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The impact of board traits on the social performance of Canadian firms

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Abstract

Purpose - This paper aims to examine if certain board characteristics have an impact on the corporate social responsibility (CSR) score of corporations.

Design/methodology/approach - The authors' paper analyzes the link between the ratings of CSR of the largest publicly traded Canadian firms (i.e. those included in the S&P/TSX 60 index) and the traits of their boards.

Findings - The authors' examination concludes that the CSR score is positively linked with the percentages of women and independent directors. The study did not find a link in the cases of board characteristics, namely, director's remuneration, director's tenure and director's ownership.

Research limitations/implications - The study focuses on the 60 largest public Canadian firms, which are strongly scrutinized. An analysis that includes smaller firms as well may show different results. Practical implications - To improve the ability of boards of directors to deal with CSR, the appointment of women and independent directors should be given greater emphasis. Data show that all boards in their sample are composed of at least 50 per cent of independent directors, with an average of 80 per cent. Thus, there is a more limited room to ameliorate CSR by adding independent directors. In contrast, women represented, on average, only 14.25 per cent of all directors. Companies wanting to improve their CSR should consider appointing more female participation in their boards.

Originality/value - The paper contributes to the extant literature on corporate governance by presenting evidence of a link between CSR and certain board characteristics.

Keywords Corporate governance, Corporate social responsibility, Board characteristics, Canadian public companies, Female board directors, Independent directors

Paper type Research paper

1. Introduction

Studies of corporate governance, and more specifically, of the characteristics of boards in the post-Sarbanes - Oxley era have been numerous. Nonetheless, they have focused mostly on the financial performance of companies (Zhang et al., 2013). The social performance, when it was addressed, was mainly connected with the presence of women (Zhang et al., 2013; Fernandez-Feijoo et al., 2012) and the ratio of independent directors (Zhang et al., 2013; Huang, 2010). Our research explores the effect of certain board characteristics of Canada's largest companies (i.e. the constituents of the S&P/TSX 60 index) on their social performance. This study is timely, because the Canadian Government is reviewing its regulatory framework of public companies. Corporate social responsibility (CSR) affects a wide range of stakeholders, unlike financial performance, which is more focused on shareholders. This research thus brings in a new perspective of a topic of public interest. To the best of the authors' knowledge, this study is original because it considers the effect on the firm's CSR of a number of board traits, such as the size of the board of directors, and the directors' compensation, tenure and stock ownership. Furthermore, the effect of the presence of women and the independence of directors on CSR has been seldom studied in the Canadian context.

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Our investigation shows that in the context of our sample firms, a female presence has a positive effect on CSR and the ratings on the relationship with the stakeholders' community and with society and its own employees. The link, however, is negative with regard to the environment. The percentage of independent directors is significant for the social performance of the firms and for all of its components, namely, community and society, governance, employees and the environment. The size of the board, and director's compensation, tenure and ownership, were not significant, except for the link between the size of the board and the dimensions of community and society, and relations with employees.

The next section presents a review of the literature and formulates the hypotheses of this study. After that, other sections deal with the methodology and the analysis of the results. A final section wraps up the findings of the article.

2. Literature review and formulation of the hypotheses

2.1 H1 - gender

The role of gender in organizational performance has been the subject of several empirical studies. These include Shrader et al. (1997), which focused on the statistical relationship between the presence of women in top management and the financial performance of 200 large US companies. Their results show that companies with a higher number of women in top management exhibit superior financial performance. Moreover, Adler (2001), using a sample of 215 large firms, showed that companies that tend to promote women exhibited higher profitability. Furthermore, Carter et al. (2003) found a positive relationship between the representation of women on the board and firm value. It is important to note that other research indicates no positive effect on organizational performance resulting from the presence of women in the company governance structure (Böhren and Ström, 2005; Randoy et al., 2006). Overall, most studies suggest that women manage differently than men and that their style of management improves the financial performance of companies. From this observation, some researchers go a step further and investigate the link between CSR, the presence of women in the governance structure and organizational performance (Harjoto and Jo, 2011). The issue of social performance of firms is a topic that currently attracts wide attention from researchers in management science. However, very few studies have been conducted to understand how gender, and in particular the female presence in the corporate governance structures, affects CSR practices implemented by some companies (Bear et al., 2010).

