in the CAC All-Shares index listed on Euronext Paris with an annual trading volume of more than five percent of share capital. In this study, we utilize annual data over a period of nine years from 2002 to 2010. We start our sample period from 2002, as audit fee data was not available before the introduction of the French Financial Security Law,²³ and end it in 2010 because we want to investigate the influence of female board appointments made on a voluntary rather than a mandatory basis.²⁴ In December 2010, 511 companies were listed on the CAC All-Shares index. From this initial population, we eliminated financial, real estate, and foreign companies, as well as companies with missing data. After this screening, our final sample consists of 394 firms and an unbalanced panel sample totaling 3,406 firm-year observations. We used Thomson DataStream to collect accounting and financial information. Data on ownership were gathered from Orbis (Bureau Van Dijk) and completed with data from annual reports. All information on governance structure, female

²³ The French Financial Security Law of 2003 made it mandatory for companies to disclose the fees paid to their auditors. However, in compliance with the European Commission recommendations of May 2002 many firms had already started publishing audit fee data on a voluntary basis.

²⁴ In 2011, the French parliament approved a law mandating gender quotas for the boards of listed firms.

directors, and their attributes was manually compiled from annual reports and double-checked from other sources such as www.dirigeant.societe.com and www.whoswho.fr.

4.2. Model and variables

The relationship between female directors and audit fees may be tainted because of some observable or unobservable characteristics that affect both gender diversity and audit fees. Due to this concern, we consider both female directorships and audit fees as endogenous variables. It might be possible that the impact of board gender diversity is due to some firm-specific variables affecting both the appointment of female directors and audit fees simultaneously. This may lead to biased results due to a potential endogeneity problem. To address this issue, we first control for firm-specific variables that may influence the appointment of female directors and audit fees by performing Propensity Score Matching between firms with at least one female director and the subsample of firms with only male directors. We then follow Blundell and Bond (1998) and use the two-step system GMM approach to test the relationship between gender diverse boards and audit fees. The system GMM produces more reliable results by controlling for simultaneity and omitted variable biases.

We test our research hypotheses using the regression model given in Equation (1). Following previous studies (e.g. Carcello et al., 2002; Harjoto et al., 2015; Huang et al., 2014; Ittonen et al., 2010; Lai et al., 2017), we use the natural logarithm of audit fees as the dependent variable in order to study the relationship between board gender diversity and audit fees. We also consider governance, ownership, and other control variables that may influence both gender diversity and audit fees.

$$AF_{i,t} = \alpha_0 + \alpha_1 \text{Lag } AF_{i,t} + \alpha_2 \text{WDIR}_{i,t} + \alpha_3 \text{CORPORATE_GOV}_{i,t} + \alpha_4 \text{CONTROL}_{i,t} + \alpha_5 \text{INDUSTRY}_{FE} + \alpha_6 \text{YEAR}_{FE} + \varepsilon_{it} \quad (1)$$

$$AF_{i,t} = \alpha_0 + \alpha_1 \text{Lag } AF_{i,t} + \alpha_2 \text{WDIR}_{i,t} + \alpha_3 \text{FEM_ATTRIBUTES}_{i,t} + \alpha_4 \text{CORPORATE_GOV}_{i,t} + \alpha_5 \text{CONTROL}_{i,t} + \alpha_6 \text{INDUSTRY}_{FE} + \alpha_7 \text{YEAR}_{FE} + \varepsilon_{it} \quad (2)$$

Where ϵ_{it} is the error term and the subscripts i and t stand for firm and year, respectively.

AF is the natural logarithm of audit fees. Lag AF is the lagged value of audit fees. WDIR is the proxy for board gender diversity. FEM_ATTRIBUTES is a vector of female directors' specific attributes used in this study (*WIND, WAUDCOM, WCHAIR, WEDUC, WBUS, WNAT, WMUL, and WTEN*). CORPORATE_GOV is a vector of the corporate governance variables that we consider in this study (*B_SIZE, B_IND, B_MEET, DUAL, WOM_CEO, CEO_TEN, FAM_OWN, and INST_OWN*). In the same way, CONTROL is a vector of control variables (*NLog_NAF, AUD_TEN, BIG, LEV, TQ, LOSS, R&D, FOR_ASSETS, BETA, CROSS, RECINV, and F_SIZE*).

Following existing studies, we control for variables expected to affect audit fees. Board size is likely to be positively associated with audit fees (Huang et al., 2014). Boards with independent directors (*B_IND*) are more concerned about their reputation and demand incremental audit effort (Carcello et al., 2002; Hay & Knechel, 2004). Similarly, more diligent boards (*B_MEET*) push for higher levels of transparency by demanding a comprehensive external audit (Carcello et al., 2002). Consistent with the findings of Huang et al. (2014), firms with female CEOs and CEO duality are likely to be positively associated with audit fees. Furthermore, long tenure (*CEO_TEN*) is another indication of CEO power and the CEO's influence on organizational decisions. It will therefore be interesting to study the influence of CEO tenure on audit fees. Mitra et al. (2007) suggest that ownership structure has a significant impact on audit fees. To study the effect of ownership structure, we consider both family (*FAM_OWN*) and institutional ownership (*INST_OWN*). We expect both *FAM_OWN* and *INST_OWN* to be positively associated with demand for audit effort, measured by audit fees.

Consistent with the research of Audoussert-Coulier (2015), we anticipate a positive relationship between non-audit fees (NAF) and audit fees (AF). For auditor tenure

(*AUD_TEN*), we make no directional prediction because it may be positively or negatively associated with audit fees (Lai et al., 2017) depending on client-related factors. For example, the auditor may have an in-depth (lower) understanding of an established (new) client's accounts. Additionally, firms audited by Big4 auditors (*BIG*) pay higher audit fees (Huang et al., 2014) due to the superior quality of audit services provided by Big4 audit firms. Audit fees will therefore be higher for firms audited by Big4 audit firms. Audit planning and risk assessment are two major factors defining audit fees. Firms with a higher level of risk require more audit effort, which results in higher audit fees. Similarly, firms that have a higher level of *LEVERAGE* or report a *LOSS* in the preceding year demonstrate a higher level of risk and require incremental audit effort (Carcello et al., 2002; Huang et al., 2014; Lai et al., 2017). We consider Tobin's Q to control for financial performance. Financially sound firms are perceived as being less risky. So we expect a negative association between Tobin's Q (*TQ*) and audit fees. We also expect a positive link between research and development expenditure (*R&D*) and audit fees. Firms with foreign operations (*FOR_ASSETS*) are more complex and require higher audit effort (Lai et al., 2017). Similarly, audit fees will be higher for *CROSS* listed firms. In line with the risk assessment argument, a positive relationship is expected between the levels of market risk (*BETA*) and audit fees. Firms with higher *RECINT* are more complicated and require greater audit effort from external auditors, resulting in higher audit fees. Finally, large firms (*F_SIZE*) undertake more transactions and auditors require more time to audit their financial records. For this reason, large firms pay higher audit fees (Carcello et al., 2002).

[Please insert Table 3.1 here]

5. Data analysis and results

5.1. Descriptive statistics

Table 3.2 presents descriptive statistics for the entire sample. In our sample, the mean amount of total audit fees paid by client firms is €1,985K. It ranges from (minimum) €1.3K to (maximum) €75.8M, while the amount of audit fees paid by half (median) of the sampled firms is only €290K, indicating broad disparity in the amount paid for audit fees. With regard to board gender diversity (*WDIR_BIN* & *WDIR_NB*), our results highlight that French firms appoint less than one female director and the mean percentage of female directors (*WDIR_ %*) is 10.72. From the pool of female directors, 4.62 percent are appointed as board chair (*WCHAIR*). The mean value of women appointed as independent directors (*WIND*) is 8.9 percent, and only 2.37 percent of female directors are appointed to audit committees (*WACOM*). Furthermore, 46.82 percent of women have a master's or a PhD degree (*WEDUC*), and 45.48 percent of women sitting on a board of directors have a specialisation in business education (*WBUS*). On average, 9.37 percent of women are not French nationals (*WNAT*). The vast majority (61.6%) of female directors have more than one board membership (*WMUL*). Finally, the mean of female directors' tenure (*WTEN*) is 6.51 years. These statistics are comparable to the findings of other French sample-based studies (Gull et al., 2017; Nekhili & Gatfaoui, 2013).

The mean value of non-audit fees paid by French firms is €146.584K. The mean auditor tenure (*AUD_TEN*) is 7.16 years, with a maximum of 24 years. The average (mean) board size (*B_SIZE*) of our sample firms is 7.7 and 27.54 percent of directors are independent (*B_IND*). In addition, our sample firms' boards arrange 6.36 meetings (*B_MEET*) per year. CEO/Chairperson duality (*DUAL*) is 62.58 percent and mean value of CEO tenure (*CEO_TEN*) is 7.82 years. Just 3.63 percent of firm-year observations have female CEOs (*WOM_CEO*). With regard to ownership structure, the results in Table 2

highlight that the mean percentage of family and institutional ownership is 36.84 and 18, respectively. On average (mean), sample firm-years are audited by less than one BIG auditor (0.92); while the median proportion of big auditors is 1 and *LEV* is 23.1 percent. Tobin's Q is marginally higher than unity. On average, 24 percent of firms report a loss in the preceding year. The research and development (*R&D*) expenditures are 1.815 percent of total assets on average. The mean value of assets in other countries (*FOR_ASSETS*) is 18.77 percent. Similarly, the mean value of BETA for the firms in our sample is 0.658. This indicates that the equity prices of French firms are less volatile than the stock market. The mean value of *RECINT* is 26.17 percent, whereas on average, the percentage of cross listing is 8.6. Finally, *F_SIZE* is 4,919 million. These numbers are quite similar to a recent study based on French data by (Gull et al., 2017).

