

## **Board of directors and female representation: effect on Corporate Social Responsibility Reporting and Firm Performance**

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### **Abstract**

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*The responsible actions can allow corporate citizens to improve their reputation and a better management of stakeholders' relations. One of the board's roles is convincing shareholders and investors that investment in Corporate Social Responsibility (CSR) is consistent with their interests. A growing presence of women is observed on boards. Women directors are very sensitive to issues related to CSR reporting and firm performance. The aim of the paper is to study the relationship between corporate CSR reporting and firms' performance according to whether they have or not women on their boards. We investigate the moderating effect of women directorship on the relationship between CSR reporting and performance for a sample of French listed companies belonging to the SBF 120 index during the period 2001-2010. The results show that the presence of at least one woman on the board impacts positively CSR reporting and firm performance.*

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**Keywords:** Board of directors, CSR, Disclosure, Female representation, Firm Performance

### **1. Introduction**

Directors may only act in a socially responsible way if they perceive it to be value-creating (Gustavson, 2010). They will therefore have an important role to play in CSR strategy. Both CSR and CSR reporting are results of board decisions (Rao and Tilt, 2015); the characteristics of the board of directors must therefore be studied and especially the gender diversity. Women contribute to improve the efficiency of boards since they are interested in all the economic, social and societal issues (Wang and Coffey, 1992; Bear et al., 2010; Galbreath, 2011; Post et al., 2011). Starting in 2016, in France, the proportion of directors of each sex may not be less than 40% (law Copé Zimmermann, 2011). If works on the representation of women on boards are abundant on an international plan (Terjesen et al., 2009), few studies are however conducted on French data. Nekhili and Gatfaoui (2013) have showed that women directors hold few seats in France and that the existence of a glass ceiling blocking their progress despite a good education. In this context, it seems useful to measure the effects of female representation on CSR communication; and this female presence may impact the firm performance.

Our article is structured as follows. We first develop the review of literature on the topics of CSR reporting, women directors and firm performance; and we formulate the hypotheses to be tested. Then, we present the research methodology. Finally, we analyse the results. We conclude on the contribution of our research and tracks to explore.

## **2. Literature review**

### **2.1 CSR reporting and firm performance**

The CSR reporting is defined as a communication mode of firms. With the evolution of CSR practices and the willingness of firms to join a sustainable approach, it is noted a mass publication of information in the annual reports. The literature focuses on the motivations of firms who disclose CSR information. Indeed, according to Al-Tuwaijri et al. (2004); and Clarkson et al. (2008), the primary purpose of firms is to achieve the performance. The authors have found a positive relationship between the volume of published CSR information and firm performance. Belkaoui (1976) highlighted the positive impact of CSR reporting on the firm's share price. Firms that publish CSR information see their share price climb more rapidly than those that do not. Milgrom (1981) has said that firms should publish all their information in order to protect them against the devaluation of their share price. If investors notice an attempt of concealment of information in annual reports, they could reduce the estimate of the firms' value. The study of Bear et al. (2010) is focused more on the reputation of firms engaged in a CSR approach. According to the authors, companies engaged in environmental activities have a better reputation. The social aspect is also important in a CSR approach. Fombrun and Shanley (1990) have found that firms involved in the fight for the respect of human rights have a better reputation. Reputation is defined by stakeholders as the perception of a firm's activities (Bebington et al., 2008). Stakeholders are more sensitive to the firm activity thanks to CSR reporting (Branco and Rodrigues, 2006), which materializes by sales and therefore better performance.

Hypothesis 1: There is a positive relationship between CSR reporting and firm performance.

### **2.2 CSR reporting and firm performance: the moderating role of women directors**

Barnea and Rubin (2010) emphasized the fact that managers use CSR to improve the image of the firm in which they are. The authors have presented CSR as a source of conflict between shareholders. Indeed, shareholders do not want to invest when the CSR cost is too high. Mechanism of the governance system, the board of directors plays an important role in the implementation of firms' strategy. Women are more and more represented on boards but we also notice that men still hold economic power. Nevertheless, the gender diversity is synonymous of quality during the discussions (Porter and Kramer, 2006) and improving the company's image. Zhang et al. (2013) admitted that women directors allow companies to have a better image with regard to stakeholders. The nature of the relationship between the presence of women on boards and CSR divide the authors. Some are convinced that women make more than men in environmental matters (Ibrahim and Angelidis, 1994). Others have found that there is no positive relationship between the female representation on boards and CSR reporting (Handajani et al., 2014). Fernández-Feijoo et al. (2012) noticed that the annual reports of firms with at least three women on their boards contained more social and societal information. The presence of women on boards is so important because it affects CSR information disclosure (which improves the image of the company towards the stakeholders) and therefore the firm performance. Although, Liu et al. (2014) prove that there is a positive and significant relation between firm performance and women directors.

Hypothesis 2: CSR reporting is more relevant if at least one woman is on board.

## **3. Methodology**

The basic sample contains the French listed companies in the SBF 120 index over the period from 2001 to 2010. The estate agencies and financial firms were excluded because they have special and specific regulations. We get after this filtering, a sample of 93 companies. We justify the study period by the introduction of the NER law in 2001, which aims to encourage companies to publish all financial and non-financial information in their annual reports.

We created an index from the grid of the "Grenelle II de l'Environnement" done by Deloitte in 2013. Explicitly, we have selected the 42 items of the "Grenelle II de l'Environnement" (Table 1) and applied them to our sample for the period from 2001 to 2010. For our database (collected in annual reports), each year an item appeared in a report, the value "1" was assigned; inversely, the value "0". The built index is the average of the sum of the numbers assigned to items for a company and year.

