

Corporate governance rating and financial performance: a Canadian study

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Abstract

Purpose – *This paper aims to examine whether the corporate governance rankings published by a market information intermediary are reflected in the values that investors accord to firms.*

Design/methodology/approach – *Panel data from 289 Canadian firms in the four-year period 2002-2005 were analyzed using a price model.*

Findings – *The results suggest that the corporate governance rankings published by the market information intermediary are related to not only firm market value, but also to accounting results.*

Practical implications – *This study provides empirical observations that would be useful for various organizations involved in the regulation of corporate governance practices and the standardization of relevant data elements.*

Originality/value – *This study contributes to the literature by demonstrating that information published by an information intermediary is reflected in firm market values. Moreover, this information appears to be related to the accounting results. Thus, good governance rankings are reflected in the accounting results.*

Keywords *Corporate governance, Financial markets, Investors, Canada*

Paper type *Research paper*

1. Introduction

The need for corporate governance to limit conflicts of interest between shareholders and managers, and especially the costs generated by such conflicts, is not a new phenomenon. Berles and Means (1932) had argued that managers must be controlled in order to avoid losses. Financial scandals, as seen at Enron, WorldCom, and Nortel in North America and Parmalat in Europe, and the astronomical costs associated with them, have reinforced this argument. As we have seen, such scandals can cause financial markets to drop sharply, jobs to be lost and pension plan values to plummet. For example, the largest American pension fund lost over one billion dollars through its investments in WorldCom (Reuter, 2002). The Caisse de dépôt et placement du Québec, the largest pension fund in Canada, saw the value of its Nortel investments drop by five billion dollars between August 2000 and the end of December 2004 (Girard, 2006).

Financial scandals in several countries have served as justification for new legislation to regulate corporate governance practices. For instance, the USA passed the Sarbanes-Oxley Act in 2002 (Beasley and Elder, 2005). In 2005, the Financial Reporting Council (FRC) in the UK updated the Turnbull Guidance on Internal Control to be consistent with internal control reporting requirements as set out in Section 404 of the Sarbanes-Oxley Act and the related SEC rules. New regulations were established in Canada as well (Barnes *et al.*, 2004), where, most notably, the Ontario Securities Commission (OSC) addressed the responsibilities and composition of the Audit Committee (National instrument NI 52-110), the roles of both the chief executive officer and the chief financial officer to ensure the accuracy and quality of reported information, (NI 52-108), and auditor oversight (NI 52-108). In 2005,

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the OSC also set up new guidelines for corporate governance (NI 58-201) and the disclosure of corporate governance mechanisms (NI 58-101).

Corporate governance also drew attention from some capital market participants, market information, intermediaries, and academics. Capital market participants in particular needed to identify situations that could give rise to earnings management or other opportunistic behavior. In response, some market information intermediaries, such as Standard and Poor's, Governance Metrics International, Institutional Shareholder Services, and Canadian newspaper *The Globe and Mail*, developed corporate governance ranking systems for capital market participants. The objective of this paper is to examine whether one such corporate governance practices ranking system, published by *The Globe and Mail*, provides useful information to investors. We will do this by investigating the relationship between the *Globe and Mail's* corporate governance rankings and the financial performance of the firms. If the market participant uses the information included in the corporate governance rankings, we should observe a significant and positive relationship between the corporate governance rankings and stock prices.

A stock market valuation model was used to examine this issue with a sample of 796 observations from 289 Canadian companies over the period 2002-2005. Our results suggest that the *Globe and Mail's* corporate governance rankings do have an effect on investors that are reflected in stock prices. Our results also suggest that the corporate governance rankings are at least partly reflected in accounting results.

This paper contributes to the literature in several ways. First, it adds new empirical evidence to that of past studies that addressed the relationships between firm value and corporate governance practices. Second, it triangulates the results of certain studies conducted in the Canadian context (Gupta *et al.*, 2006; Klein *et al.*, 2005) by using a price model, rather than a returns model, drawing on a relatively large number of observations. This paper also has significant practical implications. It provides new empirical results that would be useful for various organizations involved in the regulation of corporate governance practices and the standardization of governance-related data. For example, the results support several recommendations put forward by the Canadian Institute of Chartered Accountants on director independence (Lindsay, 2005) and the need for a formal system to assess the performance of the board and individual directors (Leblanc, 2005) and the number and value of stock options granted (Greville and Crawford, 2003).