[Please insert Table 3.2 here]

5.2. Propensity Score Matching (PSM)

The potential impact of gender diversity may arise because of firm-specific variables that concurrently affect both the appointment of female directors and audit fees. It would not, therefore, be a judicious choice to analyse all firms directly, neglecting firm-specific differences. We utilize the propensity score matching (PSM) technique in order to control for firm-level characteristics, as developed by (Rosenbaum & Rubin, 1983). We match firms with gender-diverse boards (with at least one female director) to a set of control firms (with only male directors) whose characteristics are approximately similar (the closest forecasted propensity score) to firms with gender-diverse boards. We apply a condition on the highest propensity calliper to rule out the likelihood of poor matching by adjusting calliper distance to 0.01 without replacement.²⁵ By doing so, we have a matched

²⁵ Matching without replacement ensures that a treated case will be matched with only one control observation.

sample comprising 1,918 observations: 959 treatment and 959 control cases. The differences between control variables decrease in magnitude and are not significant in comparison to the unmatched sample, as highlighted by the matching results in Table 3.3. Finally, we have a sample comprising firms with similar firm-specific characteristics.

[Please insert Table 3.3 here]

The results of Pearson correlation analysis and variance inflation factors (VIF) of all variables considered in this study are given in Table 3.4. The correlation and VI factors of all variables are within allowed limits. So, our sample does not suffer from multicollinearity issues that can influence our results.

[Please insert Table 3.4 here]

5.3. Principal Component Analysis (PCA)

PCA is a well-known method for compiling huge data sets into fewer components in order to make interpretations easier to understand (Abdi & Williams, 2010). The variance of a component is its eigenvalue, whereas the correlation between the original variables and derived components is the component loadings matrix. The Kaiser rule suggests retaining components with eigenvalues higher than unity. There must be sufficient correlation among the original variables to validate the use of PCA. Kaiser-Meyer-Olkin (KMO) is a widely used measure of sampling adequacy, which takes values between 0 and 1. The condition for using PCA is that the KMO value must be higher than 0.5.

We primarily consider eight variables relating to specific attributes of women. To make the discussion of our results simpler and easier to understand, we reduced the number of variables by using PCA. First of all, we applied the KMO test in PCA by using eight attributes. The KMO index produces a higher value (0.63) with significance equal to

zero. This result justifies the use of PCA in our case. Initially, the PCA results provide us with eight components and their eigenvalues. However, we retain only four components for further analysis, with eigenvalues greater than unity.

Table 3.5 presents these four components. We name these retained components according to the level of their correlation with the original variables. For example, the first component is highly correlated (0.530) with “*WBUS*”, which is the proxy for educational expertise. Hence, we name this component “*EXPERTISE*.” Following the same approach, the other retained components are named “*LEADERSHIP*”, “*EXPERIENCE*” and “*AUDCOM_MEMB*”. Collectively, the retained components must explain at least 60% of the variation in original variables (Hair, Anderson, & Tatham, 1987). In our case, the four retained components explain up to 62.8% of the variance in the eight attributes that we considered initially. Thereafter, we use the retained components as endogenous variables in our regression analysis to study the relationship between gender-diverse boards and audit fees.

[Please insert Table 3.5 here]

5.4. Multivariate analysis

Table 3.6 shows the results of our regression analysis for the relationship between gender-diverse boards and audit fees on the propensity score matched sample. We use three different proxies of board gender diversity. In Model 1, we measure gender diversity by using a dummy variable (*WDIR_BIN*) and in Models 2 and 3 by considering the percentage (*WDIR_ %*) and number (*WDIR_NB*) of female directors to total directors. Here, our main variable of interest is female directorships.

With regard to H1, our results demonstrate no relationship between board gender diversity measured by the presence (*WDIR_BIN*) of one woman on the board and audit

fees. In line with Bourez (2005) and Lai et al. (2017), a possible explanation of this result is that the appointment of just one woman to the board of directors may be an indication of tokenism. However, we find a negative and statistically significant relationship between other two proxies (*WDIR_%* & *WDIR_NB*) of board gender diversity and audit fees. These findings are consistent with the impression that women are stricter monitors, strengthen the internal control systems, produce high quality earnings, and enhance the quality of financial reporting (Abbott et al., 2012; Adams & Ferreira, 2009; Barua et al., 2010; García-Sánchez et al., 2017; Gull et al., 2017; Srinidhi et al., 2011), thereby reducing the demand for external audit assurance. This may significantly reduce audit fees for gender-diverse firms. Ittonen et al. (2010) offer an alternative explanation for the negative correlation between gender diversity and audit fees. They argue that auditors may be willing to limit the scope of their audit on account of the superior monitoring skills and risk-averse approach of women, leading to lower audit fees for firms with gender diverse audit committees (boards). Overall, these results highlight the significant influence of women on the effectiveness and the quality of the board's monitoring with regard to audit quality in terms of audit effort, measured by audit fees.

In line with prior research (Audousset-Coulier, 2015; Carcello et al., 2002; Huang et al., 2014; Lai et al., 2017), we find that the coefficients of our control variables (*NAF*, *AUD_TEN*, *B_SIZE*, *B_MEET*, *INST_OWN*, *BIG*, *TQ*, *LOSS*, *FOR_ASSETS*, *CROSS*, *RECINT* & *F_SIZE*) are significant and in the expected direction. For the remaining variables (*B_IND*, *DUAL*, *WOM_CEO*, *CEO_TEN*, *FAM_OWN*, *LEV*, *R&D* & *BETA*), we do not find any significant relationship with audit fees, as shown in Table 3.6.

[Please insert Table 3.6 here]

Chapter 3: Gender-diverse boards and audit fees: The role of female directors' attributes

We capture the influence of female directors' specific attributes on the relationship between board gender diversity and audit fees in Table 3.7. The first Model of Table 3.7 shows our results for the effect of female directors' attributes on the level of audit fees of firms that appoint at least one woman to their board of directors by using four retained components as endogenous variables in the regression analysis. These four retained components were extracted through PCA, compared to the eight variables considered initially. However, the second and third Models account for the combined effect of female directors and their attributes on audit fees. In the second and third Models, female directorships are measured as the percentage (*WDIR_%*) and number (*WDIR_NB*) of women on the board of directors, respectively.

$$\begin{aligned} AF_{i,t} = & \alpha_0 + \alpha_1 \text{Lag } AF_{i,t} + \alpha_2 WDIR_{i,t} + \alpha_3 \text{AUDCOM_MEMB}_{i,t} + \alpha_4 \text{LEADERSHIP}_{i,t} \\ & + \alpha_5 \text{EXPERTISE}_{i,t} + \alpha_6 \text{EXPERIENCE}_{i,t} + \alpha_7 \text{CORPORATE_GOV}_{i,t} \\ & + \alpha_8 \text{CONTROL}_{i,t} + \alpha_9 \text{INDUSTRY}_{FE} + \alpha_{10} \text{YEAR}_{FE} + \varepsilon_{it} \end{aligned} \quad (3)$$

Where ε_{it} is the error term and the subscripts i and t stand for firm and year, respectively.

As shown by the results of all Models in Table 3.7, the coefficients of our main variables, namely female directorships (*WDIR_BIN*, *WDIR_%* & *WDIR_NB*), are negative and statistically significant at the 1% level. It is interesting to note that all proxies of female directorships demonstrate significance at the 1% level in Table 3.7, where we capture the influence of specific attributes. While we do not find significant results for the variable *WDIR_BIN* and other proxies of gender diversity in Table 3.6, (*WDIR_%* & *WDIR_NB*) demonstrate negative coefficients that reach the 5% significance level. This result highlights the value relevance of specific attributes by demonstrating that even the presence of one woman (*WDIR_BIN*) on the board of directors with the required statutory and demographic attributes reduces the level of audit fees. Taken together, these results suggest an inverse relationship between gender diverse boards and audit fees. However,

the intervention of specific attributes strengthens the relationship between other measures of board gender diversity (*WDIR_%* & *WDIR_NB*) and audit fees by enhancing the level of significance from 5% to 1%.

The regression results of all models indicate that the coefficient estimates for *AUDCOM_MEMB* are negative and statistically significant at the 1% level, thus accepting H2b and rejecting H2a. This result contradicts the findings of Aldamen, Hollindale, and Ziegelmayer (2016), who find a positive association between gender diverse audit committees, measured by the presence of women on the audit committee, and audit fees. However, in accordance with existing studies (Harjoto et al., 2015; Ittonen et al., 2010), we find evidence that audit fees are lower for firms with gender diverse audit committees. Both studies (Harjoto et al., 2015; Ittonen et al., 2010) only report a significant relationship between female audit committee chairs and audit fees. In addition, our results highlight that audit committees' gender diversity, measured by the fraction of women appointed to the audit committee, is also negatively associated with audit fees. These results are in line with the supply side argument and consolidate the findings of Adams and Ferreira (2009) that women enhance the monitoring ability of audit committees. Gender diverse audit committees may therefore decrease the auditor's assessment of risk and reduce audit fees by enhancing the integrity of internal control and internal audit procedures (Harjoto et al., 2015; Ittonen et al., 2010).

As reported in Table 3.7, the coefficient for female board chairs (*LEADERSHIP*) is negative but statically insignificant in all models. This finding emphasizes that female leadership, proxied by female chairs, is not associated with audit effort as measured by audit fees. This may be due to the indirect involvement of the board chair in the auditing process, because the main duty of the board chair is to run the board effectively (Machold et al., 2011) and to oversee the activities of managers through board sub-committees. The

audit committee is normally responsible for ensuring the quality of internal and external audits. In this regard, Ittonen et al. (2010) and Harjoto et al. (2015) state that female audit committee chairs exert significant influence on the level of audit fees due to their direct involvement in internal and external audits. H3 is therefore rejected.

In accordance with H4, our results highlight that the business/financial *EXPERTISE* of female directors substantially reduces the level of fees paid to the auditors for audit services. The negative relationship between financial *EXPERTISE* and audit fees is significant at the conventional level of 1%. Consistent with the supply side argument of audit pricing, *EXPERTISE* minimizes the auditor's assessment of audit risk because financial expertise enhances the board's ability to understand the internal audit program (Raghuandan et al., 2001), reduce earnings management (García-Sánchez et al., 2017; Gull et al., 2017), and strengthen the internal control function (Abbott et al., 2004; Agrawal & Chadha, 2005; Xie et al., 2003). Furthermore, the presence of female financial experts on the audit committee is likely to reduce the level of audit fees (Ittonen et al., 2010). Taken together, existing studies and our findings highlight that business/financial expertise is highly valued by external auditors as an important resource for ensuring the quality of financial reporting.