St-Pierre et al. (2011) show that women focus more on sustainable development and CSR compared to their male counterparts. Zhang et al. (2013) present empirical evidence that a strong female presence on boards is positively related to higher CSR ratings of the company compared to other companies in its sector. Their sample included more than 500 of the largest US companies, operating in 64 different industries. The study of Bear et al. (2010) found a positive relationship between the presence of women on the board and CSR, arguing that women bring to the board sensitivity toward CSR and a participatory decision-making style.

On the basis on the above discussion, we formulate the following hypotheses:

- H1. The CSR is positively related to the female presence on the board of directors.
- H1COM. Social responsibility toward community and society are positively related to the female presence on the board of directors.
 - H1CG. Governance is positively related to the female presence on the board of directors.
- H1EMP. Social responsibility toward employees is positively related to the female presence on the board of directors.
- H1ENV. Social responsibility toward the environment is positively linked to the female presence on the board of directors.

2.2 H2 - the percentage of independent directors

Independent directors are individuals serving in a company board who are neither officials of that particular company, nor work, or have a financial stake, in companies having business dealings with the firm. The NYSE Euronext (2013) stock exchange has enacted an "independent test" by means of which "No director qualifies as 'independent' unless the board of directors affirmatively determines that the director has no material relationship with the listed company (either directly or as a partner, shareholder or officer of an organization that has a relationship with the company)". Whether independent directors are good monitors of management, able or willing to serve the shareholders who appoint them well is a question open to debate (Shleifer and Vishny, 1997). Some observers argue that boards only intervene in cases of egregious violations of shareholder interests (Wright, 2004), while others contend that there is empirical evidence of the capacity of boards to control self-dealing managerial behavior (Anderson et al., 2004; Uzun et al., 2004).

In the aftermath of the Enron, WorldCom and other scandals, the USA passed the Sarbanes - Oxley Act (SOX) in 2002. As a consequence of the enactment of SOX, company boards are increasingly populated by independent directors, i.e. outsiders (Zhang et al., 2013). Empirical data shows that the growing presence of outsiders in public firms (and other governance rules) has been also been mirrored in the boardrooms of Canadian public firms (Anand et al., 2012). According to the authors, there are a number of factors behind this evolution of Canadian regulation. For instance, in 2004, Canadian regulators started to mandate governance practices concerning the composition of the audit committee and financial certification that are largely reminiscent of the SOX provisions. Moreover, firms have an interest in signaling to potential investors their desire to comply with astringent practices, thus adopting SOX provisions (including independence), as Anand et al. (2012) have also pointed out.

The trend toward an enhanced presence of outside directors leads Zhang et al. (2013) to inquire as to its consequence for the CSR performance of publicly traded firms. Our research investigates precisely this matter in the context of Canadian capital markets. Intuitively, changes in the design of corporate governance of firms should have consequences on their performance. We should highlight, however, that the theoretical underpinnings of the outside director potential impact on CSR performance are less clear. On one hand, the debate on the value-creation merits of CSR investments is still open. CSR investments can or cannot be drivers of value-creation. Likewise, boards may or may not be an able mechanism to align managerial interests with those of shareholders. On the other hand. Zhang et al. argue that outside directors have a stronger CSR orientation than their inside counterparts. This CSR-leaning orientation could stem from independent directors having a more diverse background, or because they represent external stakeholders of the firm. Ultimately, the answer to the question of the impact of outside directors on CSR ought to be empirical. Zhang et al. (2013) report that outside directors have a positive impact on the CSR of the US firms in their sample. Harjoto and Jo (2011) found the company's choice of CSR to be positively related to the percentage of independent directors serving in the board. Huang (2010) found a positive link between independent board directors and CSR, on the basis of a sample of 297 electronics companies in Taiwan. Prado Lorenzo et al. (2009) report a positive relation between independent directors and CSR reporting. Unlike the precedent articles, Said et al. (2010) examined the link between board independence and CSR disclosure in the context of publicly listed Malaysian companies. They reject the hypothesis of a positive relationship between the two constructs.

On the basis of the above discussion, we formulate the following hypotheses:

H2. CSR is positively related to the percentage of independent board members.

H2COM. Social responsibility toward community and society is positively related to the percentage of independent directors.

- H2CG. Governance is positively related to the percentage of independent board members.
- H2EMP. Social responsibility toward employees is positively related to the percentage of independent directors.
- H2ENV. Social responsibility toward the environment is positively related to the percentage of independent board members.