The remainder of the paper is organized as follows: section 2 reviews the relevant literature, section 3 describes the empirical model and the sample, section 4 presents the main results, and section 5 reports the main conclusions of the study, its limitations and potential avenues for future research.

2. Literature review

Shleifer and Vishny (1997) propose a broad definition of corporate governance: corporate governance concerns the ways in which suppliers of funds and the corporations themselves ensure returns on investment. This definition is based on agency theory and the principal-agent relationship, which posits that the delegation of management responsibilities by the principal to the agent creates problems of adverse selection and moral hazard that result in agency costs:

An entrepreneur, or a manager, raises funds from investors either to put them to productive use or to cash out his holding in the firm. The financiers need the manager's specialized human capital to generate returns on their funds. The manager needs the financiers' funds, since he either does not have enough capital of his own to invest or else wants to cash out his holding. But how can financiers be sure that, once they sink their funds, they get anything but worthless pieces of paper back from the manager? The agency problem in this context refers to the difficulties financiers have in assuring that their funds are not expropriated or wasted on unattractive projects (Shleifer and Vishny, 1997, pp. 740-1).

In order to minimize these agency costs, a good corporate governance system should provide some kind of legal protection for the rights of both large and small investors (Shleifer

and Vishny, 1997). Using a similar approach, Picou and Rubach (2006) define corporate governance as the construction of rules, practices, and incentives to align effectively the interests of the agents (boards and managers) with those of the principals (capital suppliers). Kyereboah-Coleman and Biekpe (2006) view the set of legal protections (company laws, stock exchange listing rules, and accounting standards) as a way to both shape and be shaped by the system of corporate governance mechanisms in place.

Beyond these definitions of corporate governance, a consensus on the defining elements of a good governance framework has yet to be reached, either in practice or in the academic community (Gupta *et al.*, 2006). Up to now, most studies on corporate governance have used distinct methodologies to address particular elements of corporate governance in isolation. The various elements studied include board composition (Hermlin and Weisbach, 1991; Barnhart *et al.*, 1994; Agrawal and Knoeber, 1996; Barnhart and Rosenstein, 1998; Bhagat and Black, 2002; Yermack, 1996; Bozec, 2005; Krivogorsky, 2006; Gani and Jermias, 2006; Kyereboah-Coleman and Biekpe, 2006), shareholdings (Barnhart and Rosenstein, 1998; Lehmann and Weigand, 2000; Chen, 2001; Pederson and Thomsen, 2003; Bai *et al.*, 2004; Clark and Wojcik, 2005; Krivogorsky, 2006; Shen *et al.*, 2006), compensation issues (Cordeiro and Veliyath, 2003), and shareholder rights (Chi, 2005). The piecemeal approach to governance in these studies makes it difficult to draw conclusions regarding an integrated model of good corporate governance.

Despite the lack of consensus on the elements that would define a global framework for good governance practices, some information intermediaries have developed corporate governance rating systems that purport to provide useful information to capital market participants. For example, Standard & Poor's developed the Standard & Poor's Corporate Governance Scores. These cover various components related to ownership structure and the influence of external stakeholders, investor rights and relations, transparency and disclosure, and board structure and processes. Governance Metrics International (GMI) scores take into account board accountability, financial disclosures and internal controls, shareholder rights, remuneration, the market for control, and corporate behavior. Institutional Shareholder Services, for its part, assesses companies based on information related to the board of directors, audits, charter and bylaw provisions, anti-takeover provisions, executive and director compensation, progressive practices, ownership, and director education. The corporate governance scores developed by *The Globe and Mail*, a reputed national Canadian newspaper, take into account information on board composition, manager shareholdings and compensation, shareholder rights and disclosure issues.

These information intermediaries can play a valuable role in improving market efficiency (Healy and Palepu, 2001), as long as investors find the information useful. The *Globe and Mail's* corporate governance scores were developed based on the "tough set of best practices culled from the corporate governance guidelines and recommendations of US and Canadian regulators, as well as major institutional investors and associations." (McFarland, 2002; Klein *et al.*, 2005). An interesting feature of the *Globe and Mail* corporate governance scores is that, unlike some of the other governance rating systems, they are available to all investors at relatively low cost, not just specialists who can afford to buy costly data.