**Table 1: Items of the “Grenelle II de l’Environnement”**

Components	Number of items	Description
Social Reporting		
Employment	3	<ul style="list-style-type: none"> <li>- Number of employees and how they are split up according to age, sex and geographic distribution (based on numbered data and diagram),</li> <li>- Hiring and firing</li> <li>- Remuneration and their evolution.</li> </ul>
Organization of working hours	2	<ul style="list-style-type: none"> <li>- Organization of working time (flexibility of working hours, weekly working hours...)</li> <li>- Absenteeism (frequency).</li> </ul>
Labour relations	2	<ul style="list-style-type: none"> <li>- Social dialogue (information procedures, consultation of the staff and negotiating with employers)</li> <li>- Collective agreements</li> </ul>
Health and safety	3	<ul style="list-style-type: none"> <li>- Conditions of health and safety at work</li> <li>- Agreements signed by the trade unions and the representatives of the staff about health and safety in the working area</li> <li>- Industrial accidents (frequency and seriousness of accidents, occupational diseases...)</li> </ul>
Formation	2	<ul style="list-style-type: none"> <li>- All policies implemented in forming</li> <li>- The total number of forming hours</li> </ul>
Equal treatment	3	<ul style="list-style-type: none"> <li>- Actions taken in favour of equality between men and women</li> <li>- Actions taken in favour of employment and the integration of handicapped persons</li> <li>- Policy to fight against discrimination</li> </ul>
Promotion and respect of the stipulations of fundamental conventions of the International Labour Organization	4	<ul style="list-style-type: none"> <li>- Actions for the respect of freedom of association and collective bargaining</li> <li>- Actions for the non-discrimination in employment</li> <li>- Actions for the elimination of forced or compulsory labour</li> <li>- Actions for the effective abolition of child labour</li> </ul>
Environment reporting		
Policy environment	4	<ul style="list-style-type: none"> <li>- Organization of society to take into account environmental concerns, and, if necessary, assessment procedures or environmental certification</li> <li>- All actions of formation and information for employees on environmental protection</li> <li>- The resources devoted to environmental risks and pollution</li> <li>- The amount of provisions for environmental risks (unless this information is likely to cause serious prejudice to the company in ongoing litigation)</li> </ul>
Pollution and Waste Management	3	<ul style="list-style-type: none"> <li>- Actions of prevention, reduction of air, water and soil emissions, affecting the environment</li> <li>- Actions of recycling and waste disposal</li> <li>- Consideration of noise and, if appropriate, any other form of pollution to a specific activity</li> </ul>
Sustainable use of resources	4	<ul style="list-style-type: none"> <li>- Water consumption and supply depending on local constraints</li> <li>- Consumption of raw materials and the Actions taken to improve efficiency in their use</li> <li>- Energy consumption and Actions to improve energy efficiency and use of renewable energy</li> <li>- Land use</li> </ul>
Climate change	2	<ul style="list-style-type: none"> <li>- Rejection of greenhouse gases</li> </ul>

		- Adaptation to climate change impacts
Protection of biodiversity	1	Actions taken to preserve and develop biodiversity
Sustainable development reporting		
Territorial, economic and social impact of the activity	2	- Impact of Actions taken in favour environment, on employment and regional development - Impact of actions taken on the population living in the area around the business
Relationships with persons or organizations interested in the activities of the society	2	- Conditions for dialogue with these persons or organizations - Actions of partnership or sponsorship
Subcontracting and suppliers	2	- Importance of subcontracting - Importance of taking into account their social and environmental responsibility when one deals with suppliers and subcontractors
Honesty in practices	2	- All actions meant to prevent corruption - Actions in favour of health consumers' security
Other actions in favour of human rights	1	- Actions preventing all forms of discrimination and promoting equal treatment

Table 2 presents our variables.

**Table 2: Definition of Variables**

Variables	Measure <sup>1</sup>
Dependent variables: Firm performance	
Tobin's Q	Stock market capitalization plus book value of liabilities as a ratio of total assets
Return on assets	Ratio of operating income to total assets
Endogenous variables:	
Aggregate CSR reporting	Aggregate corporate social responsibility reporting
Social reporting	Social responsibility reporting
Environment reporting	Environment responsibility reporting
Sustainable development reporting	Sustainable development reporting
Governance variables	
CSR Committee	Binary variable that takes the value 1 if the company have a CSR committee and 0 otherwise.
Board size	Natural logarithm of the number of directors on the board
Board independence	Ratio of number of non-executive independent directors to total number of board directors
Board meetings	Natural logarithm of the number of annual board meeting
Women directorship	Proportion of women on board
CEO duality	Dummy variable coded 1 if the CEO serves as board chair; 0 otherwise.
CEO tenure	Number of years at a company before appointed to a CEO position
Ownership variables	
Family ownership	Percentage of capital held by family
Institutional ownership	Percentage of capital held by institutional investors
Others control variables	
Leverage	Ratio of total financial debt to total value of assets

<sup>1</sup> Variables from Thomson One are winsorized at the 1 % and 99 % levels

Foreign assets	Ratio of foreign assets to total assets
Beta	Equity beta
R&D intensity	Ratio of Research and Development to total sales
Firm size	Natural logarithm of the total assets
Industry	Binary variable that takes the value 1 if the company belongs to the sector in question and 0 otherwise. The industry classification is based on Industry Classification Benchmark (ICB) developed in January 2005 by <a href="#">Dow Jones</a> and <a href="#">FTSE</a> and used by Euronext since 2006.

Source : Bennouri et al. (2018) ; adapted

### *Descriptive statistics*

Table 3 presents descriptive statistics and analysis of the dependent, endogenous, governance, ownership and control variables. The average of the Tobin's Q is 1.152 and the average of the Return On Assets is 4.79%. For our sample period, French firms report 42.09 % of the selected items defined by the "Grenelle II de l'Environnement" on social, environmental and sustainable development activities. Firms are more sensitive to sustainable development reporting (50.33 %) than social (42.8 %) and environment reporting (37.79 %). Few firms (24.61 %) have a CSR committee. Despite the promulgation of the NER law in 2001 to disclose more and more CSR information, firms have found it useful to create such committees to implement their social and environmental policies. These structures, commonly called CSR committees or sustainable development committees, are responsible for the definition of the social and the environmental strategy. Firms with this type of structure are more concerned about the CSR consequences of their activities and tend to publish in their annual reports, much more extra-financial information (Cowen et al., 1987). The average number of directors is 11.566 members. Yermack (1996) has found an average size of the American boards equal to 12.25 members. The board of directors is independent on average at 42.07 %. The average number of board meeting is 7.228. Carter et al. (2003) have studied the relationship between board diversity and firm value for Fortune 1000 firms. They have found a number of board meetings equal to 7.448. Women are represented at only 8.02 % of total board of directors. American (Catalyst, 2007) and Canadian (Spencer Stuart, 2008) studies have showed that women occupy between 13 % and 17 % of the seats on boards of companies in the Fortune 500. In France, for the same period, approximately 8 % of the seats were assigned to women in the top 500 French companies. We categorize a firm as having a "dual CEO" when one person occupies both board chair and CEO positions. 53.76 % of our sample firms have duality governance structures. The average tenure of the CEO is to 8.715 years. Firms are held on average at 26.67% by families and 14.99% by institutional shareholders. Regarding the control variables, the average level of corporate debt is 25.86 %. Foreign assets are held on average 38.63 % while the average risk of the market is of 0.886. R&D is used to average 1.95 % and the size of the firm is on average 16201 million of euros.