2.3 H3 - the size of the board of directors

The size of the board has mainly been studied in terms of its relation to firm performance. In this regard, there are two schools of thought. A first stream of research argues that governance, and by extension, the companies' financial performance, is positively related to the size of the board. A high number of directors would have more links with the external environment and thus have access to more resources (Chang, 2010) and contributes to the diversification of expertise around the board table (Chaganti et al., 1985). Some empirical studies show a positive connection between the size of the board and lower borrowing costs (Anderson et al., 2004) and a higher market value in smaller underperforming companies (Larmou and Vafeas, 2010). In addition, stock markets react positively to an increase in the number of directors and negatively to a decrease (Larmou and Vafeas, 2010). Against their expectations, Said et al. (2010) found a positive relationship between the size of the board and an index reflecting the level of disclosure of companies' CSR.

A second school of thought argues that the effectiveness of a board decreases with the number of directors. The small size facilitates efficiency (Jensen, 1993), participation (Firstenberg and Malkiel, 1994) and cohesion (Jensen, 1993) on the board of directors. Kayanga (2008) reported a negative relationship between board size and the financial performance for non-financial companies. The small size also promotes accountability for directors making bad decisions (Said et al., 2010).

Our hypothesis points to a negative relationship between CSR and the size of the board. It is based, among other things, on the lack of accountability that would lead to each director being personally less concerned about a poor performance in terms of CSR and thus being less inclined to defend CSR around the board table. Assumptions about other dimensions studied are formulated according to the same logic:

- H3. CSR is negatively related to the number of directors on the board.
- H3COM. Social responsibility toward community and society is negatively linked to the number of directors on the board.
 - H3CG. Governance is negatively linked to the number of directors on the board.
- H3EMP. Social responsibility is negatively related to the number of directors on the board.
- H3ENV. Social responsibility toward the environment is negatively related to the number of directors on the board.

2.4 H4 - director compensation

Higher compensation should allow firms to attract more prestigious, highly qualified board directors. The latter, concerned about their reputations in the community, may tend to influence decisions in favor of investments in CSR because they do not actually have to bear the costs, but are partly able to enjoy the good publicity, enhancing their attractiveness in the corporate directors' market (Fama and Jensen, 1983), leading to invitations to sit on other boards. They may also want to demonstrate that they are effective in their monitoring of the management team (Weisbach, 1988). One dimension of this monitoring may be to ensure appropriate top-management decisions in terms of CSR practices and to maintain a consistent image or reputation. Thus, our hypotheses propose a positive relationship between director compensation and CSR, and a positive link with the various dimensions of CSR:

- H4. CSR is positively related to director compensation.
- H4COM. Relationship with community and society is positively related to director compensation.
 - H4CG. Governance is positively related to director compensation.
- H4EMP. Social responsibility toward the environment is positively related to director compensation.
- H4ENV. Social responsibility toward the environment is positively related to director compensation.

2.5 H5 - the number of tenure years of directors

The number of tenure years of a director on a public company's board represents a relevant characteristic, which can result in his influence being enhanced. This feature is highly valued in the sense that a longer tenure enhances the director's understanding of the company and its operations, thus facilitating the choice of optimal solutions leading to a good financial performance (Kesner, 1988). Kesner reports that directors could take a minimum of three to five years, and sometimes more, to understand the strategies and processes of an organization, to have a positive influence on its performance. The average tenure on the board can be explained by a number of factors, including events related to organizational management and decisions by the directors themselves. For example, a change of directors can be motivated by a newly appointed chief executive officer (CEO) exercising his influence to elect directors who are favorable to him (Hermalin and Weisbach, 1991) or by poor financial performance, requiring a restructuring of the board of directors, so as to achieve better control of the overall management of the company (Hermalin and Weisbach, 1988). On the other hand, it seems that the prestige and monetary gains associated with board directorship in a public company encourage directors to remain in office as long as possible (Huang, 2013). However, some observers argue that directors with too long a tenure may be co-opted by top management, inhibiting the critical thinking of those directors whose appointment was meant to safeguard the interests of investors. Longer director tenure, it has been also argued, leads to a lack of inspiration and new ideas that a new cohort of directors could bring.