Using various measures of corporate governance, researchers have examined the extent to which corporate governance environment is related to the firm's financial performance (Gompers *et al.*, 2003; Bebchuck *et al.*, 2009; Klein *et al.*, 2005; Gupta *et al.*, 2006; Brown and Caylor, 2006) Generally, their results tend to show that good corporate governance practices, as measured by different variables, are positively associated with financial performance although the associations are not very strong. Among the indicators that are significantly related to firm financial performance are:

- all directors attend at least 75 percent of board meetings;
- board members are elected annually;
- board guidelines are in each proxy statement;
- the firm has either no poison pill or else a shareholder-approved one;

- re-pricing did not occur within the last three years;
- average options granted in the last three years as a percentage of basic shares outstanding did not exceed 3 percent;
- directors are subject to stock ownership guidelines (Bebchuck *et al.*, 2009; Brown and Caylor, 2006); and
- the board is more than 50 percent controlled by independent outside directors (Black *et al.*, 2006).

The Globe and Mail corporate governance ratings include several elements that have been studied previously. The ranking scores are calculated using a 100-point scale comprising four components. The first component is worth 40 points and addresses board composition. Points are awarded for the number of fully independent directors on the board and the audit, compensation and nominating committees, split CEO and chairman roles, the presence of a “cozy” or clubby relationship among directors, the number of CEOs’ outside commitments, the presence of a formal system to assess performances of the board and individual directors, occasional meetings by the directors without management present, and the number of board and committee meetings. The second component, worth 23 points, addresses shareholding and compensation issues. Points are awarded if directors and the CEO are required to own stock, if the directors have a separate option plan, and if the firm gives loans to its directors and officers. The third component, worth 22 points, addresses shareholder rights issues, i.e. annual re-election of all directors, excessive dilution arising from employee stock options, and re-pricing options in the two last years. The last component, accounting for 15 points, deals with disclosure issues. Marks are awarded for firm disclosures on their corporate governance practices, relationships among directors, auditors and fees, board member biographies, and director attendances at board and committee meetings[1].

A number of previous studies examining the relations between various corporate governance rankings and financial performance of firms have used a portfolio approach (Bebchuck *et al.*, 2009; Gompers *et al.*, 2003; Aman and Nguyen, 2008). However, the portfolio approach relies on the factors of Fama and French (1993), which have little theoretical support (Gompers *et al.*, 2003; Fehle *et al.*, 2008; Aman and Nguyen, 2008). Other studies have examined the relationship between Tobin’s *Q* and corporate governance practices by regressing Tobin’s *Q* on governance score and some control variables like log of assets, log of firm age, return on asset and log of sales. However, none of those studies control for the accounting results and the potentially confounding correlations between corporate governance practices scores and accounting results (Bebchuck *et al.*, 2009; Brown and Caylor, 2006; Klein *et al.*, 2005; Gupta *et al.*, 2006). Indeed, a crucial issue is not only to ask whether governance scores are directly valued by investors, but also whether corporate governance scores can affect accounting performance, which in turn affects the value of the firms. Previous studies have failed to employ designs that allow researchers to separate the potential effect that corporate governance could have on accounting data from the effect that corporate governance can directly have on share price or on the Tobin’s *Q*. Consequently, an alternative of investigating whether good governance scores are associated with better performance measures by Tobin’s *Q* is an examination of whether investors consider governance scores when determining share prices, keeping in mind that it is possible that corporate governance scores also influence accounting results. The valorization model used in this study, combined with the hierarchical multiple regressions, evaluates the relationship between the corporate governance score and share price, controlling for the accounting variable. Our interest will be in the R^2 change, when the governance score variables are added to the analysis rather than the overall R^2 for the model. Not only will the design allows us to identify how much of the increase in R^2 is attribute to the corporate governance score, but it will also tell us how much of the increase is coming indirectly from the accounting variables and how much of the increase is directly reflected in share price without passing through accounting variables. If the governance practices such as those evaluated by *The Globe and Mail* are positively associated to the financial performance of firms, we should observe in the model presented below a positive

and significant relation between the governance rating of *The Globe and Mail* and the market value of the firms.