In contrast with hypothesis H5, we find a negative and statistically significant impact of experienced women (with multiple directorships and longer tenure) on the level of fees paid for audit services. This finding contradicts the results of Boo and Sharma (2008) and Carcello et al. (2002), who report a positive correlation between experience, measured by multiple directorships, and audit fees. Fama and Jensen (1983) argue that multiple directorships allow independent directors to develop their reputation as monitoring experts. Moreover, there is considerable evidence that directors develop relevant expertise through multiple board assignments, which in turn improves their

monitoring capabilities (Ferris et al., 2003; Hunton & Rose, 2008). With regard to tenure, Sharma and Iselin (2012) state that directors with longer tenure are likely to monitor the financial reporting process more effectively due to their greater ability to understand and address firm-specific issues. More importantly, the probability of financial statement frauds and earnings manipulation decreases as the tenure of outside directors increases (Bedard et al., 2004). Overall, our results consolidate the findings of existing studies that highly experienced female directors (with multiple board assignments and longer tenure) have a favorable effect on the monitoring quality of the board, the quality of reported earnings, and the credibility of the financial reporting process. They therefore directly affect the level of audit risk by reducing the degree of assurance required from the external auditor to ensure audit quality. Consequently, boards with experienced female directors pay lower fees to auditors for audit services.

In line with existing studies, the coefficients of the control variables (*NAF*, *AUD_TEN*, *B_SIZE*, *B_IND*, *CEO_TEN*, *FAM_OWN*, *INST_OWN*, *LEV*, *TQ*, *LOSS*, *R&D*, *FOR_ASSETS*, *BETA*, *CROSS*, *RECINT* & *F_SIZE*) are significant and in the expected direction. The coefficients of the variables (*WOM_CEO* and *BIG*), on the other hand, are statistically significant but not in the predicted direction. We expected a positive association between these variables and audit fees. This result may be due to the fact that female CEOs are not associated with earnings management (Gull et al., 2017), which may affect overall audit quality by enhancing external auditors' confidence regarding the accuracy of the financial reporting quality of firms with female CEOs. A possible explanation for the negative impact of *BIG* audit firms might be the value relevance of specific attributes for audit quality in terms of audit effort, measured by audit fees, because before the addition of specific attributes in our regression analysis, we find a positive association between the variable *BIG* and audit fees. Contrary to our expectations, both

variables (*WOM_CEO* & *BIG*) are negatively associated with audit fees. The remaining variables (*B_MEET* & *DUAL*) are statistically insignificant.

[Please insert Table 3.7 here]

6. Conclusion

This paper examines whether gender diverse boards affect the demand for audit effort, measured by audit fees. In particular, we investigate the impact of female directors and their specific attributes on audit fees. Motivated by the documented gender differences in ethics, risk aversion, decision making, and overconfidence, and recent findings in the corporate governance literature, we hypothesize that gender diverse boards may affect the level of fees paid to external auditors for audit services. The recent implementation of gender quotas by the French parliament requires listed firms to appoint women to their boards. It is therefore important to evaluate the potential impact of board gender diversity on the effectiveness and monitoring quality of the board. By exploring the relationship between female directors and audit fees, after controlling for the effect of specific attributes, this study also adds to the audit pricing literature.

To the best of our knowledge, one recently published study by Lai et al. (2017) discusses the relationship between board gender diversity and audit fees. Expanding the scope of that study, we also consider the influence of specific attributes. This allows us to provide further insights into the relationship between gender diverse boards and audit fees, by exploring the channel through which women affect audit quality, in terms of audit effort proxied by audit fees. Furthermore, this study broadens our current knowledge of the role of female directors by studying a French setting, which provides a different governance and legal structure in terms of ownership and institutional background than the U.S. In this regard, Lai et al. (2017) suggest that their findings should be interpreted with caution due

to differences in governance and legal structure between the U.S and other countries. Along similar lines, Hay et al. (2006) highlight a gap in the existing audit literature and recommend investigating the influence of ownership structure and local institutional factors on audit quality.

Despite the abundance of literature stemming from recent legislation promoting board gender diversity, there is a paucity of studies examining the characteristics of women that determine their influence on financial reporting quality. This study goes beyond the traditional view of board gender diversity to focus on the characteristics (i.e. statutory and demographic attributes) of female directors that may influence audit quality in terms of audit effort, measured by audit fees. Statutory board diversity is based on the idea of agency theory and indirectly creates value for shareholders by improving board effectiveness to mitigate agency conflicts (Ben-Amar et al., 2013; Dalton et al., 1998). Along similar lines, we argue that the statutory attributes of female directors are likely to create value for shareholders as they will demand a comprehensive external audit in order to enhance the credibility of the financial reporting process. The findings of a related study by Ben-Amar et al. (2013) assert that statutory board diversity has an effect, but that this effect is mainly due to individual differences or to the demographic attributes of directors. We therefore follow the approach of Gull et al. (2017) and account for the effect of both (statutory and demographic) attributes of women to capture the influence of gender diverse boards on audit fees.

We use the system GMM estimation approach on a matched sample of French listed firms between the years 2002 to 2010 to examine the relation between gender diverse boards and audit fees by highlighting the role of female directors' specific attributes. In contrast to the findings reported by Lai et al. (2017), our results provide evidence to suggest that gender diverse boards reduce the demand for incremental audit

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effort due to their superior monitoring skills, leading to lower audit fees for firms with gender diverse boards. More importantly, introducing specific attributes in the regression estimates consolidates our initial findings by enhancing the significance of the negative association between gender diverse boards and audit fees from 5% to 1%. In addition to this, our findings provide evidence that even the presence of one female director (with required statutory and demographic attributes) on the board has strong implications for audit quality in terms of audit effort, measured by audit fees. This suggests that women's specific attributes add value to the monitoring ability of gender diverse boards to ensure high quality financial reporting. In addition to board gender diversity, our findings highlight the significant influence of specific attributes on audit fees. Audit committee memberships (*AUDCON_MEMB*), business education (*EXPERTISE*), and *EXPERIENCE* are the most important attributes of women with respect to audit quality in terms of audit effort, measured by audit fees. More specifically, boards whose female directors possess these attributes (*AUDCON_MEMB*, *EXPERTISE* and *EXPERIENCE*) pay lower fees to external auditors for audit services. However, we do not find any relationship between female leadership and audit fees.

From the demand side argument, our results highlight that board gender diversity and certain specific attributes of female directors reduce the need for external audit assurance. These specific attributes (*AUDCOM_MEMB*, *EXPERTISE* & *EXPERIENCE*) add value by enhancing the ability of female directors to monitor the financial reporting process and to better understand the internal control and audit functions. Alternatively, consistent with the supply side argument, female directors and their specific attributes may affect audit fees by reducing the auditor's assessment of audit risk and by enhancing the integrity of the financial reporting process. If female directors, along with their specific attributes, reduce audit risk, board gender diversity may result in lower audit fees. Overall,

our findings suggest that female directors and their specific attributes have a positive impact on the effectiveness and monitoring quality of the board of directors.

The present study has several implications. First, we extend the corporate governance, gender diversity, and audit fee literature by identifying the channel (i.e. the specific attributes) through which female directors affect audit fees. Secondly, our findings have some important implications for policy setters because we find a significant association between female directors' attributes and the need for audit assurance, as measured by audit fees. To enhance audit quality, boards should appoint women with relevant experience or financial expertise and place them in important positions (e.g. audit committees), because female directors are recognized for their superior monitoring skills and higher reputational concerns. Women with relevant experience and financial expertise are therefore more likely to detect errors and irregularities in accounting records. Finally, an important implication for academics and research scholars studying the impact of gender diversity is that omitting the influence of female directors' attributes may lead to misleading conclusions.

In spite of its incremental contributions, this study is subject to several limitations. We conclude that the lower audit fees for companies with gender diverse boards are due to the accuracy of their internal control systems and financial reporting process. This conclusion rules out other possible interpretations, for example the lower audit fees may result from the ability of female directors to negotiate with external auditors. Second, our analysis is based on a sample of French listed firms over the period from 2002 to 2010. Accordingly, we might not be able to generalize our findings to other time periods and to other countries that have a different legal, regulatory, and governance environment than France. Third, although we control for variables that would affect audit fees, this study is limited by the degree to which audit fees reflect audit quality. Another limitation of our

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study might be that it does not consider the mandatory appointment of female directors. Further studies are therefore required to examine the influence of gender-diverse boards on audit fees after the implementation of gender quotas. This, too, is an interesting question for future research.