Moreover, a recent study in the USA suggests that there is an inverted U relationship between the number of tenure years of directors and the firm's value in terms of overall performance, strategies and innovation. Various factors, such as the complexity of the firm, the influence of the CEO on the election of directors, and the availability and quality of the directors on the market, are taken into account in assessing the ideal term of a director on a public company's board. According to this empirical study, nine years would be the ideal term, while directors of American companies sit on their boards for 8.7 years, a figure similar to that for Canadian directors, who serve an average of 8.6 years. In addition, several of the largest companies have at least one member who has been sitting on the board for 20 years or more (Huang, 2013). In the UK, the average tenure of board directors is 4.5 years. The difference is due to the establishment of a governance code (Spizzirri, 2013). For example, in France, after 12 years of serving on the board, the status of a director changes and he is no longer considered independent, while in Australia and the UK, this limit is reduced to nine years (McFarland, 2013). Nonetheless, at present, no code in Canada regulates this aspect of governance, although it seems that 8 per cent of the largest public companies regulate themselves by limiting the number of years of tenure of their directors. This approach seems to be in accordance with Huang's (2013) argument to the effect that one rule does not fit all types of public enterprises, because of the various influencing factors listed above. On the other hand, the Canadian Coalition for Good Governance, which represents large institutional investors in Canada, is not pushing for a restriction on the number of years of director service, but it rather encourages their rotation and the appointment of more women on boards (McFarland, 2013), Leblanc and Gillies (2003) argue that it is the board's decision-making process that matters, as well as its ability to make appropriate decisions on the appointment and supervision of managers and the influence that directors exercise on firm performance, rather than the directors' tenure.

Moreover, researchers studying the corporate governance adopted by socially performing companies tend to focus on director independence (Harjoto and Jo, 2011; Huang, 2010; Prado Lorenzo et al., 2009; Said et al., 2010; Zhang et al., 2013) and on gender representation on boards of directors (Bear et al., 2010; Fernandez-Feijoo et al., 2012; Khan, 2010; Zhang et al., 2013) as determinants of company performance in terms of social responsibility. To the best of our knowledge, few authors have investigated the impact that board director tenure may have on CSR. Krüger (2010) found an inverse relationship between the lapse of time that directors have been serving on the board and the occurrence of socially irresponsible events, without establishing a positive relationship between the directors' number of tenure years and the occurrence of positive socially responsible events.

The previously cited studies lead us to believe that one of the determinants of a public company's global performance, which includes the various dimensions of social responsibility, could come from the number of tenure years of directors. Therefore, we formulate the following hypotheses:

- H5. CSR is positively related to the number of tenure years of the directors on the board.
- H5COM. Social responsibility toward community and society is positively related to the number of years that the directors have been serving on the board.
- H5CG. Governance is positively related to the number of tenure years of directors.
- H5EMP. Social responsibility toward employees is positively related to the number of years that directors have been serving on the board.
- H5ENV. Social responsibility is positively related to the number of years of tenure years of directors.

2.6 H6 - director ownership

In recent years, companies have greatly increased the amount of resources allocated to CSR activities. A study by the Institut français des administrateurs surveyed directors serving on the boards of companies listed in the Paris Stock Exchange and included in the CAC 40 index. For a large majority of directors, CSR involves risks in terms of image and corporate reputation, which justifies their engagement in activities related to CSR. Investment in CSR can therefore bring a personal benefit, improving the reputation of the director as an exemplary citizen in the matter.

According to Barnea and Rubin (2010), insiders such as managers and controlling shareholders of large US companies encourage their companies to over-invest in CSR when they do not bear a large proportion of costs. In a study on Malaysian companies, Nazli and Ghazali (2007) report that in firms where directors hold a higher percentage of shares (owner-controlled businesses), less information is revealed about the performance in terms of CSR, while companies with a majority of stocks held by the government disclose more detailed information on CSR in their annual reports. Jiraporn and Chintrakarn (2013) note that a CEO enjoying relatively less power in the corporation he runs will be less committed to CSR. That commitment will increase as the power vested in the CEO increases. However, when the CEO becomes entrenched within the company and reaches a certain threshold of decision-making powers, the investment in CSR decreases. Mahoney and Thorne (2006) studied the effect of the structure of executive compensation on their commitment to CSR, among other things, using a sample of 77 Canadian companies. The authors find a positive and significant relationship between the salary of the CEO and CSR weaknesses. Their results also suggest that the structure of executive compensation, such as that of the CEO, can serve as an effective tool to encourage managers to undertake socially responsible actions if more socially responsible companies are desired. In a recent study. Sovon et al. (2013) examine the relationship between managerial ownership and the different dimensions of CSR in the US hotel industry. The results show a significant negative correlation between the structure of managerial ownership and one dimension of CSR. namely, the relationship with employees. However, Soyon et al. (2013) noted an insignificant correlation between the structure of managerial ownership and the environmental dimension of CSR.