Research design and sample

Research design

In order to investigate the relationships between the corporate governance and sub-index scores published by *The Globe and Mail* and the financial performance of the firms, we use an adapted version of the model used in Cazavan-Jeny and Jeanjean (2006), in equation (1) below:

$$P_{jt+\tau} = \alpha_0 + \alpha_1 BVE_{jt} + \alpha_2 NI_{jt} + \alpha_{3-6} CGS_{jt} + \alpha_{7-9} YEAR_{jt} + \varepsilon_{jt}, \quad (1)$$

where $P_{jt+\tau}$ is the share price of firm j at time $t + \tau$, τ is the time between the end of the last fiscal period and the publication date of the financial results, BVE_{jt} is the book value of equity of firm j at time t , divided by the number of shares in circulation at time t , NI_{jt} is the net income of firm j at time t , divided by the number of shares in circulation at time t , CGS_{jt} is the composite corporate governance scores and sub-scores published by *The Globe and Mail*, $YEAR_{jt}$ ($A2003_{jt}$, $A2004_{jt}$, $A2005_{jt}$), where $A2003_{jt}$ ($A2004_{jt}$, $A2005_{jt}$) is a dummy variable representing each year covered by the observations and is equal to 1 if the year covered by the observation is 2003 (2004, 2005) and 0 otherwise, and ε_{jt} is an error term.

This model relates share price to book value of equity (BVE_{jt}) and current net income (NI_{jt}). The effect of *The Globe and Mail's* corporate governance scores stock price is tested by regression coefficients α_{3-6} . These coefficients should be positive and significantly different from zero. We also included dummy variables to control for fixed year effects.

Sample

The sample used in this study is composed of all Canadian companies covered by the *Globe and Mail* corporate governance ratings for years 2002 to 2005 for which financial statements were available on the www.sedar.com database, and for which share price data was available from the TSX-CFMRC database. Accounting data were collected from the annual reports for 2002 to 2005 and share price data was collected from the TSX-CFMRC database. In all, 291 firms met these criteria, for a total of 804 observations. Of these, eight observations (representing two firms) presenting extreme values were removed, leaving 796 observations in our final sample.

Results

Descriptive analyses

Table I presents descriptive statistics for the variables included in our analyses. The mean firm market capitalization was \$4,852,469,000, the mean book value was \$2,060,813,000 and the mean net income was \$252,880,000 (all amounts are in Canadian dollars). The results indicate that the sampled firms are relatively large players in Canadian markets. Composite governance scores appear to be relatively widely distributed. The mean composite corporate governance score [$CGS(T)_{jt}$] is 66.76/100. The mean board composition sub-score [$CGS(BC)_{jt}$] is 27.14/40, the mean board and CEO compensation sub-score [$CGS(C)_{jt}$] is 12.46/23, the mean shareholder rights sub-score [$CGS(SR)_{jt}$] is 18.09/22 and the mean board governance disclosure sub-score [$CGS(D)_{jt}$] is 9.05/15.

Table II presents the Pearson correlations among test variables. The largest correlations are between the MV_{t+4} , BVE_{jt} and NI_{jt} variables. Correlations between composite governance and sub-index scores are also considerable. Finally, accounting and financial variables are slightly correlated with composite governance and sub-index scores, with correlations ranging between 0.14 and 0.39.

The results of the estimation of equation (1) are presented in Table III. The adjusted R^2 for Model 1 indicates that the independent variables book value of equity (BVE_{jt}) and net

Table I Descriptive statistics					
Variables	Average	SD	Median	Minimum	Maximum
MV_{t+4}	4,852,469	8,418,420	1,655,905	12,430	61,415,475
BVE_{jt}	2,060,813	3,333,172	715,100	9,765	23,443,000
NI_{jt}	252,880	561,324	60,172	-717,000	3,513,000
$CGS(T)_{jt}$	66.76	14.85	67	28	97
$CGS(BC)_{jt}$	27.14	8.11	28	4	40
$CGS(C)_{jt}$	12.46	4.15	13	1	23
$CGS(SR)_{jt}$	18.09	5.28	20	1	28
$CGS(D)_{jt}$	9.05	3.45	9	1	15