**Table 3: Descriptive statistics**

	Mean	Median	Standard Deviation	Minimum	Maximum
Tobin's Q	1.152	0.895	0.843	0.255	4.556
Return on assets	4.79 %	4.09 %	3.67 %	-3.91 %	15.70 %
Aggregate CSR reporting	42.09 %	45.24 %	25.27 %	0	90.48 %
Social reporting	42.98 %	47.37 %	29.21 %	0	100 %
Environment reporting	37.79 %	35.71 %	27.95 %	0	92.86 %
Sustainable development reporting	50.33 %	50 %	31.40 %	0	100 %
CSR committee	24.61 %	0	43.10 %	0	1
Board size (number of directors)	11.566	12	4	3	26
Board independence	42.07 %	42.86 %	23.95 %	0	100 %
Board meetings (number of meetings)	7.228	7	3.557	0	30
Women on board	8.02 %	6.66 %	8.92 %	0	42.86 %
CEO duality	53.76 %	1	49.88 %	0	1
CEO tenure (number of years)	8.715	7	6.846	0	42
Family ownership	26.67 %	22.91 %	26.30 %	0	99.37 %

Institutional ownership	14.99 %	0	22.25 %	0	90.00 %
Leverage	25.86 %	24.96 %	14.08 %	0	73.88 %
Foreign assets	38.63 %	37.99 %	29.23 %	0	99.69 %
Beta	0.886	0.899	0.283	0.063	1.815
R&D intensity	1.95 %	0	4.71 %	0	42.11 %
Firm size (in millions of euros)	16 201	4 923	28 588	4.06	240 559

### Model

As a first step, we question the structure of our data and test whether we can consider it pooled by running the Lagrange Multiplier (LM) test (Breusch and Pagan, 1980). The test strongly rejects the hypothesis that our data is pooled (Chi-Square= 309.30 and p-value = 0.000) and favors using panel data with Random Effects specification. This suggests that pooled regression coefficients (using a standard OLS regression) would be biased compared to the Random Effects model because of the existence of idiosyncratic and unobserved factors for each firm in the sample. We then control for the fixed versus random effect model by running the Hausman test. This test rejects the prevalence of the fixed effect model (Chi-Square= 19.38 and p-value = 0.1972).

To test the hypothesis formulated in our conceptual part, we regroup in a single model the set of explanatory factors of determinants of the firm performance. The model we consider is the following:

$$\text{Performance}_{it} = \beta_0 + \beta_1 \text{Lag Performance}_{it} + \beta_2 \text{CSR reporting}_{it} + \beta_3 \text{CSR committee}_{it} + \beta_4 \text{Board size}_{it} + \beta_5 \text{Board independence}_{it} + \beta_6 \text{Board meeting}_{it} + \beta_7 \text{Women directorship}_{it} + \beta_8 \text{CEO duality}_{it} + \beta_9 \text{CEO tenure}_{it} + \beta_{10} \text{Family ownership}_{it} + \beta_{11} \text{Institutional ownership}_{it} + \beta_{12} \text{Leverage}_{it} + \beta_{13} \text{Foreign assets}_{it} + \beta_{14} \text{Beta}_{it} + \beta_{15} \text{R\&D intensity}_{it} + \beta_{16} \text{Firm size}_{it} + \beta_{17} \text{Industry} + \xi_{it}$$

Equation

where  $\xi_{it}$  is the error term and the subscripts  $i$  and  $t$  stand for firms and time, respectively.

### 1. Analyses and findings

Before the multivariate analysis, it is necessary to examine the correlations that may exist between different exogenous variables. Table 4 presents the Pearson correlation matrix. No correlation exceeds the value of 0.5; there is not a presence of strong collinearities that could influence the results. The Variance Inflation Factors (VIFs) does not exceed 10 so there is no need to eliminate variables (O'Brien, 2007). The lag of Tobin's Q and the lag of Return On Assets were used to judge the behaviour of the performance in year T-1. Past performance is only significant for social reporting. This can be explained by the fact that the performance of the previous year allows the firm to release more flows. When the business is profitable, firms can engage in the social because it requires more budget than the environment and sustainable development.

#### Effect of female representation on CSR reporting and firm performance

The market has more confidence in the social, environment and sustainable development information disclosed by firms with at least one woman on their boards; and these companies are the most efficient. The board composition plays an important role in the CSR reporting and firm performance. Our results (Tables 5, 6, 7 & 8) show the existence of a positive relationship between firm performance and disclosure of social, environment and sustainable development information. They confirm and complete (with the integration of women directors) the studies of Bear et al. (2010) and Barnea and Rubin (2010): firms engaged in CSR activities have a better reputation. Hypotheses 1 and 2 are validated.

Family firms disclose more information (Campopiano and De Massis, 2014) and are more efficient (Anderson and Reeb, 2003) than non-family firms. For firms that have at least one woman on their boards, family impacts negatively the performance. For firms without women directors, the relationship is positive. Indeed, the family presence in the capital and the presence of women on boards are two mechanisms that substitute. The family plays therefore positively on the performance when there is no woman on the board. Women are often in boards through their contacts (Burke, 1997). We can understand that they are not in perfect agreement with the company's owners (who have cultural values), due to their non membership in the family. The market has more confidence in firms' information without women directors, where institutions are shareholders. These companies perform better than firms with at least one-woman director. The institutional presence in the capital and the presence of women on boards are two mechanisms that substitute.