In accordance with the results of Barnea and Rubin (2010), our hypotheses propose a positive link between director stock ownership and CSR and its components:

- H6. CSR is positively related to director stock ownership.
- H6COM. Social responsibility toward community and society is positively related to director stock ownership.
- *H6CG*. Governance is positively related to director stock ownership.
- H6EMP. Social responsibility toward employees is positively related to director stock ownership.
- H6ENV. Social responsibility toward the environment is positively related to director stock ownership.

3. Model, methodology and sample

To test the hypotheses of the study, we ran a number of ordinary least-squares regressions with CSR (or its components) as the dependent variables. The equations involve market capitalization to control for firm size. Previous literature suggests that larger firms may have an edge in providing goods with CSR attributes, because there are economies of scale and economies of scope in the provision of such goods (McWilliams and Siegel, 2001). It is possible to argue as well that larger firms attract the keen interest of stakeholders, who devote larger resources to the monitoring of the CSR performance of those firms.

Other control variables are dichotomous and are inserted to isolate the effect of the basic materials, energy and financial sectors, and to take into account the impact of family-owned firms. Variables related to the research hypotheses are then added. The equations' dependent variables are CSR (equation [1]), community and society (equation [2]), corporate governance (equation [3]), employees (equation [4]) and environment (equation [5]):

$$\begin{split} \text{CSR}_{i,t} &= \beta_0 + \beta_1 \text{MV}_{i,t} + \beta_2 \text{MAT}_{i,t} + \beta_3 \text{ENE}_{i,t} + \beta_4 \text{FIN}_{i,t} + \beta_5 \text{FAM}_{i,t} + \beta_6 \text{GEN}_{i,t} \\ &+ \beta_7 \text{IND}_{i,t} + \beta_8 \text{SIZE}_{i,t} + \beta_3 \text{REM}_{i,t} + \beta_4 \text{TEN}_{i,t} + \beta_5 \text{OWN} + \mu_{i,t} \end{split} \tag{1}$$

$$\begin{aligned} \text{COM}_{i,t} &= \beta_0 + \beta_1 \text{MV}_{i,t} + \beta_2 \text{MAT}_{i,t} + \beta_3 \text{ENE}_{i,t} + \beta_4 \text{FIN}_{i,t} + \beta_5 \text{FAM}_{i,t} + \beta_6 \text{GEN}_{i,t} \\ &+ \beta_7 \text{IND}_{i,t} + \beta_8 \text{SIZE}_{i,t} + \beta_3 \text{REM}_{i,t} + \beta_4 \text{TEN}_{i,t} + \beta_5 \text{OWN} + \mu_{i,t} \end{aligned} \tag{2}$$

$$\begin{split} \text{CG}_{i,t} &= \beta_0 + \beta_1 \text{MV}_{i,t} + \beta_2 \text{MAT}_{i,t} + \beta_3 \text{ENE}_{i,t} + \beta_4 \text{FIN}_{i,t} + \beta_5 \text{FAM}_{i,t} + \beta_6 \text{GEN}_{i,t} \\ &+ \beta_7 \text{IND}_{i,t} + \beta_8 \text{SIZE}_{i,t} + \beta_3 \text{REM}_{i,t} + \beta_4 \text{TEN}_{i,t} + \beta_5 \text{OWN} + \mu_{i,t} \end{split} \tag{3}$$

$$\begin{split} \mathsf{EMP}_{i,t} = \ \beta_0 \ + \ \beta_1 \mathsf{MV}_{i,t} + \ \beta_2 \mathsf{MAT}_{i,t} + \ \beta_3 \mathsf{ENE}_{i,t} + \ \beta_4 \mathsf{FIN}_{i,t} + \ \beta_5 \mathsf{FAM}_{i,t} + \ \beta_6 \mathsf{GEN}_{i,t} \\ + \ \beta_7 \mathsf{IND}_{i,t} + \ \beta_8 \mathsf{SIZE}_{i,t} + \ \beta_3 \mathsf{REM}_{i,t} + \ \beta_4 \mathsf{TEN}_{i,t} + \ \beta_5 \mathsf{OWN} + \ \mu_{i,t} \end{split} \tag{4}$$

$$\begin{split} \mathsf{ENV}_{i,t} = \ \beta_0 \ + \ \beta_1 \mathsf{MV}_{i,t} \ + \ \beta_2 \mathsf{MAT}_{i,t} \ + \ \beta_3 \mathsf{ENE}_{i,t} \ + \ \beta_4 \mathsf{FIN}_{i,t} \ + \ \beta_5 \mathsf{FAM}_{i,t} \ + \ \beta_6 \mathsf{GEN}_{i,t} \\ + \ \beta_7 \mathsf{IND}_{i,t} \ + \ \beta_8 \mathsf{SIZE}_{i,t} \ + \ \beta_3 \mathsf{REM}_{i,t} \ + \ \beta_4 \mathsf{TEN}_{i,t} \ + \ \beta_5 \mathsf{OWN} \ + \ \mu_{i,t} \end{split} \tag{5}$$

where:

 $CSR_{i,t}$ = Jantzi social responsibility score of firm i at the year-end t.