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Table 3. 1: Definition of variables

Variable	Definition	Measure ^a
<u>Audit Fees Variables:</u>		
<i>AF</i>	Audit fees	Audit fees in thousands of euros.
<i>NAF</i>	Non-Audit fees	Non-Audit fees in thousands of euros.
<u>Gender Diversity and Women's Attributes:</u>		
<i>WDIR_BIN</i>	Female on board	Dummy variable coded 1 if firm has one woman on board and 0 otherwise.
<i>WDIR (%)</i>	Percentage of female directors	Percentage of female directors to total directors.
<i>WDIR_NB</i>	Number of female directors	Total number of female directors.
<i>WCHAIR</i>	Female Chair	Dummy variable coded "1" if female is Chairperson otherwise "0".
<i>WIND</i>	Independent female directors	Percentage of non-executive independent female directors to total female directors.
<i>WAUDCOM</i>	Audit committee memberships held by female directors	Percentage of female directors, members of the audit committee to total female directors.
<i>WEDUC</i>	Education level of female directors	Percentage of females with master's diploma or with doctorate (PhD) degree to total of female directors.
<i>WBUS</i>	Business education of female directors	Percentage of females with formal education, specializing in business to total female directors.
<i>WANT</i>	Nationality of female	Percentage of foreign females to total female directors.
<i>WMUL</i>	Multiple directorships held by female directors	Percentage of females, member of another firm's board of directors to total female directors.
<i>WTEN</i>	Tenure of female directors	The average number of years a female served on board.
<u>Corporate Governance Variables:</u>		
<i>BOARD_SIZE</i>	Board size	Natural logarithm of the total number of directors.
<i>BOARD_IND</i>	Board independence	Ratio of non-executive independent directors to total number of directors.
<i>BOARD_MEET</i>	Board meetings	Natural logarithm of number of annual board meetings.
<i>DUAL</i>	CEO duality	Dummy variable coded "1" if the CEO serves as board Chair and otherwise "0".
<i>WOM_CEO</i>	Women CEO	Dummy variable coded 1 if CEO is a woman otherwise 0.
<i>CEO_TEN</i>	CEO tenure	Number of years served at company before becoming CEO.
<i>FAM_OWN</i>	Family ownership	Percentage of capital held by family investors.
<i>INST_OWN</i>	Institutional ownership	Percentage of capital held by institutional investors.
<u>Other Control Variables:</u>		
<i>AUD_TEN</i>	Auditor tenure	The average number of years an auditor served for client.
<i>BIG</i>	Audit by big auditor	Ordinal variable coded 0 if company is audited by non-big auditors, 1 if one of the two auditors is big, and 2 if both auditors are big.
<i>LEV</i>	Leverage	Ratio of financial debt to total assets.
<i>TQ</i>	Tobin's Q	Book value of assets minus book value of equity, plus the market value of equity, scaled by the book value of assets.
<i>LOSS</i>	Financial loss	Dummy variable = 1 if firm reports loss and 0 otherwise.
<i>R&D</i>	Research and Development	Ratio of investment in R&D to total assets.
<i>FOR_ASSETS</i>	Foreign assets	Ratio of foreign assets to total assets.
<i>BETA</i>	Market risk	Equity beta.
<i>CROSS</i>	Cross listing	Firms listed in France and USA simultaneously.
<i>RECINV</i>	Accounts receivables	Accounts receivables divided by total assets.
<i>F_SIZE</i>	Firm size	Natural logarithm of firm's total assets.
<i>Industry</i>	Industry	A binary variable coded 1 if the company belongs to the sector in question and 0 otherwise.

^a Variables from ThomsonOne are winsorized at the 1% and 99% levels.

Table 3. 2: Descriptive statistics for entire sample

Variable	Mean	Median	Standard Deviation	Minimum	Maximum
<i>AF (Thousands of euros)</i>	1985.089	290.064	5488.491	1.3	75800
<i>NAF (Thousands of euros)</i>	146.584	0	452.761	0	5885
<i>WDIR_BIN</i>	0.48	0	0.50	0	1
<i>WDIR (%)</i>	10.72%	0	15.06%	0	75%
<i>WDIR_NB</i>	0.688	0	0.865	0	4
<i>WCHAIR</i>	4.62%	0	20.99%	0	1
<i>WIND</i>	8.90%	0	26.55%	0	1
<i>WAUDCOM</i>	2.37%	0	9.64%	0	90.2%
<i>WEDUC</i>	46.82%	50%	46.26%	0	1
<i>WBUS</i>	45.48%	33.33%	46.67%	0	1
<i>WANT</i>	9.37%	0	27.46%	0	1
<i>WMUL</i>	61.60%	1	45.42%	0	1
<i>WTEN (No. of years)</i>	6.51	5	6.32	0	42
<i>AUD_TEN (No. of years)</i>	7.16	6	5.40	0	24
<i>B_SIZE (No. of directors)</i>	7.70	7	3.86	4	26
<i>B_IND</i>	27.54%	25.5%	25.40%	0	1
<i>B_MEET (No. of meetings)</i>	6.36	6	3.39	0	30
<i>DUAL</i>	62.58%	1	48.40%	0	1
<i>WOM_CEO</i>	3.63%	0	18.70%	0	1
<i>CEO_TEN (No. of years)</i>	7.82	6	6.193	0	42
<i>FAM_OWN</i>	36.84%	39%	27.65%	0	99.37%
<i>INST_OWN</i>	17.93%	4.44%	26.47%	0	98.63%
<i>BIG</i>	0.922	1	0.659	0	2
<i>LEV</i>	23.10%	21.47%	16.85%	0	74.45%
<i>TQ</i>	1.041	0.807	0.830	0.197	5.38
<i>LOSS</i>	24.176%	0	42.82%	0	1
<i>R&D</i>	1.815%	0	7.55%	0	57.22%
<i>FOR_ASSETS</i>	18.77%	3.67%	25.46%	0	91.87%
<i>BETA</i>	0.658	0.642	0.289	0.132	1.508
<i>CROSS</i>	8.60%	0	28.03%	0	1
<i>RECINV</i>	26.17%	24.08%	16.25%	0.186%	75.38%
<i>F_SIZE (In billions of euros)</i>	4.919	0.225	16.992	0.001	240.560

All variables are as defined in Table 3.1.

Table 3. 3: Mean difference test between gender-diverse firms and non-gender diverse firms for entire sample and matched sample

Variables	Entire Sample			Matched Sample		
	GD Firms	All-male Firms	t-value	GD Firms	All-male Firms	t-value
<i>B_SIZE</i> (No. of directors)	8.438	7.585	4.11*** ^a	7.915	7.743	0.5 ^a
<i>B_IND</i>	30.30%	27.33%	2.96***	30.03%	27.95%	1.77
<i>B_MEET</i> (No. of meetings)	6.5	6.234	3.76*** ^a	6.245	6.468	-0.39 ^a
<i>DUAL</i>	66.24%	58.88%	3.91***	62.67%	62.77%	-0.05
<i>CEO_TEN</i> (No of years)	9.247	7.455	6.33*** ^a	8.282	8.142	-0.28 ^a
<i>FAM_OWN</i>	36.48%	36.04%	0.40	35.79%	35.85%	0.16
<i>INST_OWN</i>	17.92%	19.06%	-1.09	18.40%	19.38%	-0.80
<i>BIG</i>	1.013	0.913	3.87***	0.950	0.947	0.11
<i>LEV</i>	22.92%	23.22%	-0.47	22.49%	22.23%	0.35
<i>TQ</i>	0.997	1.026	-0.93	1.018	1.005	0.37
<i>LOSS</i>	20.88%	26.82%	-3.58***	23.15%	23.77%	-0.32
<i>R&D</i>	1.43%	1.26%	0.80	1.32%	1.30%	0.10
<i>FOR_ASSETS</i>	19.57%	20.94%	-1.34	19.63%	18.96%	0.57
<i>BETA</i>	71.17%	67.37%	3.38***	67.82%	68.81%	-0.77
<i>CROSS</i>	10.44%	7.88%	2.28**	9.17%	8.86%	0.24
<i>RECINV</i>	25.03%	26.34%	-2.13**	26.07%	25.80%	0.39
<i>F_SIZE</i> (in millions of euros)	7208	3019	3.71*** ^a	5659	4763	-0.33 ^a
<i>Number of observations</i>	1274	1357		959	959	

, * represent significance at 0.05 and 0.01 levels respectively.

All variables are as defined in Table 3.1.

^a t-tests are based on natural logarithm transformed values.

Table 3. 4: Pairwise Correlation Matrix

Variables	1	2	3	4	5	6	7	8	9	10	VIF
1. <i>NLog_AF</i>	1.0000										—
2. <i>Lag LAF</i>	0.9772*	1.0000									—
3. <i>WDIR (%)</i>	-0.2021*	-0.2092*	1.0000								1.96
4. <i>Lag WDIR (%)</i>	-0.2090*	-0.2090*	0.9206*	1.0000							—
5. <i>WCHAIR</i>	-0.0343	-0.0366	0.1986*	0.1883*	1.0000						1.17
6. <i>WIND</i>	0.0907*	0.1018*	-0.1565*	-0.1672*	0.0164	1.0000					1.24
7. <i>WAUDCOM</i>	0.0897*	0.0877*	0.1558*	0.1489*	-0.0414	0.1051*	1.0000				1.21
8. <i>WEDUC</i>	0.0444	0.0375	-0.0317	-0.0383	-0.0417	0.1079*	-0.0134	1.0000			1.16
9. <i>WBUS</i>	0.1419*	0.1587*	-0.1271*	-0.1454*	-0.0700*	0.2458*	0.1753*	0.2001*	1.0000		1.32
10. <i>WANT</i>	0.2267*	0.2252*	-0.1334*	-0.1284*	-0.0901*	0.0887*	0.0476	0.0706*	0.0897*	1.0000	1.34
11. <i>WMUL</i>	0.1768*	0.1744*	-0.1727*	-0.1512*	0.0318	0.1072*	0.1239*	0.1357*	0.1835*	0.1876*	1.29
12. <i>WTEN</i>	-0.0925*	-0.1058*	0.1009*	0.2696*	0.0064	-0.0896*	-0.0513	-0.0930*	-0.1819*	-0.1131*	1.28
13. <i>NLog_NAF</i>	0.6662*	0.6610*	-0.1172*	-0.1239*	0.0126	0.1329*	0.0493*	0.0048	0.1243*	0.2351*	1.72
14. <i>AUD_TEN</i>	0.2907*	0.2851*	-0.0787*	-0.0900*	-0.0016	0.1189*	0.0536*	-0.0131	0.1762*	-0.0163	1.43
15. <i>B_SIZE</i>	0.5300*	0.5307*	-0.2681*	-0.2587*	0.0199	0.2216*	0.1155*	-0.0159	0.1640*	0.1654*	2.93
16. <i>B_IND</i>	0.3413*	0.3470*	-0.1204*	-0.1381*	0.0995*	0.1767*	0.1473*	-0.0052	0.1011*	0.2065*	1.55
17. <i>B_MEET</i>	0.1944*	0.1965*	-0.0126	-0.0256	-0.0535*	0.0557	0.0638*	0.0276	0.1145*	0.1205*	1.26
18. <i>DUAL</i>	-0.0463*	-0.0524*	0.0097	0.0115	-0.0995*	0.0800*	-0.0397	0.0361	-0.0378	0.0239	1.24
19. <i>CEO_TEN</i>	0.1494*	0.1436*	0.0795*	0.0885*	-0.0649*	0.1287*	0.0984*	-0.1187*	0.0521	0.0550	1.50
20. <i>FAM_OWN</i>	-0.1885*	-0.1917*	0.1450*	0.1519*	0.0011	-0.2030*	-0.0729*	-0.1007*	-0.2164*	-0.1087*	2.10
21. <i>INST_OWN</i>	0.0423	0.0497	-0.0581*	-0.0673*	0.0014	0.0483	-0.0283	0.1215*	0.0658*	0.0064	1.96
22. <i>BIG</i>	0.4497*	0.4480*	-0.1140*	-0.1188*	-0.0406	0.1006*	0.1270*	-0.0293	0.1390*	0.1618*	1.69
23. <i>LEV</i>	0.1624*	0.1570*	-0.0786*	-0.0861*	-0.0642*	0.0066	0.0800*	0.0109	0.0739*	0.0303	1.36
24. <i>TQ</i>	-0.0518*	-0.0632*	0.0085	0.0079	-0.0338	0.0400	0.0156	-0.0552	-0.0624	-0.0510	1.24
25. <i>LOSS</i>	-0.1348*	-0.1310*	-0.0304	-0.0284	-0.0398	-0.0407	-0.0677*	0.0218	0.0043	0.0087	1.18
26. <i>R&D</i>	0.0497*	0.0435	-0.0127	-0.0145	0.0422	0.0205	-0.0143	0.0117	-0.0984*	0.0170	1.14
27. <i>FOR_ASSETS</i>	0.4706*	0.4708*	-0.1518*	-0.1584*	-0.0407	0.1544*	0.0803*	0.0318	0.0993*	0.3122*	1.64
28. <i>BETA</i>	0.3458*	0.3771*	-0.0722*	-0.0796*	-0.0122	0.2029*	0.0902*	-0.0125	0.1219*	0.1767*	1.75
29. <i>CROSS</i>	0.3020*	0.3030*	-0.0842*	-0.0849*	-0.0132	0.0469	0.0801*	0.0205	0.1471*	0.2182*	1.32
30. <i>RECINV</i>	-0.2101*	-0.2176*	0.0757*	0.0924*	-0.0218	-0.1133*	-0.0630*	0.0407	-0.1002*	-0.0105	1.57
31. <i>F_SIZE</i>	0.5755*	0.5720*	-0.1671*	-0.1672*	0.0063	0.2147*	0.1217*	-0.0533	0.1417*	0.2353*	2.87