Our results also show a negative relationship, firstly between the board size of firms with women on their boards and the market perception of CSR information disclosed; and secondly between the board size and performance. The more the board is large, the less women will have an impact on decisions. Eisenberg et al. (1998) have showed that large companies with large boards are less efficient. The negative correlation is explained by the board size. We note a negative relationship between board meetings of firms with women on their boards and the market perception CSR information disclosed. Our results confirm the works of Terjesen et al. (2015) who have found a negative relationship between the Tobin's Q (and Return On Assets) and the number of board meetings for firms with women directors. The duality of the CEO's functions has an impact on the functioning of the board. For the Cadbury report (1992), the two roles of the CEO should be separated. However, our study shows that this duality does not change the relationship with the firm performance, according to the company has woman or not on its board. CEO tenure is negatively associated with the environmental strategy (Miller, 1991). Our findings show that CEO tenure has a negative effect on the Tobin's Q and on the Return On Assets for firms with at least one woman on their boards. Miller's (1991) study is therefore confirmed. The role of the CEO is to determine the claims of the stakeholders (Marais, 2012). However, stakeholders have rather economic interests.

We notice that the debt level is negatively related to the performance. Our findings confirm the works of Barnea and Rubin (2010). They have found a negative relationship between debt and Tobin's Q. Foreign assets are negatively related to the performance. Firms with a low market risk invest more in social actions (Roberts, 1992; de Villiers et al., 2011). Market risk is positively associated with the market reaction of the information disclosed by firms and with the financial performance. These results do not confirm the works of Roberts (1992) who has found a negative relationship between the level of CSR reporting and systematic risk. R&D (intangible asset) is an indicator of a strong asymmetry of information between managers and shareholders. It provides also information on innovation. R&D impacts negatively the performance when women are present on boards. According to the literature, women are risk averse (Vafeas, 1999). Women directorship reduces the R&D risk (Chen and Tong, 2015). Investments in R&D are risky. They require large expenditures without being sure that these investments will be profitable. Firms investing in R&D and having women on their boards, have lower performance than others. Risky by nature, the market appreciates so less the R&D investment in companies with women directors. We find a negative relationship between firm size and performance of firms with at least one-woman director. Campbell and Mínguez-Vera (2008) have found that firm size has no significant effect on the presence of women on boards.

**Table 4. Pairwise Correlation Matrix**

	1	2	3	4	5	6	7	8	9	10	11	12	VIF
1. Tobin's Q	1.000												---
2. Lag Tobin's Q	0.765*	1.000											1.34
3. Return on assets	0.629*	0.550*	1.000										---
4. Lag Return on assets	0.529*	0.631*	0.794*	1.000									1.25
5. Aggregate CSR reporting	-0.143*	-0.140*	-0.033	-0.041	1.000								1.68
6. Lag Aggregate CSR reporting	-0.142*	-0.134*	-0.036	-0.040	0.943*	1.000							1.36
7. Social reporting	-0.121*	-0.111*	0.007	0.005	0.933*	0.881*	1.000						1.43
8. Lag Social reporting	-0.124*	-0.112*	-0.003	0.001	0.866*	0.932*	0.925*	1.000					1.58
9. Environment reporting	-0.101*	-0.109*	-0.037	-0.048	0.861*	0.810*	0.684*	0.635*	1.000				1.62
10. Lag Environment reporting	-0.091	-0.098*	-0.031	-0.043	0.819*	0.859*	0.656*	0.678*	0.942*	1.000			1.52
11. Sustainable development reporting	-0.182*	-0.177*	0.107*	-0.114*	0.778*	0.708*	0.635*	0.571*	0.544*	0.489*	1.000		1.58
12. Lag Sustainable development reporting	-0.186*	-0.170*	0.108*	-0.108*	0.742*	0.772*	0.610*	0.625*	0.516*	0.536*	0.926*	1.000	1.50
13. CSR committee	-0.069	-0.045	0.021	0.025	0.381*	0.377*	0.340*	0.334*	0.357*	0.348*	0.285*	0.289*	1.17
14. Board size	-0.251*	-0.241*	-	-0.099*	0.375*	0.375*	0.292*	0.281*	0.393*	0.403*	0.320*	0.324*	2.17

			0.099*										
15. Board independence	-0.196*	-0.193*	0.031	0.016	0.193*	0.169*	0.182*	0.162*	0.152*	0.135*	0.178*	0.151*	1.56
16. Board meetings	-0.053	-0.035	-0.035	-0.027	0.142*	0.114*	0.134*	0.103*	0.101*	0.083	0.139*	0.119*	1.16
17. Women directorship	0.057	0.057	-0.011	-0.003	-0.094*	-0.105*	-0.072	-0.077	-0.147*	-0.169*	-0.026	-0.025	1.39
18. CEO duality	-0.076	-0.085	0.102*	-0.099*	0.071	0.058	0.008	-0.010	0.127*	0.128*	0.102*	0.087	1.16
19. CEO tenure	0.095*	0.108*	0.157*	0.166*	0.251*	0.220*	0.191*	0.155*	0.219*	0.199*	0.275*	0.253*	1.24
20. Family ownership	0.277*	0.275*	0.284*	0.286*	-0.082	-0.069	-0.032	-0.019	-0.111*	-0.102*	-0.111*	0.102*	1.52
21. Institutional ownership	-0.192*	-0.198*	0.105*	-0.108*	0.168*	0.161*	0.142*	0.135*	0.157*	0.151*	0.137*	0.134*	1.34
22. Leverage	-0.256*	-0.249*	0.263*	-0.230*	0.023	0.030	-0.006	-0.001	0.065	0.069	0.019	0.027	1.15
23. Foreign assets	-0.077	-0.061	0.025	0.029	0.008	0.011	-0.023	-0.019	-0.039	-0.034	0.123*	0.118*	1.16
24. Beta	0.032	0.011	0.089*	-0.100*	0.069	0.091	0.109*	0.123*	-0.036	-0.005	0.109*	0.121*	1.28
25. R&D intensity	0.260*	0.282*	0.106*	0.117*	0.097*	0.096*	0.100*	0.104*	0.054	0.047	0.094*	0.091	1.22
26. Firm size	-0.280*	-0.248*	0.156*	-0.143*	0.464*	0.467*	0.366*	0.363*	0.426*	0.431*	0.476*	0.481*	2.42

\*, \*\*, \*\*\* Represent significance at 0.10, 0.05 and 0.01 levels, respectively.