Notes: $n = 796$. Financial data are in thousands of Canadian dollars. MV_{t+4} is market capitalization four months after the closing date of the financial statements. BVE_{jt} is the book value of equity at the closing date of the financial statements. NI_{jt} is the net income at the closing date of the financial statements. $CGS(T)_{jt}$ is the total composite CGS for company j at year t . $CGS(BC)_{jt}$ is the CGS sub-index score on board composition for company j at year t . $CGS(C)_{jt}$ is the sub-index score on board and CEO compensation for company j at year t . $CGS(SR)_{jt}$ is the CGS sub-index score on shareholder rights for company j at year t . $CGS(D)_{jt}$ is the CGS sub-index score on board governance disclosure for company j at year t

Table II Correlations between variables							
	BVE_{jt}	NI_{jt}	$CGS(T)_{jt}$	$CGS(BC)_{jt}$	$CGS(C)_{jt}$	$CGS(SR)_{jt}$	$CGS(D)_{jt}$
MV_{t+4}	0.92*	0.91*	0.38*	0.16*	0.36*	0.37*	0.28*
BVE_{jt}		0.86*	0.38*	0.17*	0.39*	0.34*	0.26*
NI_{jt}			0.36*	0.14*	0.36*	0.34*	0.25*
$CGS(T)_{jt}$				0.83*	0.62*	0.62*	0.66*
$CGS(BC)_{jt}$					0.33*	0.27*	0.43*
$CGS(C)_{jt}$						0.22*	0.37*
$CGS(SR)_{jt}$							0.25

Notes: $n = 796$. MV_{t+4} is the share price of firm j at time $t + \tau$. BVE_{jt} is the equity book value at the closing date of financial statements. NI_{jt} is the net income for year t . $CGS(T)_{jt}$ is the total composite corporate governance score for company j at year t . $CGS(BC)_{jt}$ is the CGS sub-index score on board composition for company j at year t . $CGS(C)_{jt}$ is the sub-index score on board and CEO compensation for company j at year t . $CGS(SR)_{jt}$ is the CGS sub-index score on shareholder rights for company j at year t . $CGS(D)_{jt}$ is the CGS sub-index score on board governance disclosure for company j at year t . * $p \leq 0.001$ (one-tailed test where the sign is predicted)

income (NI_{jt}) explain 62 percent of the stock price variation. When adding the composite governance score [$CGS(T)_{jt}$] published by the CGS (Model 2), the coefficient is positive, as predicted, and significantly different from zero. However, the adjusted R^2 of Model 2 is only 1 percent higher than that of Model 1. Instead of using the composite governance index, Model 3 uses its four distinct components. Results show that coefficients for the board and CEO compensation sub-index [$CGS(C)_{jt}$] and the shareholder rights sub-index [$CGS(SR)_{jt}$] are positive, as predicted, and significantly different from zero. However, neither the board composition sub-index [$CGS(BC)_{jt}$] nor the board governance disclosure sub-index [$CGS(D)_{jt}$] are positive, and are therefore not significantly related to share price.

None of the regressions for models 1, 2 or 3 present variance inflation factors higher than 2 (Neter *et al.*, 1985), indicating potentially serious multicollinearity problems. Further, we noted that composite governance shows significant correlation with the independent accounting variables (BVE_{jt} and NI_{jt}). Clearly, some of the effects of corporate governance are incorporated in the accounting variables, making it difficult to assess the total impact of corporate governance on stock price. To address these multicollinearity concerns, we regressed each of the two independent accounting variables (BVE_{jt} and NI_{jt}) on the composite governance scores and used the residuals of these auxiliary regressions in place