* represent significance at 0.01 level.

All variables are as defined in Table 3.1.

Table 3.4: (Continued)

Variables	11	12	13	14	15	16	17	18	19	20	21
11. <i>WMUL</i>	1.0000										
12. <i>WTEN</i>	0.0004	1.0000									
13. <i>NLog_NAF</i>	0.1278*	-0.1029*	1.0000								
14. <i>AUD_TEN</i>	0.0425	-0.0047	0.2256*	1.0000							
15. <i>B_SIZE</i>	0.2064*	-0.1367*	0.4522*	0.3294*	1.0000						
16. <i>B_IND</i>	0.0502	-0.0309	0.2866*	0.2154*	0.3657*	1.0000					
17. <i>B_MEET</i>	-0.0792*	-0.0332	0.1285*	0.0408	0.1374*	0.1158*	1.0000				
18. <i>DUAL</i>	0.0789*	0.0586	-0.0808*	-0.0691*	-0.0792*	-0.1560*	0.0210	1.0000			
19. <i>CEO_TEN</i>	0.0373	0.2503*	0.0578*	0.2702*	0.1115*	0.0987*	0.0457*	0.1180*	1.0000		
20. <i>FAM_OWN</i>	-0.1268*	0.1542*	-0.1672*	-0.0198	-0.2205*	-0.1896*	-0.1040*	-0.0139	0.1480*	1.0000	
21. <i>INST_OWN</i>	0.1581*	-0.1706*	-0.0217	-0.0594*	0.0251	0.0113	-0.0584*	0.1019*	-0.0779*	0.0526*	1.0000
22. <i>BIG</i>	0.1395*	-0.0596	0.3955*	0.2578*	0.4807*	0.3098*	0.1128*	-0.0766*	-0.1260*	-0.0878*	-0.5373*
23. <i>LEV</i>	0.1187*	-0.0633	0.0652*	0.1399*	0.1545*	0.0255	0.0879*	-0.0092	-0.0196	0.0732*	-0.1403*
24. <i>TQ</i>	-0.0506	-0.0008	0.0160	-0.0539*	-0.0620*	-0.0406	0.0076	0.0075	0.0120	0.0195	-0.0581*
25. <i>LOSS</i>	-0.0087	-0.0229	-0.0962*	-0.0264	-0.1495*	-0.0853*	0.0321	0.0156	-0.0190	0.0140	0.0284
26. <i>R&D</i>	-0.0223	0.0953*	0.0494*	0.0382	0.0323	0.0623*	0.0456	0.0280	0.0163	-0.0747*	-0.0267
27. <i>FOR_ASSETS</i>	0.1130*	-0.0256	0.4433*	0.2853*	0.3362*	0.2709*	0.1578*	-0.0218	-0.0767*	0.0213	0.0252
28. <i>BETA</i>	0.0912*	0.0187	0.3157*	0.1873*	0.2666*	0.2295*	0.2402*	-0.0456*	-0.0175	0.1377*	-0.1984*
29. <i>CROSS</i>	0.0899*	-0.0759*	0.2735*	0.1316*	0.3071*	0.2021*	0.1384*	-0.0337	-0.0629*	0.0955*	-0.2341*
30. <i>RECINV</i>	-0.0223	0.1250*	-0.1203*	-0.1884*	-0.2296*	-0.1016*	-0.0140	-0.0178	-0.0162	-0.0020	-0.1486*
31. <i>F_SIZE</i>	0.1708*	-0.0121	0.5301*	0.2981*	0.5470*	0.4246*	0.2306*	-0.1698*	-0.0714*	-0.0287	0.1289*

Variables	22	23	24	25	26	27	28	29	30	31
22. <i>BIG</i>	1.0000									
23. <i>LEV</i>	0.2780*	1.0000								
24. <i>TQ</i>	-0.0229	-0.0450	1.0000							
25. <i>LOSS</i>	0.4445*	0.3374*	-0.0264	1.0000						
26. <i>R&D</i>	-0.0655*	0.0238	-0.1686*	1.0000	1.0000					
27. <i>FOR_ASSETS</i>	0.0106	-0.0468*	0.0402	-0.0745*	0.0187	1.0000				
28. <i>BETA</i>	-0.0692*	0.0584*	-0.0514*	0.1251*	-0.0487*	0.0518*	1.0000			
29. <i>CROSS</i>	0.0276	0.3095*	0.0714*	-0.0283	0.0810*	0.0740*	0.3026*	1.000		
30. <i>RECINV</i>	-0.0814*	0.2844*	-0.0258	0.1303*	0.0286	0.0613*	0.1777*	-0.0456*	1.000	
31. <i>F_SIZE</i>	-0.0511*	0.2035*	0.0539*	0.0356	0.0160	-0.0407	-0.1077*	-0.0337	0.025	1.000

Table 3. 5: Derived Components

Variables	Eigenvalue	Description
Component 1: <i>EXPERTISE</i> (21.7%)	1.627	<i>WCHAIR</i> (-0.156) <i>WIND</i> (0.397) <i>WAUDCOM</i> (0.302) <i>WEDUC</i> (0.324) <i>WBUS</i> (0.530) <i>WNAT</i> (0.318) <i>WMUL</i> (0.358) <i>WTEN</i> (-0.330)
Component 2: <i>LEADERSHIP</i> (15.2%)	1.426	<i>WCHAIR</i> (0.822) <i>WIND</i> (0.355) <i>WAUDCOM</i> (-0.190) <i>WEDUC</i> (0.040) <i>WBUS</i> (0.090) <i>WNAT</i> (-0.193) <i>WMUL</i> (0.289) <i>WTEN</i> (0.176)
Component 3: <i>EXPERIENCE</i> (13.2%)	1.174	<i>WCHAIR</i> (-0.055) <i>WIND</i> (-0.145) <i>WAUDCOM</i> (0.344) <i>WEDUC</i> (-0.283) <i>WBUS</i> (-0.192) <i>WNAT</i> (0.355) <i>WMULTI</i> (0.568) <i>WTEN</i> (0.534)
Component 4: <i>AUDCOM_MEMB</i> (12.7%)	1.038	<i>WCHAIR</i> (-0.053) <i>WIND</i> (-0.213) <i>WAUDCOM</i> (0.656) <i>WEDUC</i> (-0.408) <i>WBUS</i> (-0.163) <i>WNAT</i> (0.430) <i>WMULTI</i> (0.216) <i>WTEN</i> (0.053)

Note: The first number in parentheses after the factor label is the variance accounted for by the component. The numbers in parentheses after the original variables explanation are the component loadings. The extraction method is principal component analysis and the factor loading coefficient cut-off is 0.50.

All variables are as defined in Table 3.1.