 $COM_{i,t}$ = Jantzi community and society score of firm i at the year-end t.

 $CG_{i,t}$ = Jantzi corporate governance score of firm i at the year-end t.

 $EMP_{i,t}$ = Jantzi employee score of firm *i* at the year-end *t*.

 $ENV_{i,t}$ = Jantzi environment score of firm *i* at the year-end *t*.

- $MV_{i,t}$ = Market value of common equity of firm i at year-end t.
- MAT_{i+} = Dummy variable set to one if firm i is in the mining and metals sector at year-end t, and set to zero otherwise.
- $ENE_{i,t} = Dummy variable set to one if firm i is in the energy at year-end t, and set$ to zero otherwise.
- $FIN_{i,t}$ = Dummy variable set to one if firm i is in the financial sector at year-end t, and set to zero otherwise.
- $FAM_{i,t}$ = Dummy variable set to one if firm i is controlled by a family at year-end t, and set to zero otherwise.
- GEN_{i+} = The percentage of female directors serving in the board during fiscal period t for
- IND_{i,t} = The percentage of independent directors serving in the board during fiscal period t for company i.
- $SIZE_{i,t}$ = The number of directors serving on the board during fiscal period t for company i.
- $REM_{i,t}$ = Average total director compensation during fiscal period t for company i.
- OWN_{i,t} = The percentage of common shares outstanding held by directors in fiscal period t for company i.
- TEN_{i+} = The directors' average number of years of tenure on the board in fiscal period t for company i.
- = Error term. $\mu_{\mathsf{i},\mathsf{t}}$

3.1 Sample

The sample consists of the constituent companies of the S&P/TSX 60 Index as of July 1, 2011. This index includes Canada's largest public companies. The reporting period covers five years, from 2004 to 2008. The potential number of observations is 300. Of these, 108 observations were removed due to missing data.

The value of the shares has been obtained using the Thomson Reuters database. The number of common shares outstanding was compiled from financial statements available on the SEDAR Web site. The aggregated rating of CSR, and its components, namely, community and society, corporate governance, employees and environment, were obtained from the database created by Michael Jantzi Research Associates, which rates the social performance of numerous Canadian companies. Industrial sectors were identified using the classification used by the Canadian newspaper The Globe and Mail (2012). The data on family voting rights, the percentage of female directors, the percentage of independent directors, the number of directors on the board, the average total compensation of directors, the percentage of common shares held by directors and the number of years of director tenure were compiled from the information circulars, which have been gathered as well from the SEDAR Web site (Table I).

4. Results

4.1 Descriptive analysis

The average firm size, measured by market capitalization, is in the range from 0.773 to 74.9 billion, with an average of 17.7 billion and a standard deviation of 15.9 billion (values stated in Canadian dollars). The social responsibility rating firm, Jantzi, evaluates companies on a scale from 0 to 10, with 10 being the highest score. The average overall score of sample firms is 5.46, with extreme values of 3.63 and 7.72. The dispersion of ratings is moderate, with a standard deviation of 0.84. The average value of the community and society, governance, employees and environment components are 5.21, 7.06, 5.01 and 5.66, respectively. The standard deviation of these measures is slightly higher than that observed for the overall rating.

Table I Desc	criptive data					
Variables ^a	No. of observations	Minimum	Maximum	Mean	SD	
MV (millions)	192	773	74,856	17,732	15,971	
CSR	192	3.63	7.72	5.46	0.84	
COM	192	1.81	8.87	5.21	1.72	
CG	192	4.2	9.07	7.06	1.03	
EMP	192	2.39	7.51	5.01	1.21	
ENV	192	3.00	8.89	5.66	0.99	
GEN	192	0%	40%	14.25%	8.79%	
IND	192	50%	94%	79.89%	12.42%	
SIZE	192	5	18	12.59	2.75	
REM	192	40,416	760,161	177,293	102,307	
TEN	192	0.4	15.38	6.80	2.72	
OWN	192	0.01%	69.28%	5.51%	14.35%	