Table III Models for the relevance of data elements included in the CGS

	Predicted sign	M1	M2	M3	M4	M5	M6	M7
BVE_{jt}	$\alpha_1 (+)$	0.89*	0.86*	0.86*	0.87*	0.87*	0.87*	0.87*
NI_{jt}	$\alpha_2 (+)$	4.26*	4.18*	3.98*	4.18*	4.18*	3.98*	3.98*
$CGS(T)_{jt}$	$\alpha_3 (+)$	–	0.11*	–	–	0.38*	–	–
$CGS(BC)_{jt}$	$\alpha_4 (+)$	–	–	–0.10	–	–	–	–0.17*
$CGS(C)_{jt}$	$\alpha_5 (+)$	–	–	0.48*	–	–	–	1.30*
$CGS(SR)_{jt}$	$\alpha_6 (+)$	–	–	0.25*	–	–	–	0.50*
$CGS(D)_{jt}$	$\alpha_7 (+)$	–	–	0.14	–	–	–	0.74*
$A2003_{jt}$	$\alpha_9 (?)$	3.86*	3.44*	3.63*	5.64*	4.12*	5.64*	3.59*
$A2004_{jt}$	$\alpha_{10} (?)$	5.31*	4.47*	5.11*	8.02*	5.05*	8.02*	5.95*
$A2005_{jt}$	$\alpha_{11} (?)$	10.31*	9.21*	9.65*	11.96*	8.22*	11.95*	8.43*
Constant	$\alpha_0 (?)$	5.42*	–1.10	–2.74	20.60*	–2.28	20.60*	–4.68*
Adjusted R^2		0.62	0.63	0.64	0.56	0.63	0.52	0.64
F-statistics		263.35	224.36	154.38	206.37	224.36	172.67	154.38

Notes: Dependent variable: P_{jt+4} . $n = 796$. Financial variables are measured in thousands of dollars. P_{jt+4} is the share price of firm j at time $t + 4$. BVE_{jt} is the equity book value at closing date of financial statements (Models 1-3) or the equity book value at financial statement closing date adjusted for effects of corporate governance variables (Models 4-7). NI_{jt} is the net income for year t (Models 1-3) or net income for year t adjusted for effects of corporate governance variables (Models 4-7). $CGS(T)_{jt}$ is the total composite governance score for company j at year t , $CGS(BC)_{jt}$ is the CGS sub-index score on board composition for company j at year t . $CGS(C)_{jt}$ is the sub-index score on board and CEO compensation for company j at year t . $CGS(SR)_{jt}$ is the CGS sub-index score on shareholder rights for company j at year t . $CGS(D)_{jt}$ is the CGS sub-index score on board governance disclosure for company j at year t . * $p \leq 0.001$ (one-tailed test when the sign is predicted, two-tailed test when the sign is not predicted)

of the raw accounting variables. In this way, we eliminated any correlation between the adjusted accounting variables and the corporate governance scores.

Regression results using these adjusted accounting are presented for models 4, 5, 6 and 7 in Table III. In Model 4, independent accounting variables book value of equity (BVE_{jt}) and net income (NI_{jt}), adjusted as described above to remove the effect of the composite governance score. These adjusted accounting variables explain 56 percent of the variation in stock prices compared to 62 percent for Model 1. This confirms that corporate governance is incorporated in the accounting variables. In fact, 6 percent of the adjusted R^2 of model 1 is explained by the corporate governance score even if Model 1 takes only into account the accounting variable. Adding the composite corporate governance score variable to the regression (Model 5) increases the adjusted R^2 by 7 percent. Of this 7 percent increase, only 1 percent is attributed to a direct effect of corporate governance score on share price; the other 6 percent seems to be reflected in the accounting variable. Since other studies only look for direct relationships between the corporate governance score and the firm performance, this result can explain why some studies did not find conclusive results on the value relevance of corporate governance.

In Models 6 and 7, we repeated the analysis described above using all of the component governance scores in place of the composite score. First, we regressed each of the accounting variables (BVE_{jt} and NI_{jt}) on the four sub-index scores. We then used the residuals from these regressions as independent variables in Model 6. Similarly to Model 4, this model explains 52 percent of the variation in stock prices. Adding the four sub-index scores as independent variables in Model 7 the overall explanatory power increases to 12 percent. Note also that in Model 7 the $CGS(C)_{jt}$, $CGS(SR)_{jt}$, and $CGS(D)_{jt}$ coefficients are significantly positive, as expected. However, the $CGS(BC)_{jt}$ (board composition sub-index score) coefficient is negative. These results are consistent with those of Klein *et al.* (2005).