Table 3. 6: System GMM regression of audit fees on women directorships

Variables	Predicted sign	Model 1		Model 2		Model 3	
		Coef.	t-test	Coef.	t-test	Coef.	t-test
<i>Lag AF</i>	+	0.058***	6.22	0.627***	24.99	0.033***	3.88
<i>WDIR_BIN</i>	+	-0.030	-0.52				
<i>WDIR (%)</i>	+			-0.260**	-2.05		
<i>WDIR_NB</i>	+					-0.101**	-2.46
<i>NLog_NAF</i>	+	0.198***	9.03	0.103***	5.20	0.172***	8.26
<i>AUD_TEN</i>	?	0.018	1.32	0.009	1.21	-0.039**	-2.27
<i>B_SIZE</i>	+	0.236***	2.61	0.047	0.91	0.153	1.67
<i>B_IND</i>	+	0.137	1.20	-0.050	-0.83	0.061	0.50
<i>B_MEET</i>	+	0.121**	2.27	0.075***	2.92	0.130***	2.67
<i>DUAL</i>	+	0.117	1.87	0.026	0.88	0.115	1.75
<i>WOM_CEO</i>	+	-0.011	-0.08	-0.104	-1.89	-0.133	-0.97
<i>CEO_TEN</i>	+	0.080	1.38	0.015	0.50	0.074	1.24
<i>FAM_OWN</i>	+	-0.094	-0.63	-0.044	-0.64	-0.213	-1.30
<i>INST_OWN</i>	+	0.590***	4.24	0.228***	3.31	0.625***	4.18
<i>BIG</i>	+	0.163***	3.08	0.056	1.86	0.231***	4.13
<i>LEV</i>	+	0.072	0.36	0.033	0.33	-0.019	-0.09
<i>TQ</i>	-	-0.113***	-3.31	-0.051***	-2.66	-0.103***	-2.94
<i>LOSS</i>	+	0.203***	4.13	0.123***	3.88	0.173***	3.04
<i>R&D</i>	+	1.140	1.61	0.590	1.80	1.367	1.77
<i>FOR_ASSETS</i>	+	0.745***	4.31	0.223**	2.26	0.844***	4.49
<i>BETA</i>	+	0.186	1.51	0.041	0.68	0.162	1.28
<i>CROSS</i>	+	0.365**	2.14	0.132	1.64	0.286	1.61
<i>RECINV</i>	+	0.892***	3.65	0.434***	3.36	1.126***	4.26
<i>F_SIZE</i>	+	0.090***	6.53	0.033***	4.03	0.100***	6.48
Intercept	?	3.097***	7.33	1.358***	5.99	3.319***	7.26
Industry (?)		Yes		Yes		Yes	
Years (?)		Yes		Yes		Yes	
Number of observations		1741		1741		1741	
F (Prob > F)		70.26 ($p = 0.000$)		313.13 ($p = 0.000$)		66.31 ($p = 0.000$)	
Arellano–Bond test AR(1) (z, p -value):		-6.24 ($p = 0.000$)		-5.63 ($p = 0.000$)		-6.02 ($p = 0.000$)	
Arellano–Bond test AR(2) (z, p -value):		-2.19 ($p = 0.28$)		-0.58 ($p = 0.562$)		505.69 ($p = 0.000$)	
Sargan test (Chi-square, p -value):		599.06 ($p = 0.000$)		139.27 ($p = 0.000$)		105.52 ($p = 0.467$)	
Hansen test (Chi-square, p -value):		105.16 ($p = 0.395$)		78.52 ($p = 0.648$)			

** , *** represent significance at 0.05 and 0.01 levels respectively.

All variables are as defined in Table 3.1.

Table 3. 7: System GMM regression of audit fees on women directorships and derived attributes

Variables	Predicted sign	Model 1		Model 2		Model 3	
		Coef.	t-test	Coef.	t-test	Coef.	t-test
<i>Lag AF</i>	+	0.684***	82.41	0.685***	71.05	0.575***	51.05
<i>WDIR_BIN</i>	+	-0.568***	-5.42				
<i>WDIR (%)</i>	+			-0.383***	-11.64		
<i>WDIR_NB</i>	+					-0.147***	-12.81
<i>AUDCOM_MEMB</i>	±	-0.030***	-5.83	-0.016***	-3.41	-0.017***	-2.00
<i>LEADERSHIP</i>	+	-0.002	-0.45	-0.001	-0.24	-0.013	-0.59
<i>EXPERTISE</i>	-	-0.036***	-7.48	-0.047***	-9.05	-0.013**	-2.01
<i>EXPERIENCE</i>	+	-0.053***	-11.81	-0.051***	-9.69	-0.050***	-5.15
<i>NLog_NAF</i>	+	0.102***	25.33	0.104***	26.74	0.130***	29.42
<i>AUD_TEN</i>	?	-0.042***	-27.76	-0.034***	-16.02	-0.043***	-13.63
<i>B_SIZE</i>	+	0.096***	7.20	0.040**	2.30	0.186***	8.33
<i>B_IND</i>	+	0.020	0.83	0.038	1.34	0.110***	2.75
<i>B_MEET</i>	+	-0.012	-1.44	-0.016	-1.30	-0.002	-0.19
<i>DUAL</i>	+	0.020	1.59	0.020	1.42	-0.001	-0.06
<i>WOM_CEO</i>	+	-0.055***	-2.35	-0.023	-0.72	-0.162**	-2.53
<i>CEO_TEN</i>	+	0.044***	3.80	0.045***	3.26	0.089***	6.24
<i>FAM_OWN</i>	+	0.177***	7.79	0.216***	5.54	0.274***	5.62
<i>INST_OWN</i>	+	0.274***	8.10	0.255***	6.19	0.345***	6.61
<i>BIG</i>	+	-0.047***	-4.10	-0.033**	-2.09	-0.050**	-2.13
<i>LEV</i>	+	0.044	1.28	0.119***	3.07	-0.009	-0.16
<i>TQ</i>	-	-0.061***	-7.65	-0.055***	-4.68	-0.070***	-5.60
<i>LOSS</i>	+	0.072***	8.60	0.091***	6.84	0.107***	5.82
<i>R&D</i>	+	1.167***	9.29	0.944***	5.46	1.335***	5.81
<i>FOR_ASSETS</i>	+	0.426***	14.04	0.450***	12.86	0.508***	11.76
<i>BETA</i>	+	0.179***	7.14	0.146***	4.49	0.228***	5.14
<i>CROSS</i>	+	0.123***	5.88	0.166***	6.48	0.222***	5.77
<i>RECINV</i>	+	0.661***	14.27	0.570***	7.91	0.838***	10.56
<i>F_SIZE</i>	+	0.054***	18.44	0.046***	12.68	0.059***	18.16
Intercept	?	1.214***	18.14	1.399***	14.34	1.744***	15.90
Industry (?)			Yes		Yes		Yes
Years (?)			Yes		Yes		Yes
Number of observations			889		889		889
F (Prob > F)		2360.34 ($p = 0.000$)		21697.07 ($p = 0.000$)		23263.66 ($p = 0.000$)	
Arellano–Bond test AR(1) (z , p -value):		-4.96 ($p = 0.000$)		-5.00 ($p = 0.000$)		-5.07 ($p = 0.000$)	
Arellano–Bond test AR(2) (z , p -value):		0.19 ($p = 0.852$)		0.18 ($p = 0.858$)		-0.35 ($p = 0.730$)	
Sargan test (Chi-square, p -value):		704.85 ($p = 0.000$)		693.31 ($p = 0.000$)		636.45 ($p = 0.000$)	
Hansen test (Chi-square, p -value):		153.94 ($p = 0.554$)		145.77 ($p = 0.648$)		147.75 ($p = 0.332$)	

, * represent significance at 0.05 and 0.01 levels respectively.

All variables are as defined in Table 3.1.

General conclusion

The starting point of thesis was the aspiration to uncover the effects of board gender diversity and specific attributes of female directors on financial statements quality. Understanding key determinants of financial statements quality has been an important area of research but researchers mainly focused on Anglo-Saxon economies (e.g., US and UK) despite the fact that financial statements are an important area of concern for organizations around the world. In this regard, this thesis seeks to explore the relation between gender-diverse boards and financial statements quality in French context²⁶ by asking three research questions. First, is there any association among gender-diverse boards and financial statements quality of French firms? Second, how specific attributes influence the relationship of female directors and financial statements quality in French context? Third, what is the effect of female directors' specific attributes on financial statements quality of French firms? This dissertation proceeds to answer these questions along three chapters.

The first chapter investigates the effect of board gender diversity on earnings management. More specifically, how female directors and their specific attributes affect the level of earnings management in French context. Following existing literature, we use current discretionary accruals as a measure of earnings management. Using large sample of French firms listed on CAC All- Shares index between 2001 and 2010, we show that gender-diverse boards abstain managers from managing earnings as proxied by current discretionary accruals. To tease out the story, we investigate the influence of female directors' specific attributes on the relationship between gender-diverse boards and earnings management. More interestingly, after controlling for specific attributes of female directors in regression analysis, we find evidence of positive relation between gender-diverse boards and earnings management. This finding highlights the value relevance of

²⁶ Salient features of French institutes that differentiate French market from US or UK are discussed in each chapter.

General conclusion

female directors' specific attributes and suggests that the correction and detection of earnings management requires relevant competencies and skills. With regard to specific attributes, our results provide evidence that financial expertise and audit committee memberships are key attributes of women that promote the effective monitoring of earnings management. Conversely, female leadership and experience is positively associated with the level of earnings management.

Second chapter of this thesis investigate the nature of the relationship between board gender diversity and related party transactions by considering the role of female directors' specific attributes. First, we study the relation among female directors and related party transactions, particularly we identify that female directors discourage the use or enhance the disclosure of transactions with related parties. Second, we examine the usefulness of female directors' specific attributes with regard to the reporting or approval of related party transactions. Using a large sample of 394 French firms over the period 2001 to 2010 and after controlling for endogeneity, we find that gender-diverse boards discourage the use of transactions with related parties. However, this result does not hold after consideration of specific attributes in regression estimates. This change in the nature of association after addition of specific attributes in regression analysis highlight the significant impact of the attributes on the relation between gender-diverse boards and related party transactions. In addition to this, we find that specific attributes of female directors exert significant influence on the use or approval of related party transactions. Particularly, audit committee memberships and financial expertise of female directors are key attributes that reduce the number of related party transactions. On the other hand, female leadership and experience enhance the disclosure of related party transactions.

Finally, in third chapter, we study the effect of gender-diverse boards on audit quality in terms of demand for audit effort proxied by audit fees. In particular, we explore

General conclusion

the relation between female directors and audit fees paid by French firms. In addition to this, we explore the channel through which gender-diverse boards influence audit quality by highlighting the importance of female directors' specific attributes. Using a sample of French firms listed on CAC All-Shares index from 2002 to 2010, we show that board gender diversity has a significant impact on the demand for audit effort measured by audit fees. Particularly, we find that gender-diverse boards pay less for audit services. This result is in accordance with our expectations because gender diverse-boards enhance the effectiveness of internal controls by reducing the level of earnings management and the use of related party transactions. This may enhance the confidence of statutory auditors on the accuracy of financial records and reduce the need of assurance provided by them, thereby reduces the level of audit fees for firms with gender-diverse boards. Further, specific attributes of female directors also have a substantial effect on the relation between gender-diverse boards and audit fees. Importantly, our findings highlight that audit committee memberships, financial expertise and experience are key attributes of female directors that reduce the level of audit fees. However, female leadership proxied by women chair is not associated with audit fees.