Notes: ${}^{a}MV_{i,t} = Market value of common equity of firm i at year-end t; CSR_{i,t} = Jantzi social$ responsibility score of firm i at the year-end t, $COM_{i,t} = Jantzi$ community and society score of firm i at the year-end t; CGit = Jantzi corporate governance score of firm i at the year-end t; EMPit = Jantzi employee score of firm i at the year-end t, $ENV_{i,t} = Jantzi$ environment score of firm i at the year-end t, GEN_{i,t} = The percentage of female directors serving in the board during fiscal period tfor company i, $IND_{i,t}$ = The percentage of independent directors serving in the board during fiscal period t for company i; SIZE $_{i,t}$ = The number of directors serving on the board during fiscal period t for company i; REM_{i,t} = Average total director compensation during fiscal period t for company i; $TEN_{i,t}$ = The directors' average number of years of tenure on the board in fiscal period t for company i; OWN_{i,t} = The percentage of common shares outstanding held by directors in fiscal period t for company i

Women represented on average 14.25 per cent of directors, with a standard deviation of 8.8 per cent in the boards of directors of companies included in our sample, which are the largest listed companies in Canada. The minimum value is 0 and the maximum is 40 per cent. Therefore, there is no board with a majority (no "of") female representation. All boards are composed of at least 50 per cent of independent directors, with an average of 80 per cent. The average board size varies from 5 to 18 members with an average value of 12.6. The average annual revenue of a director is about \$177,000. The board with the lowest average earnings pays \$40,416, while the highest remuneration amounts to \$760,161, largely due to the granting of call options. The average number of tenure years of directors is 6.8, with a standard deviation of 2.7. The board with the longest number of tenure years of directors shows an average of 15.4 years for board directors sitting on it. The average combined ownership of directors is 5.51 per cent, with a standard deviation of 14.35 per cent, which is quite large. The presence of family-owned firms which have appointed family members to the board is a factor explaining the situation (Table II).

4.2 Tests of hypotheses

The control variables and those associated with the research hypotheses can explain the variation of CSR ratings and its components quite well. In fact, all regressions are significant at a threshold of 99 per cent. The percentage of the variation of the aggregated score of CSR explained by the regression is 41.1 per cent, as measured by the adjusted R^2 . The same statistic in the case of the regressions involving the components of CSR goes from a maximum value of 44.4 per cent for community and society and a minimum of 15.1 per cent for the Environment component.

4.3 Corporate social responsibility

The estimated coefficients of the variables associated with the research hypotheses on gender and independence were positive and significant at thresholds of 95 and 99 per cent, respectively. The results thus confirm our research hypotheses that both female presence on the boards and the independence of directors positively influence companies in their decisions related to CSR. The results regarding the presence of women are in line

	Expected	CS	R	CO	M	CG	3	EMI	P	EN	V
Variables	sign	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t
Constante		2.42	4.06***	-0.59	-0.50	5.36	6.68***	1.55	1.74*	4.26	5.08**
MV	+	8.09E-12	2.15**	1.84E-11	2.48**	7.45E-12	1.47	1.36E-11	2.42**	2.24E-12	0.41
MAT	?	-0.15	-1.07	-0.37	-1.34	0.56	2.98***	0.30	1.44	-0.60	-3.07*
ENE	?	0.16	1.05	0.25	0.79	0.59	2.83***	0.62	2.67***	-0.39	-1.78*
FIN	?	0.47	2.75***	0.85	2.51**	-0.01	-0.06	0.69	2.67***	0.54	2.25**
=AM	+	0.07	0.35	0.20	0.52	-0.57	-2.21**	-0.08	-0.27	0.38	1.41
GEN	+	1.55	2.53**	4.28	3.52***	1.31	1.60	2.31	2.51**	-2.13	-2.48*
ND	+	2.51	4.48***	2.82	2.54**	1.96	2.60***	2.07	2.46**	1.94	2.46*
SIZE	+	0.03	1.32	0.16	3.22***	-0.01	-0.33	0.11	2.82***	0.02	0.44
REM	+	-1.15E-8	-0.02	2.26E-7	0.24	-2.31E-7	-0.36	1.14E-7	0.16	5.84E-7	0.86
ΓEN	+	0.03	1.18	1.29	0.20	-0.02	-0.52	-0.06	-1.64	-0.02	-0.61
NWC	+	-0.01	-1.16	-0.001	-0.09	0.002	0.39	0.000	0.05	-0.01	-1.03
V		192		192		192		192		192	
72		0.445		0.476		0.322		0.388		0.20	
Adjusted-R ²		0.411		0.444		0.281		0.350		0.151	

with St-Pierre et al. (2011), Bear et al. (2010) and Zhang et al. (2013), and those related to independence are in line with Zhang et al. (2013), Harjoto and Jo (2011) and Prado Lorenzo et al. (2009).