**Table 4. Continued**

	13	14	15	16	17	18	19	20	21	22	23	24	25
13. CSR committee	1.000												
14. Board size	0.236*	1.000											
15. Board independence	0.079	0.071	1.000										
16. Board meetings	0.166*	0.029	0.008	1.000									
17. Women directorship	-0.048	-0.309*	-0.228*	0.077	1.000								
18. CEO duality	-0.093*	0.038	-0.170*	-0.011	0.068	1.000							
19. CEO tenure	0.115*	0.158*	-0.007	-0.085	0.109*	0.179*	1.000						
20. Family ownership	-0.081	-0.152*	-0.273*	-0.113*	-0.022	-0.014	0.015	1.000					
21. Institutional ownership	0.065	0.054	0.317*	-0.012	-0.009	0.036	-0.068	0.420*	1.000				
22. Leverage	-0.090*	0.005	-0.007	0.037	0.022	0.080	-0.066	0.088*	0.062	1.000			
23. Foreign assets	-0.020	0.058	0.250*	0.083	-0.187*	-0.128*	0.095*	0.112*	0.087	-0.013	1.000		
24. Beta	0.033	-0.005	0.097*	0.266*	0.041	-0.038	0.046	0.209*	-0.042	-0.031	0.101*	1.000	
25. R&D intensity	-0.004	-0.030	0.046	0.001	-0.153*	-0.067	0.170*	0.044	-0.068	-0.177*	0.008	0.091*	1.000
26. Firm size	0.276*	0.663*	0.295*	0.127*	-0.214*	-0.079	0.135*	0.274*	0.095*	0.116*	0.131*	0.193*	-0.014

\*, \*\*, \*\*\* Represent significance at 0.10, 0.05 and 0.01 levels, respectively.

**Table 5 System GMM regression of firm performance on aggregate CSR reporting**

Variables	Expected sign	Tobin's Q						Return on assets					
		Total sample		Firms with at least one woman director		Firms without women directors		Total sample		Firms with at least one woman director		Firms without women directors	
		Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test
Lag Tobin's Q(+)		0.571***	56.94	0.660***	61.57	0.34598	11.99						
Lag return on assets (+)								0.591***	25.20	0.689***	36.81	0.604***	19.53
Aggregate CSR reporting (+)		-0.022	-0.29	1.028***	8.77	-0.649***	-3.42	-0.032***	-4.60	0.035***	6.22	-0.049***	-3.72
CSR Committee													
(+)		-0.124***	-4.28	-0.169***	-7.44	0.022	0.39	-0.001	-0.37	-0.009***	-4.26	-0.014***	-3.01
Board size		-0.137**	-2.37	-0.078	-1.74	0.062	0.62	-0.027***	-6.36	0.007**	2.54	-0.000	-0.05
Board independence													
(+)		-0.186***	-3.13	-0.029	-0.49	0.041	0.40	-0.000	-0.16	0.005	1.26	0.015	1.34
Board meetings		-0.071**	-2.20	-0.090***	-3.10	0.137**	2.01	-0.007***	-3.38	-0.003	-1.39	0.006	0.97
Women		-0.299	-1.52					-0.029	-1.95				



directorship												
CEO duality	-0.071**	-2.01	-0.159***	-4.56	-0.233***	-5.29	0.005	1.54	-0.007***	-4.42	-0.006	-1.28
CEO Tenure	0.013	0.70	-0.113***	-4.36	0.097**	2.51	0.002	1.35	-0.003***	-2.72	0.008***	3.03
Family ownership	0.142**	2.51	-0.046	-0.71	0.858***	5.26	0.003	0.72	-0.009***	-3.26	0.029***	2.69
Institutional ownership	0.051	0.64	-0.239***	-4.12	0.123	0.74	-0.006	-1.72	-0.015***	-5.46	0.022	1.64
Leverage	-2.224	-13.57	-0.827***	-9.67	-0.092	-0.41	-0.198***	-16.19	-0.077***	-7.02	-0.046	-1.38
Foreign assets	-0.117**	-2.01	-0.108**	-2.45	-0.438***	-4.20	0.006	1.74	0.001	0.22	-0.007	-0.94
Beta (+)	0.245***	7.42	0.342***	5.11	0.238**	2.21	-0.002	-0.42	0.011***	4.15	0.011	1.16
R&D intensity (+)	-0.336**	-2.24	-0.961***	-4.62	3.386***	5.04	-0.163***	-7.41	-0.126***	-10.28	0.031	0.69
Firm size (?)	-0.022	-1.53	-0.086***	-4.73	-0.014	-0.42	0.008***	5.26	-0.003***	-3.62	0.002	0.97
Intercept (?)	1.181***	5.35	1.068***	8.63	-0.347	-0.79	0.169***	3.37	0.029***	3.14	0.053	0.18
Industry (?)	Yes		Yes		Yes		Yes		Yes		Yes	
Number of observations	705		437		268		736		451		285	
F (Prob> F)	73048.69 (p = 0.000)		113221.45 (p = 0.000)		46863.91 (p = 0.000)		25335.26 (p = 0.000)		9895.37 (p = 0.000)		14195.12 (p = 0.000)	
Arellano-Bond test AR(1) (z, p-value):	-3.10 (p = 0.002)		-2.74 (p = 0.006)		-2.82 (p = 0.005)		-3.95 (p = 0.000)		-3.81 (p = 0.000)		-2.43 (p = 0.015)	
Arellano-Bond test AR(2) (z, p-value):	1.84 (p = 0.065)		0.80 (p = 0.424)		1.40 (p = 0.161)		1.83 (p = 0.067)		2.06 (p = 0.039)		1.38 (p = 0.168)	
Sargan test (Chi-square, p-value):	559.82 (p = 0.000)		189.85 (p = 0.000)		88.33 (p = 0.000)		521.30 (p = 0.000)		100.19 (p = 0.000)		73.55 (p = 0.000)	
Hansen test (Chi-square, p-value):	76.90 (p = 0.418)		54.72 (p = 0.177)		34.09 (p = 0.368)		71.93 (p = 0.139)		55.02 (p = 0.103)		25.79 (p = 0.636)	