Taken together, findings of the thesis provide deep insights on the relation between board gender diversity and financial statements quality in French context. We clearly show that gender-diverse boards enhance the quality of financial statements by decreasing the level of earnings management and the use of related party transactions by French firms which results in less audit fees for gender-diverse firms. In addition to this, our findings provide strong evidence to suggest that specific attributes of female directors exert significant influence on the relation between gender-diverse boards and financial statements quality. Finally, on the basis of our findings, we suggest that specific attributes

General conclusion

enhance the ability of female directors to monitor financial reporting process more effectively.

Contributions

The thesis contributes to the literature on corporate governance as well as financial statements quality. As a part of growing field of literature, this thesis investigates the impact of board gender diversity on determinants of financial statements quality namely, earnings management, related party transactions and audit quality. Further, we contribute to the broader literature on board gender diversity by showing that specific attributes of female directors play an important role to enhance the monitoring ability of gender-diverse boards for ensuring financial statements quality.

Although studies have already examined the effect of board gender diversity on earnings management and audit quality (Arun et al., 2015; Gaviouis et al., 2012; Lai et al., 2017; Srinidhi et al., 2011), this thesis is one of the first studies to analyze the effect of board gender diversity on the quality of financial statements in French context. The focus of existing studies is on Anglo-Saxon countries (Arun et al., 2015; Gaviouis et al., 2012; Lai et al., 2017; Srinidhi et al., 2011) and their findings narrate that female directors enhance the quality of financial statements by reducing earnings management (Arun et al., 2015; Srinidhi et al., 2011) or by improving audit quality (Lai et al., 2017). To date, not a single study in existing literature highlight the characteristics of female directors that influence financial statements quality. In this regard, the thesis is the first attempt to explore the channel (i.e. specific attributes) through which female directors exert influence on financial statements quality. Another important contribution of the thesis is that it creates an association among board gender diversity and related party transactions that caused the collapse of Enron. Despite the fact that related party transactions can distort the

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quality of financial statements, there is no existing study that explores the relation between gender-diverse boards and related party transactions.

In relation to the theories used, we highlight the insufficiency of agency theory to examine the influence of board gender diversity on financial statements quality. Particularly, we follow the arguments made by Carter et al. (2003) and Ben-Amar et al. (2013) in support of statutory and demographic diversity. Consequently, this thesis goes beyond the view point of fiduciary governance based on agency theory and also considers the view point of human capital theory and resource dependence theory to predict the nature of association among board gender diversity and financial statements quality.

Recommendations

This thesis was an opportunity to make some interesting observations that allow us to make some recommendations. On the basis of our findings, we propose that gender-diverse boards help to achieve the desired objectives of financial statements quality. However, simple presence of female directors is a necessary but not sufficient condition for ensuring financial statements quality because detection and correction of irregularities in financial records requires some particular competencies and skills. The particular competencies and skills refer to the specific attributes of female directors that enhance the monitoring ability of board to ensure the quality of financial statements. In this regard, our findings have some important implications for policy setters because we find significant association between the attributes of female directors and the financial statements quality determined by the level of earning management, reporting of related party transactions and audit quality. For enhancing the financial statements quality, boards should appoint females with relevant experience or financial expertise and place them at key monitoring positions (e.g., audit committee) because females are known for their superior monitoring skills and higher reputational concerns. Therefore, women with relevant experience and

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financial expertise are more likely to detect errors and irregularities in accounting and financial records.

Finally, these findings have two important implications. First, studying the impact of gender diversity by omitting the influence of female directors' attributes may lead to misleading conclusions. Second, the decision to appoint women on corporate boards should be based more on their statutory and demographic attributes than on blind implementation of gender quotas.

Limitations and directions for future research

Like any research work, this thesis also has few limitations which in turn suggest directions for future research. First, we use only current discretionary accruals as proxy of earnings management. In this regard, it will be interesting to study the relation between female directors their specific attributes and other proxies of earnings management (e.g. earnings smoothing or loss avoidance). Second, we conclude that lower audit fees for firms with gender-diverse boards are due to the accuracy of their internal control systems and financial reporting processes. By doing so, we rule out the other possible interpretations that lower audit fees may be due to the ability of female directors to negotiate with external auditors. Third, this thesis considers the appointment of female directors on a voluntary rather than mandatory basis. Therefore, with regard to financial statements quality, we suggest investigating the impact of female directors' appointment on a mandatory basis and the possible changes in their specific attributes after implementation of gender quotas (20% from 2014 and 40% from 2016). It would also be interesting to study the mediating effect of female directors on the relationship between financial statements quality and firm performance. Finally, the purpose of the research was to explore the relation among gender-diverse boards and financial statements quality by considering the role of female directors' specific attributes. In this regard, we suggest

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investigating the association between female executives (e.g. CEO and CFO) and financial statements quality by considering the role of their specific attributes.

References

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Appendices

Appendix 1

Gender quotas for public companies					
Market	Requirement, Type	Requirement, %	Requirement, Other	Year Introduced	Due Date
Belgium	Mandatory	33%		2011	2017
Denmark	Comply or explain	40%	Set targets	2013	N/A
Finland	Comply or explain		At least one women	2008	N/A
France	Mandatory	40%		2010	2016
Germany	Mandatory	30%		2015	2016
Iceland	Mandatory	40%		2009	2013
India	Mandatory		At least one women	2013	2015
Israel	Mandatory		At least one women	1999	N/A
Italy	Mandatory	33%		2011	2015
Malaysia	Mandatory	30%	For new appointments	2011	2016
Netherlands	Comply or explain	30%		2013	2016
Norway	Mandatory	40%		2003	2008
Spain	Comply or explain	40%		2007	2015
UAE	Mandatory		At least one women	2012	N/A

Gender quotas for state-owned companies

Market	Requirement, %
Austria	35%
Columbia	30%
Denmark	50%
Finland	40%
Greece	33%
Iceland	50%
Ireland	40%
Israel	50%
Kenya	33%
Quebec	50%
Slovenia	40%
South Africa	30%
Switzerland	30%
Taiwan	33%

Pending quotas

Market	Requirement, %
EU	40%
Brazil	40% by 2022
Canada	40%
South Africa	50%

Appendices

Appendix 2

Historical data of female directors from Global Director Universe												
Country	2016	2016	2015	2015	2014	2014	2013	2013	2011	2011	2010	2010
	N=	%	N=	%	N=	%	N=	%	N=	%	N=	%
Australia	71	25.8%	105	23.1%	225	15.3%	212	14.0%	197	13.8%	194	10.2%
Austria	5	20.9%	20	17.4%	22	16.0%	24	11.3%	23	10.8%	22	7.3%
Belgium	10	27.7%	25	24.3%	23	16.8%	24	9.2%	24	9.4%	24	7.7%
Brazil	56	5.8%	62	6.0%	80	5.1%	80	5.1%	76	4.5%	67	4.7%
Canada	94	22.8%	156	19.4%	254	12.7%	145	13.1%	134	13.1%	129	12.9%
Chile	20	7.7%	20	4.7%	24	2.8%	24	2.8%	17	3.5%	16	2.2%
China	115	8.6%	76	9.4%	128	8.4%	128	8.4%	108	8.5%	95	8.0%
Colombia	8	15%	11	11.4%	10	6.0%	10	6.0%	8	6.8%	7	9.6%
Czech Republic	3	5.1%	2	9.5%	0	N/A	0	N/A	3	8.6%	3	8.3%
Denmark	15	21.4%	28	25.9%	25	20.8%	24	17.2%	23	15.6%	24	14.0%
Egypt	3	5.0%	3	4.3%	7	4.4%	7	4.4%	8	7.0%	8	6.7%
Finland	12	30.2%	24	29.9%	28	30.0%	27	26.8%	28	26.4%	28	24.2%
France	70	37.6%	111	33.5%	103	25.8%	101	18.3%	101	16.6%	100	12.7%
Germany	53	26.7%	103	20.1%	93	16.7%	89	14.1%	81	12.9%	78	10.7%
Greece	9	16.2%	8	11.8%	22	8.2%	22	7.0%	22	7.3%	24	9.5%
Hong Kong	79	10.6%	67	9.1%	69	7.8%	98	9.5%	75	9.4%	72	9.4%
Hungary	3	3.1%	3	2.9%	4	4.5%	4	4.5%	4	5.9%	4	6.1%
India	73	12.8%	70	11.4%	89	6.5%	89	6.5%	62	5.2%	54	4.5%
Indonesia	31	2.8%	30	5.7%	32	6%	32	6.0%	23	4.6%	21	4.8%
Ireland	22	20.4%	28	17.6%	31	15.6%	18	8.7%	18	8.5%	19	9.5%
Israel	11	21.8%	23	18.1%	16	15.7%	16	15.7%	16	14.2%	17	14.0%
Italy	19	32.7%	68	25.3%	55	17.7%	58	8.2%	55	4.5%	51	3.6%
Japan	319	4.8%	459	3.4%	499	1.7%	447	1.1%	392	1.1%	392	0.9%
Korea	101	2.4%	102	2.1%	106	1.9%	106	1.9%	92	1.9%	88	1.7%
Malaysia	43	15.3%	42	13.8%	40	6.6%	40	6.6%	30	7.3%	26	5.9%
Mexico	28	7.2%	28	5.2%	24	5.8%	24	5.8%	23	6.4%	21	6.9%
Netherlands	28	19.1%	47	22.0%	47	17.9%	35	17%	34	14.8%	30	13.9%
New Zealand	7	29.6%	13	22.5%	18	18.9%	10	15.1%	10	13.7%	10	12.2%
Norway	9	39.3%	17	40.1%	23	38.9%	30	36.1%	28	36.3%	26	34.8%
Peru	2	0.0%	1	0.0%	3	6.3%	3	6.3%	2	0.0%	2	0.0%
Philippines	23	9.5%	21	8.7%	19	7.9%	19	17.9%	13	12.2%	7	14.3%
Poland	23	10.9%	24	19.0%	21	13.6%	21	13.6%	16	13.0%	15	10.7%
Portugal	3	9.1%	7	10.4%	10	7.5%	11	3.7%	11	2.3%	11	2.3%
Russia	20	7.0%	20	5.9%	25	4.8%	25	4.8%	23	4.6%	24	5.5%
Singapore	28	11.2%	61	9.9%	48	7.8%	58	6.9%	53	7.0%	51	7.3%
South Africa	53	18.6%	51	19.0%	59	17.9%	59	17.9%	46	17.4%	43	16.4%
Spain	24	20.6%	52	14.2%	44	13.3%	43	9.5%	40	10.2%	44	8.8%
Sweden	29	35.9%	61	33.9%	46	27.1%	44	27.0%	41	26.4%	40	27.5%
Switzerland	42	17.1%	75	13.2%	72	10.9%	56	10.0%	56	9.1%	51	9.2%
Taiwan	90	6.9%	93	4.3%	105	4.4%	105	4.4%	96	5.8%	82	5.9%
Thailand	31	11.2%	29	9.0%	26	9.7%	26	9.7%	18	10.8%	15	9.4%
Turkey	24	11.6%	25	7.9%	27	12.7%	27	12.7%	18	11.2%	18	10.9%
United Kingdom	114	25.5%	284	21.5%	358	17.0%	410	12.6%	399	10.7%	400	8.9%
United States	580	20.3%	1,491	16.4%	2,961	12.2%	3,009	11.7%	1,772	12.6%	1,750	12.3%