White's (1970) specification test revealed heteroscedasticity. We therefore employed White's (1970) generalized correction method for heteroscedasticity. Furthermore, the Durbin-Watson statistics suggest the presence of residual autocorrelation for all models. These were re-estimated using the Yule-Walker method. Results were qualitatively similar in all aspects to those presented in Table III.

To evaluate the robustness of results across years, Z1 and Z2 statistics were calculated (Barth and McNichols, 1994; Cormier and Magnan, 1997). These statistics test whether average *t* statistics observed across years are significantly different from zero. Z1 statistics assume independent parameter estimates, whereas Z2 statistics correct the cross-sectional and time series correlations[2] likely to exist between estimated parameters. Table IV presents the statistics for the models incorporating the composite governance index [CGS(T)_{it}] and the four sub-indices – i.e. CGS(BC)_{it}, CGS(C)_{it}, CGS(SR)_{it}, and CGS(D)_{it}. Note that these statistics were performed prior to correcting for multicollinearity between independent variables (BVE_{it} and NI_{it}) and CGS (Part A), then performed again with a correction for multicollinearity (Part B). Table IV reveals that the Z1 and Z2 statistics are still significantly positive for the composite governance score [CGS(T)_{it}], significantly negative for the board composition sub-index score [CGS(BC)_{it}], and significantly positive for the board and CEO compensation sub-index score [CGS(C)_{it}]. Concerning the shareholder rights sub-index score [CGS(SR)_{it}], average coefficients are positive and Z1 and Z2 statistics are significant in the models that account for multicollinearity. However, the Z2 statistics are not significant at the 5 percent level in the models that do not account for multicollinearity. Note that these results are more ambiguous for the board governance disclosure sub-index score [CGS(D)_{it}]. Average coefficients are positive and Z1 statistics are significant, but not the Z2 statistics. Results on this component therefore seem to be sensitive to the cross-sectional and time series correlations likely to exist between estimated parameters.

Overall, the results of the study show that the governance practices of firms, such as those evaluated by *The Globe and Mail*, are positively and significantly associated not only with the financial performance of firms but also with their accounting performance. The elements that seem to have an impact are the board composition (CGS(BC)_{it}), shareholding and compensations issues (CGS(C)_{it}) and shareholder rights issues (CGS(SR)_{it}). These results complement the previous research (Gompers *et al.*, 2003; Bebchuck *et al.*, 2009; Klein *et al.*, 2005; Gupta *et al.*, 2006; Brown and Caylor, 2006; Black *et al.*, 2006; Cohen and Ferrell,

Table IV *t*-tests on statistical averages observed across years

Explanatory variable	Predicted sign	Coefficient	Model with CGS(T) _{it}			Model with CGS(T) _{it} components			
			Mean	t	Z1	Z2	Coefficient	t	Z1
<i>Part A: Models not corrected for multicollinearity</i>									
BVE _{it}	α ₁ (+)	0.85	7.78	11.00	3.17	0.83	7.66	12.93	4.62
NI _{it}	α ₂ (+)	4.17	7.04	9.96	3.82	3.95	6.62	11.19	17.93
CGS(T) _{it}	α ₃ (+)	0.11	1.52	2.15	1.91	–	–	–	–
CGS(BC) _{it}	α ₄ (+)	–	–	–	–	–0.15	–1.40	–2.37	–1.80
CGS(C) _{it}	α ₅ (+)	–	–	–	–	0.71	2.49	4.21	5.02
CGS(SR) _{it}	α ₆ (+)	–	–	–	–	0.26	1.45	2.45	1.47
CGS(D) _{it}	α ₇ (+)	–	–	–	–	0.24	1.21	2.04	0.62
Constant		3.42	0.89	1.26	1.18	3.34	0.77	1.30	1.10
Adjusted R ²		0.62				0.63			
F statistic		109.4				57.43			
<i>Part B: Models corrected for multicollinearity</i>									
BVE _{it}	α ₁ (+)	0.85	7.78	11.00	3.17	0.83	7.66	12.94	4.62
NI _{it}	α ₂ (+)	4.17	7.04	9.96	3.82	3.95	6.62	11.19	17.93
CGS(T) _{it}	α ₃ (+)	0.37	5.44	7.70	3.07	–	–	–	–
CGS(BC) _{it}	α ₄ (+)	–	–	–	–	–0.18	–1.66	–2.80	–1.67
CGS(C) _{it}	α ₅ (+)	–	–	–	–	1.61	5.44	9.19	3.50
CGS(SR) _{it}	α ₆ (+)	–	–	–	–	0.46	2.49	4.20	3.89
CGS(D) _{it}	α ₇ (+)	–	–	–	–	0.31	1.42	2.41	0.76
Constant		1.97	0.93	1.32	0.58	2.27	0.78	1.32	0.66
Adjusted R ²		0.62				0.63			
F statistic		109.4				57.43			