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

**Table 6. System GMM regression of firm performance on social reporting**

Variables (Expected sign)	Tobin's Q						Return on assets					
	Total sample		Firms with at least one woman director		Firms without women directors		Total sample		Firms with at least one woman director		Firms without women directors	
	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test
Lag Tobin's Q (+)	0.566***	56.37	0.658***	69.09	0.388***	13.92						
Lag return on assets (+)							0.568***	23.18	0.688***	38.79	0.645***	24.38
Social reporting	0.013	0.18	0.647***	8.18	-0.471***	-4.29	-0.009	-1.58	0.016***	2.67	-0.029***	-3.43
CSR Committee	-0.124***	-3.65	-0.113***	-7.30	0.021	0.36	-0.014***	-4.54	-0.011***	-5.55	-0.011	-1.93
Board size	-0.156***	-2.57	-0.016	-0.50	0.134	1.52	-0.028***	-5.25	0.008***	2.66	0.000	0.03
Board independence	-0.232***	-3.80	-0.053	-0.97	0.134	1.02	-0.005	-1.07	0.009**	2.28	0.016	1.90
Board meetings	-0.068**	-2.16	-0.080***	-2.89	0.123	1.44	-0.008***	-2.87	-0.001	-0.48	0.001	0.37
Women directorship	-0.243	-1.14					-0.026	-1.84				
CEO duality	-0.082**	-2.48	-0.110***	-3.53	-0.228***	-4.43	0.003	0.72	-0.004***	-2.55	-0.002	-0.68
CEO Tenure	0.004	0.20	-0.068***	-3.26	0.070	1.81	0.003	1.66	-0.001	-0.76	0.006***	3.49
Family ownership	0.119	1.61	-0.019	-0.39	0.673***	4.05	0.005	0.89	-0.011***	-3.28	0.029***	3.23
Institutional ownership	0.018	0.24	-0.176***	-3.57	0.192	1.03	-0.006	-1.18	-0.012***	-4.51	0.025**	2.26
Leverage	-2.428***	-15.14	-0.667***	-10.13	0.014	0.07	-0.218***	-17.60	-0.096***	-7.32	-0.057***	-2.38
Foreign assets	-0.138**	-2.15	-0.081	-2.16	-0.275	-1.81	0.004	0.73	0.003	1.10	-0.003	-0.56
Beta	0.243***	5.61	0.333***	7.63	0.226*	1.84	0.002	0.31	0.008**	2.30	0.013	1.83
R&D intensity	-0.273	-1.16	-1.040***	-5.27	3.814***	3.75	-0.188***	-8.25	-0.138***	-10.67	0.007	0.23
Firm size (?)	-0.021	-1.76	-0.086***	-5.28	-0.044	-1.27	0.008***	4.58	-0.002**	-2.49	0.000	0.05
Intercept (?)	1.395***	5.28	0.795***	6.70	-0.175	-0.29	0.182***	3.61	0.025***	2.69	0.106	0.44
Industry (?)	Yes		Yes		Yes		Yes		Yes		Yes	
Number of observations	705		437		268		705		451		285	
F (Prob> F)	18790.53 (p = 0.000)		13106 (p = 0.000)		11823.04 (p = 0.000)		3056.74 (p = 0.000)		7509.23 (p = 0.000)		2105.59 (p = 0.000)	
Arellano-Bond test AR(1) (z, p-value):	-3.11 (p = 0.002)		-2.75 (p = 0.006)		-1.93 (p = 0.051)		-4.12 (p = 0.000)		-3.77 (p = 0.000)		-2.51 (p = 0.012)	
Arellano-Bond test AR(2) (z, p-value):	1.85 (p = 0.065)		0.75 (p = 0.456)		1.40 (p = 0.161)		1.88 (p = 0.060)		1.08 (p = 0.137)		1.47 (p = 0.142)	
Sargan test (Chi-square, p-value):	556.50 (p = 0.000)		190.41 (p = 0.000)		86.75 (p = 0.000)		496.59 (p = 0.000)		95.81 (p = 0.000)		74.28 (p = 0.000)	
Hansen test (Chi-square, p-value):	75.18 (p = 0.472)		55.77 (p = 0.153)		36.20 (p = 0.279)		69.53 (p = 0.187)		54.99 (p = 0.086)		23.37 (p = 0.760)	
Variables (Expected sign)	Tobin's Q						Return on assets					
	Total sample		Firms with at least one woman director		Firms without women directors		Total sample		Firms with at least one woman director		Firms without women directors	
	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test
Lag Tobin's Q	0.562***	69.72	0.634***	55.57	0.394***	23.17						