Appendices

Appendix 3

No of publications according to journal subject

Journal Subject Field	No of Articles Published
Business Ethics and CSR	63
Corporate Governance	47
General Management	46
Accounting and Finance	38
Gender diversity in organizations	38
Business	31
Law	22
Economics	15
Social Sciences	10
Total	310

Appendix 4

Articles published in Accounting and Finance journals

Journal Name	No of Articles Published
Accounting & Finance	1
Accounting & the Public Interest	1
Accounting and Business Research	1
Accounting Horizons	2
Accounting Research Journal	1
Asian Review of Accounting	1
Australian Accounting Review	1
British Accounting Review	1
Contemporary Accounting Review	1
European Financial Management	2
European Journal of Finance	1
Financial Review	2
Global Finance Journal	1
International Review of Financial Analysis	2
Investment Management and Financial Innovations	1
Journal of Accounting & Public Policy	1
Journal of Accounting and Economics	1
Journal of Applied Finance	1
Journal of Banking & Finance	1
Journal of Business Finance & Accounting	2
Journal of Corporate Finance	6
Journal of Financial Economics	1
Journal of Financial Reporting & Accounting	1
Journal of Multinational Financial Management	1
Pacific Accounting Review	3
Pacific-Basin Finance Journal	1
Total	38

Appendix 5

Geographical scope of the articles published on gender diversity

Country	No of Articles Published
Australia	19
Bangladesh	1
Belgium	2
Brazil	1
Canada	11
China	9
Denmark	6
Finland	3
France	9
Germany	5
Iceland	1
Israel	2
Italy	3
Japan	2
Jordan	1
Malaysia	5
Mauritius	1
Netherlands	3
New Zealand	4
Nigeria	1
Norway	17
Singapore	2
South Africa	3
Spain	16
Sweden	1
Switzerland	3
Tunisia	1
Turkey	1
United Kingdom	29
United States	98
Vietnam	1

Appendix 6

Global initiatives for promotion of board gender diversity

Thirty Percent Coalition

This initiative is supported by the major institutional investors including California's Public Employees Retirement Plan (CalPERS) and State Teachers' Pension Plan (CalSTRS). The aim of Thirty Percent Coalition is to enhance the percentage of female board members up to 30% by 2015. In 2012, Coalition's institutional investors started "Adopt a Company Campaign" by writing letters to target companies with only male directors in the S&P 500 and Russell 1000. Since the inception of this campaign, clear and identifiable results have been achieved; as more than 150 companies have appointed a woman to their boards, most for the first time. The Thirty Percent Coalition is a U.S organization with more than 90 members from different sectors across the country. The Coalition considers and implements collaborative strategies with three principal groups namely, institutional investors, corporate leaders and public sector initiatives.

30% Club

The 30% Club was launched in the UK in 2010 with an objective of increasing the representation women up to 30% on FTSE-100 boards by the end of 2015, based on the beliefs that, "gender balance on boards not only encourages better leadership and governance, but diversity further contributes to better all-round board performance, and ultimately increased corporate performance for both companies and their shareholders." This group supports voluntary efforts over quotas.

Davies Report

In 2011, Lord Mervyn Davies published a review titled as “Women on Boards”, which suggest that companies should try to improve gender diversity on voluntary basis in top leadership (e.g., executives and directors). This report was aimed to increase the representation of women on FTSE 100 boards to at least 25% by the end of 2015. However, this target was achieved six months before the schedule, “with representation of women more than doubling since 2011... there have also been 550 new female appointments in just over 4 years”. In a recent review, published in October, 2015, Davies called for FTSE 350 boards to have 33% female directors by 2020. This requires, “around 350 more women in top management”.

European Commission

In March 2011, EU Justice Commissioner Viviane Reding recommended European public listed companies to sign the "Women on the Board Pledge for Europe" and to increase the representation of women on corporate boards to 30% by 2015 and to 40% by 2020 on voluntary basis. Next year, in November 2012 the Commission proposed directive that was aimed to raise the percentage of women as non-executive directors in public listed companies to 40%, except small and medium enterprises. Unfortunately the proposal was impeded by the British government and others.

Australian Council of Superannuation Investors

In October 2015, the Australian Council of Superannuation Investors (ACSI) issued new governance guidelines which consider not sanctioning the re-election of directors for companies with less gender diverse boards, as extension to an ACSI policy issued in 2014 that require ASX 200 boards to appoint 30% women by the end of 2017.

2020 Women on Boards

2020 Women on Boards is a U.S. advocacy group that came into existence in 2010 with the objective of promoting the participation of women on corporate boards to 20% or greater by the year 2020. In June 2015, the group passed a resolution in the state of Illinois that encouraged public listed companies to have at least three female directors on boards of nine or more and at least two female directors on boards with fewer than nine directors on a voluntary basis, within the period of three years. Illinois is the second U.S. state to pass such a resolution for the gender balance of corporate boards after the state of California.

Titre : La diversité du genre au conseil d'administration et la qualité des états financiers: Le rôle des attributs des femmes administrateurs

Mots clés: Diversité du genre; femmes administrateurs; attributs spécifiques et qualité des états financiers.

Résumé : Cette thèse propose d'étudier dans quelle mesure la diversité du genre au conseil d'administration influence la qualité des états financiers. Plus précisément, cette thèse explore la relation entre la diversité du genre au conseil d'administration et la qualité des états financiers en soulignant l'influence des attributs des femmes administrateurs sur la qualité des états financiers.

Cette recherche a trois principaux objectifs. Le premier est de savoir si les femmes directrices influencent la qualité des états financiers. Le deuxième est d'analyser comment les attributs des femmes administrateurs jouent un rôle médiateur dans la relation entre diversité du genre au conseil d'administration et la qualité des états financiers. Le troisième objectif est d'expliquer la relation entre les attributs des femmes administrateurs et la qualité des états financiers.

Cette thèse repose sur un large échantillon d'entreprises françaises appartenant à l'indice CAC All-shares d'Euronext Paris entre 2001 et 2010. Après avoir contrôlé l'endogénéité et d'autres facteurs spécifiques au conseil d'administration, à l'entreprise

et à l'industrie, nos résultats montrent que la diversité du genre au conseil d'administration est positivement associée à la qualité des états financiers. De plus, nos résultats mettent en lumière une influence significative des attributs des femmes administrateurs sur la relation entre la diversité du genre dans les conseils d'administration et la qualité des états financiers. En ce qui concerne plus particulièrement les attributs, nous avons trouvé que l'appartenance au comité d'audit, l'expertise comptable et financière et l'expérience des femmes ont un impact positif et significatif sur la qualité des états financiers. L'ensemble de ces résultats témoigne de l'importance des compétences dans les conseils d'administration diversifiés en termes de genre et révèlent la pertinence des attributs des femmes administrateurs pour assurer la qualité des états financiers. Enfin, une implication importante de cette thèse est relative au processus de nomination des femmes dans les conseils d'administration qui devrait davantage reposer sur les attributs statutaires et démographiques plutôt que sur la mise en oeuvre de quotas.

Title: Gender-diverse boards and financial statements quality: The role of female directors' attributes

Keywords: Gender diversity; female directors; specific attributes and financial statements quality.

Abstract: This thesis proposes to study to what extent board gender diversity influence the quality of financial statements. Specifically, this thesis explores the relation between gender-diverse boards and financial statements quality by highlighting the value relevance of female directors' attributes for enhancing the quality of financial statements.

We are pursuing three main objectives. The first is to know whether female directors have any impact on the quality of financial statements. The second is to analyze how attributes of female directors mediate the relation among gender-diverse boards and financial statements quality. The third objective is to study the relation between attributes of female directors and financial statements quality.

This thesis focuses on a large sample of French firms belonging to the CAC-All shares index listed on Euronext Paris over the period 2001 to 2010. We find, after controlling for endogeneity and other board, firm

and industry specific factors, that board gender diversity is positively associated with the quality of financial statements. Further, our findings provide evidence of significant influence of female directors' attributes on the relation between gender-diverse boards and financial statements quality. With regard to female directors' attributes, we find concrete evidence to suggest that audit committee memberships, financial expertise and experience of women have substantial impact on the quality of financial statements. Taken together, these results testify the effective monitoring skills of gender-diverse boards and the value relevance of female directors' attributes for ensuring the quality of financial statements. Finally, an important implication of thesis is that the decision to appoint women on corporate boards should be more based on their statutory and demographic attributes than blind implementation of gender quotas.