Notes: Dependent variable is P_{it+4}. Z= 1.282 (p < 0.10) for one-tailed test; Z= 1.645 (p < 0.05) for one-tailed test; Z= 2.326 (p < 0.01) for one-tailed test

2006; Reddy *et al.*, 2008) by showing that, in effect, the most significant impact of certain governance practices of companies is the one that is reflected in their accounting results, which indirectly is then reflected in their financial performance. This factoring in of the potential relations between the governance practices of companies and their accounting performance along with the relative substantial increase in the variance explanation (R^2) observed in the market value of companies explains in all likelihood the weak relationships observed in previous research between governance practices of companies and their financial performance.

Conclusion

The objective of this paper was to investigate whether investors take into account the corporate governance rankings published by *The Globe and Mail*, a reputed Canadian newspaper, in their evaluation of stock price. The results suggest that investors consider these corporate governance rankings in their stock price evaluations, and also show that some components of the firms' corporate governance appear to be related to their accounting results. This suggests that the corporate governance scores published by *The Globe and Mail* seem to capture practices that could impact the firms' accounting results (net income and shareholder equity). It appears, then, that the relationship between corporate governance scores and market capitalization can take two forms. First, there may be a direct relationship, due to investor interest in good governance practices. Second, there may be an indirect relationship due to the impact of good governance practices on firm performance as measured by accounting outcomes.

The results of this study should be useful for accounting practitioners and the various organizations involved in the regulation of corporate governance practices and the standardization of relevant data elements. The results suggest that the *Globe and Mail's* corporate governance practices ranking system captures certain elements associated with better accounting results, which are taken into account by investors. This could help to identify the defining elements of a framework for good governance practices (Coffee, 2005; Maniam *et al.*, 2006), at least in a Canadian context (Greville and Crawford, 2003; Leblanc, 2005, Lindsay, 2005). It would also be valuable to consider these elements in a disaggregated way in further studies in order to identify more precisely good governance practices that could have a greater impact on accounting results.

We recognize certain limitations of this study. One is that potential interrelations between corporate governance practices and contextual variables were not taken into account. Recent studies have shown that certain corporate governance practices are interconnected, and may be more effective in certain contexts (Bozec, 2005; Gani and Jermias, 2006; Boujenoui and Zeghal, 2006). For example, the results of Boujenoui and Zeghal (2006) tend to demonstrate that the ownership structure, a variable that has been the subject of numerous studies (Sanchez-Ballesta and Garcia-Meca, 2007), might possibly affect the governance mechanisms put in place by the companies. Their results show that the concentration of control and the internal or blockholder ownership are negatively related to the quality of governance practices, while institutional investors have a positive impact. Future research should aim to address this issue. In the same perspective, the results of Gani and Jermias (2006) show that board independence has a significantly more positive effect on performance for firms pursuing a strategy of cost efficiency than for those pursuing a strategy of innovation. The results of this study indicate that consideration of a firm's competitive strategy can provide a better understanding of the relationship between board independence and firm performance, something that we did not consider in the scope of this present study.

Notes

1. A detailed description of the rating system is provided on the web site of *The Globe and Mail*.
2. The Z1 statistic is determined as follows: $1/\sqrt{N}\sum_{a=1}^N t_a/[\sqrt{k_a/(k_a - 2)}]$, where t_a represents the t statistics associated with the coefficient of interest, k_a equals the degrees of freedom for the

regression year a , and N equals number of years. The $Z2$ statistic is determined as follows: $\bar{t}/[\text{stddev}(t)/\sqrt{(N-1)}]$, where \bar{t} equals the average of t statistics, $\text{stddev}(t)$ equals the standard deviation of t statistics, and N equals the number of years.

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