Lag return on assets							0.613***	19.88	0.661***	30.35	0.618***	17.23
Environment reporting	0.312***	3.22	0.954***	7.98	-0.434**	-2.36	-0.028***	-2.82	0.033***	5.84	-0.018	-1.12
CSR Committee	-	-	-	-	-	-	-	-	-	-	-	-
Board size	0.157***	-6.11	0.200***	-5.54	-0.006	-0.06	-0.011***	-3.76	0.010***	-5.10	0.013***	-3.28
Board independence	-0.147**	-2.49	-0.142**	-2.47	0.165	1.46	-0.018***	-4.96	0.004	1.34	0.001	0.16
Board meetings	-	-	-	-	-	-	-	-	-	-	-	-
Women directorship	0.199***	-3.42	-0.042	-0.57	0.112	1.04	-0.006	-1.16	0.009**	2.41	0.001	0.14
CEO duality	-	-	-	-	-	-	-	-	-	-	-	-
CEO Tenure	0.095***	-2.98	0.137***	-3.71	0.239***	-3.96	0.007	1.86	-0.005**	-2.40	-0.004	-0.99
Family ownership	0.002	0.09	0.115***	-5.06	0.076**	2.24	0.004**	2.41	-0.003**	-2.26	0.007***	2.91
Institutional ownership	0.087	1.30	0.023	0.30	0.745**	1.99	0.002	0.45	-0.008**	-2.23	0.024**	2.24
Leverage	0.007	0.10	-0.126**	-2.03	0.209	0.89	-0.003	-0.57	0.013***	-5.02	0.021	1.89
Foreign assets	-	-	-	-	-	-	-	-	-	-	-	-
Beta	2.377***	-15.44	0.774***	-10.93	-0.197	-0.94	-0.218***	-11.98	0.107***	-8.86	0.064***	-3.38
R&D intensity	-0.090	-1.64	-0.123**	-2.53	0.269***	-3.02	0.002	0.45	-0.000	-0.08	-0.009	-1.34
Firm size	0.245***	6.63	0.314***	4.81	0.230	1.48	-0.005	-0.89	0.010***	3.25	0.007	0.92
Intercept	-	-	-	-	-	-	-	-	-	-	-	-
Industry (?)	0.466***	-2.57	0.756***	-3.12	3.032***	3.88	-0.159***	-5.89	0.159***	-11.14	0.005	0.22
Number of observations	0.038***	-2.65	0.058***	-3.48	-0.062	-1.22	0.006***	3.64	-0.002**	-2.02	-0.001	-0.24
F (Prob>F)	1.348***	5.08	1.128***	8.10	1.029	0.26	0.140***	4.00	0.048***	4.34	0.053	0.26
Arellano-Bond test AR(1) (z, p-value):	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Arellano-Bond test AR(2) (z, p-value):	705	437	268	705	705	285						
Sargan test (Chi-square, p-value):	25365.26 (p = 0.000)	87987.55 (p = 0.000)	27394.97 (p = 0.000)	6100.18 (p = 0.000)	6406.63 (p = 0.000)	3308.79 (p = 0.000)						
Hansen test (Chi-square, p-value):	-3.11 (p = 0.002)	-2.75 (p = 0.006)	-1.86 (p = 0.063)	-4.25 (p = 0.000)	-3.17 (p = 0.002)	-2.53 (p = 0.011)						
	1.85 (p = 0.064)	0.82 (p = 0.415)	1.40 (p = 0.160)	1.93 (p = 0.056)	1.91 (p = 0.056)	1.43 (p = 0.153)						
	558.98 (p = 0.000)	193.27 (p = 0.000)	91.98 (p = 0.000)	517.65 (p = 0.000)	549.04 (p = 0.000)	74.78 (p = 0.000)						
	76.73 (p = 0.423)	54.35 (p = 0.186)	34.31 (p = 0.228)	72.41 (p = 0.464)	75.95 (p = 0.384)	23.59 (p = 0.749)						

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

**Table 7** System GMM regression of firm performance on environment reporting

Variables (Expected sign)	Tobin's Q						Return on assets					
	Total sample		Firms with at least one woman director		Firms without women directors		Total sample		Firms with at least one woman director		Firms without women directors	
	Coef	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test
Lag Tobin's Q	0.562***	69.72	0.634***	55.57	0.394***	23.17	0.613**					
Lag return on assets							*	19.88	0.661***	30.35	0.618***	17.23
Environment reporting	0.312***	3.22	0.954***	7.98	-0.434**	2.36	-0.028**	-2.82	0.033***	5.84	-0.018	-1.12

CSR Committee	-	-	-	-	-	-	0.011**	-3.76	-0.010***	-5.10	-0.013***	-3.28
Board size	0.157***	-6.11	0.200***	-5.54	-0.006	0.06	*					
Board independence	-0.147**	-2.49	-0.142**	-2.47	0.165	1.46	0.018**	-4.96	0.004	1.34	0.001	0.16
Board meetings	0.199***	-3.42	-0.042	-0.57	0.112	1.04	-0.006	-1.16	0.009**	2.41	0.001	0.14
Women directorship	0.086***	-2.67	0.070***	-2.71	0.161	1.95	-0.004	-1.60	-0.002	-0.86	0.005	1.35
CEO duality	-0.278	-1.31	-	-	-	-	0.035**	-2.36	-	-	-	-
CEO Tenure	0.095***	-2.98	0.137***	-3.71	-0.239***	3.96	0.007	1.86	-0.005**	-2.40	-0.004	-0.99
Family ownership	0.002	0.09	0.115***	-5.06	0.076**	2.24	0.004**	2.41	-0.003**	-2.26	0.007***	2.91
Institutional ownership	0.087	1.30	0.023	0.30	0.745**	1.99	0.002	0.45	-0.008**	-2.23	0.024**	2.24
Leverage	0.007	0.10	-0.126**	-2.03	0.209	0.89	-0.003	-0.57	-0.013***	-5.02	0.021	1.89
Foreign assets	2.377***	15.44	0.774***	-10.93	-0.197	0.94	0.218**	-11.98	-0.107***	-8.86	-0.064***	-3.38
Beta R&D intensity	-0.090	-1.64	-0.123**	-2.53	-0.269***	3.02	0.002	0.45	-0.000	-0.08	-0.009	-1.34
Firm size	0.245***	6.63	0.314***	4.81	0.230	1.48	-0.005	-0.89	0.010***	3.25	0.007	0.92
Intercept	0.466***	-2.57	0.756***	-3.12	3.032***	3.88	0.159**	-5.89	-0.159***	-11.14	0.005	0.22
Industry (?)	0.038***	-2.65	0.058***	-3.48	-0.062	1.22	0.006**	3.64	-0.002**	-2.02	-0.001	-0.24
Number of observations	1.348***	5.08	1.128***	8.10	1.029	0.26	0.140**	4.00	0.048***	4.34	0.053	0.26
F (Prob>F)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Arellano-Bond test AR(1) (z, p-value):	705	437	268	705	705	285						
Arellano-Bond test AR(2) (z, p-value):	25365.26 (p = 0.000)	87987.55 (p = 0.000)	27394.97 (p = 0.000)	6100.18 (p = 0.000)	6406.63 (p = 0.000)	3308.79 (p = 0.000)						
Sargan test (Chi-square, p-value):	-3.11 (p = 0.002)	-2.75 (p = 0.006)	-1.86 (p = 0.063)	-4.25 (p = 0.000)	-3.17 (p = 0.002)	-2.53 (p = 0.011)						
Hansen test (Chi-square, p-value):	1.85 (p = 0.064)	0.82 (p = 0.415)	1.40 (p = 0.160)	1.93 (p = 0.056)	1.91 (p = 0.056)	1.43 (p = 0.153)						
	558.98 (p = 0.000)	193.27 (p = 0.000)	91.98 (p = 0.000)	517.65 (p = 0.000)	549.04 (p = 0.000)	74.78 (p = 0.000)						
	76.73 (p = 0.423)	54.35 (p = 0.186)	34.31 (p = 0.228)	72.41 (p = 0.464)	75.95 (p = 0.384)	23.59 (p = 0.749)						