The estimated coefficients of the variables associated with the other hypotheses were not significant. The control variables show a positive relationship between company size and CSR. The results indicate that companies in the financial industry have higher scores, which is not surprising given the nature of their activities.

4.4 Community and society component

For the community and society component of CSR, the variables associated with gender, independence and with the number of directors were all significant and positive at thresholds of 99, 95 and 99 per cent, respectively. Results confirm our hypotheses that the presence of females and the independence of directors positively influence their decisions regarding community and society. The result regarding the size of the board of directors does not uphold our expectation of a lack of accountability for larger boards. This result can be explained by an expanded number of directors bringing to the board more external links with the community and a diversification of expertise (Chang, 2010), positively influencing the board to take into account the interests of the community and society when dealing with top management. It is worth mentioning that in line with our study, Said et al. (2010) have reported a positive relationship between board size and the level of disclosure of CSR performance, although the result was against their expectations.

The estimated coefficients of variables associated with director compensation, the number of tenure years of board directors and shareholdings were not significant. There is a positive relationship between company size and the community and society score. The results indicate that the companies in the financial sector have a higher score.

4.5 Governance component

The only significant estimated coefficient is associated with the presence of independent directors. This variable is positive and significant at a threshold of 99 per cent. The governance component is the only one for which the estimated coefficient of percentage of female directors is not significant (it is negative and significant for the environment component). However, the coefficient associated with the percentage of female directors is positive and significant at a threshold of 88 per cent. The control variable statistics suggest that governance practices are better in the basic materials and energy sectors, whereas family-owned companies adopt less effective governance practices.

4.6 Employee component

In regard to the employee component, the variables associated with the research hypotheses on gender, independence and board size are all significant and positive at thresholds of 95, 95 and 99 per cent, respectively. The results thus confirm our hypotheses that the women's presence and the independence of directors positively influence companies in their decisions regarding employees. Contrary to our expectations, we found that larger boards tend to establish more favorable policies for employees. The control variables indicate that larger companies and those in the energy and finance industries have higher scores for the employee component.

4.7 Environment component

In conformity with our research hypothesis, the variable associated with the independence of directors is positive and significant at 95 per cent. Therefore, a larger proportion of independent directors favors a greater consideration of the environmental aspect. Contrary to the hypothesis, the gender variable is negative and significant at a threshold of 95 per cent. The female presence on boards of directors is thus associated with companies with a lower score on the environmental aspect. A possible explanation is that companies seek to overcome bad environmental performances by presenting a positive image in regard to the integration of women on their board of directors. The other variables associated with the research hypotheses were non-significant. The variables isolating the basic materials and energy sectors were both negative and significant at thresholds of 99 and 95 per cent, respectively. These results are not surprising, given the effect of their operations on the environment. Inversely, the financial sector, which has little impact on the environment, had a positive and significant coefficient at a threshold of 95 per cent.

5. Conclusion

At the beginning of the twenty-first century, regulatory authorities and companies began to review their governance policies because of the financial scandals of the late 1990s and early 2000s. A decade later, the Canadian Government is looking to revise its legislation. This research aims to determine if the social performance of the largest Canadian public companies, as measured by the Jantzi Research notation agency, is influenced by certain characteristics of the boards of directors. The research also looked at various components of CSR, such as community and society, governance, employees and the environment. The study covers the five-year period from 2004 to 2008, and the characteristics of the boards taken into consideration were gender, independence of directors, size of the board, director compensation, the number of tenure years of directors and director stock ownership.

Our results support those reported in previous studies by Zhang et al. (2013), Fernandez-Feijoo et al. (2012) and Huang (2010), regarding the role that the presence of women on boards and the independence of directors play in explaining social performance in terms of an aggregated measure of CSR and its various components. The other variables associated with the research hypotheses were non-significant in most cases, except in the case of board size for the community and society and the employee components. Regulatory bodies should be sensitive to the fact that the effects of the characteristics of boards of directors on the CSR have an impact on a larger number of stakeholders than simple financial performance. To improve the ability of boards of directors to deal with CSR, the appointment of women and independent directors should be given greater emphasis.

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