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

**Table 8 System GMM regression of firm performance on sustainable development reporting**

Variables (Expected sign)	Tobin's Q						Return on assets					
	Total sample		Firms with at least one woman director		Firms without women directors		Total sample		Firms with at least one woman director		Firms without women directors	
	Coef	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test	Coef.	t-test
Lag Tobin's Q	0.526**	29.84	0.669***	78.01	0.303***	7.20						
Lag return on assets							0.532***	14.01	0.672***	33.38	0.541***	14.64
Sustainable	-	-4.51	0.392***	6.48	-	-4.79	-	-7.48	0.019***	3.73	-	-5.31

development reporting	0.391**				1.068***			0.061***			0.067***	
CSR Committee	-0.095**	-3.48	-0.030**	-1.98	0.042	0.54	0.003	0.98	0.001	0.45	-0.009	-1.60
Board size	0.210**	-3.45	0.018	0.54	-0.024	-0.13	0.026***	-4.30	0.005	1.66	-0.014	-1.83
Board independence	0.314**	-4.01	0.033	0.71	0.036	0.17	-0.001	-0.14	0.007**	2.03	0.001	0.11
Board meetings	0.082*	-2.33	-0.071***	-2.74	0.108	1.11	-0.002	-0.78	0.006***	-2.78	-0.001	-0.14
Women directorship	-0.392	-1.87					-0.014	-0.74				
CEO duality	-0.070	-1.40	-0.077***	-2.83	-0.175**	-2.45	0.009**	2.39	0.005***	-3.56	-0.003	-0.79
CEO Tenure	0.025	1.05	-0.054***	-3.48	0.213***	4.27	0.006**	2.54	-0.002	-1.93	0.011***	2.85
Family ownership	0.093	1.35	-0.085	-1.93	0.779***	3.26	0.007	1.09	-0.006	-1.60	0.029***	3.42
Institutional ownership	0.080	0.71	-0.146***	-3.33	0.218	0.76	0.001	-0.16	0.010***	-3.70	0.012	0.80
Leverage	2.736**	13.95	-0.563***	-6.43	-0.376	-0.92	0.252***	13.82	0.079***	-6.09	-0.065**	-2.22
Foreign assets	-0.080	-1.32	-0.150***	-4.95	-0.115	-0.78	0.009**	2.24	-0.000	-0.05	0.007	1.05
Beta	0.259**	5.29	0.296***	6.69	0.175	1.20	-0.006	-1.20	0.004	1.30	0.006	0.51
R&D intensity	0.099	0.20	-1.606***	-9.34	2.964***	3.32	0.139***	-6.11	0.159***	10.61	-0.048	-1.25
Firm size	0.009	0.77	-0.079***	-7.46	0.041	0.90	0.009**	4.87	-0.002	-1.63	0.008**	1.97
Intercept	1.721**	3.93	0.658***	4.81	-2.166	-0.99	0.128***	4.52	0.047***	4.32	-0.285	-1.13
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	705	437	268	705	437	268	705	437	268	705	437	268
F (Prob> F)	61512.68 (p = 0.000)	22592.75 (p = 0.000)	14734.35 (p = 0.000)	2609.63 (p = 0.000)	16437.92 (p = 0.000)	11017.64 (p = 0.000)	61512.68 (p = 0.000)	22592.75 (p = 0.000)	14734.35 (p = 0.000)	2609.63 (p = 0.000)	16437.92 (p = 0.000)	11017.64 (p = 0.000)
Arellano-Bond test AR(1) (z, p-value):	-3.15 (p = 0.002)	-2.71 (p = 0.007)	-1.85 (p = 0.064)	-4.16 (p = 0.000)	-3.74 (p = 0.000)	-1.85 (p = 0.064)	-3.15 (p = 0.002)	-2.71 (p = 0.007)	-1.85 (p = 0.064)	-4.16 (p = 0.000)	-3.74 (p = 0.000)	-1.85 (p = 0.064)
Arellano-Bond test AR(2) (z, p-value):	1.90 (p = 0.057)	0.70 (p = 0.481)	1.41 (p = 0.158)	1.63 (p = 0.102)	2.01 (p = 0.065)	1.41 (p = 0.158)	1.90 (p = 0.057)	0.70 (p = 0.481)	1.41 (p = 0.158)	1.63 (p = 0.102)	2.01 (p = 0.065)	1.41 (p = 0.158)
Sargan test (Chi-square, p-value):	553.81 (p = 0.000)	192.43 (p = 0.000)	78.67 (p = 0.000)	477.46 (p = 0.000)	112.55 (p = 0.000)	78.67 (p = 0.000)	553.81 (p = 0.000)	192.43 (p = 0.000)	78.67 (p = 0.000)	477.46 (p = 0.000)	112.55 (p = 0.000)	78.67 (p = 0.000)
Hansen test (Chi-square, p-value):	76.65 (p = 0.425)	53.35 (p = 0.213)	34.26 (p = 0.230)	76.03 (p = 0.350)	55.78 (p = 0.109)	34.26 (p = 0.230)	76.65 (p = 0.425)	53.35 (p = 0.213)	34.26 (p = 0.230)	76.03 (p = 0.350)	55.78 (p = 0.109)	34.26 (p = 0.230)

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

### Conclusion

Our study on the relationship between CSR reporting and firm performance has allowed to explore the different research fields related to corporate governance. We used the “Grenelle II de l’Environnement” grid to refer CSR actions included in the annual reports of firms belonging to the SBF 120 index over the period 2001-2010. To our knowledge, we have not identified studies including female representation in the relationship between performance and reporting. We observe that the presence of at least one woman on the board moderates the relationship between CSR reporting and performance. For future research, it seems interesting to focus on the profile of the firm which discloses the most CSR information in its annual report (number of women on boards, sector of activity...). The level of education of women directors may also be an interesting track. In fact, women are more likely to have a doctoral degree than men (Hillman et al., 2002). A study on the typical profile of women (formation) could explain their orientations on boards.

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