DOES CORPORATE GOVERNANCE MATTER AFTER ALL? GOVERNANCE SCORES AND THE VALUE OF CANADIAN COMPANIES

Eloisa Perez-de Toledo, Evandro Bocatto

Abstract

This study assesses the determinants of governance in the case of Canadian firms and examines the relationship between governance and firm value after the 2008 financial crisis. We estimate the effect of governance on stock return by using different econometric approaches. Our results show that large firms and firms with higher market-to-book value adopt better standards of governance. However, the results show a negative impact of governance on stock return. Therefore, providing important insights to policy makers that have recently proposed changes to the Canadian regulatory system. Our results show a lack of market enforcement, therefore, self-regulation is unlikely to be an effective mechanism for implementation of best practices of governance.***

JEL code: G34

Keywords: Determinants of governance, Firm Value, Endogeneity, Simultaneous Equations

** Accounting and Finance Department, MacEwan University, Canada*
*** School of Business, MacEwan University, Canada*
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Introduction

The importance of governance has been emphasized by a myriad of studies, in all areas of management, as an import construct that should be followed by any company that wants to increase its value. The conceptual framework of corporate governance studies was developed over the premise that the problems derived from the separation between ownership and control, as described by Berle and Means (1932), aggravated by the problem of information asymmetry between managers and investors, can lead to the expropriation of shareholders wealth. In this context, corporate governance structures are relevant because they can reduce the degree of information asymmetry between managers and investors as stated by the agency theory (Jensen and Meckling 1976). From an economic point of view, an efficient governance structure should be able to guarantee that the agent will undertake the optimal level of investment and minimize the amount of rent seeking behavior, which in turn affects companies' supply and cost of finance. As summarized by Shleifer and Vishny (1997), corporate governance is as a set of mechanisms relevant to economic efficiency due to its influence over the decision of investors to provide finance to the firms.

According the market efficiency hypothesis, observable improvements in a company's corporate governance system should be immediately reflected in the price of the stock. However, when conducting studies that try to establish a positive relationship between quality of governance and superior stock return, scholars assume that markets are inefficient when their results indicate an absence of such positive relationship. Yet, another possible explanation would be that corporate governance not always matter to investors. The hypothesis of equilibrium should be considered, as corporate governance can be in equilibrium in a given market, therefore no effect would be observed. A third hypothesis derives from the work of Klapper and Love (2004) and La Porta et al. (2000). They show that the degree of investor protection varies from country to country. In countries with a high degree of investor protection, companies have to comply with the law that establishes higher governance standards. Therefore, investors would probably not distinguish companies by their quality of governance but rather by other firm attributes, since all companies have to abide by the higher governance standards imposed by national governance codes. Besides, firms choose their governance structures based on a series of circumstances that make them adopt structure A instead of structure B. These choices are affected and

also affect firm value, as well as other firm specific characteristics, such as firm's size, composition of firm's assets and future growth opportunities.

Canada is a country with a tradition of very stringent legislation on corporate governance. Corporate governance disclosure requirements for Canadian public companies are set by the Canadian Securities Administrators (CSA). Since 2005, corporate governance in Canada is regulated by the National Instrument 58-101 *Disclosure of Corporate Governance Practices* and by policy 58-201 *Corporate Governance Guidelines*. The regulation was introduced after the scandals of Enron and World Com, and the guidelines were based on the Sarbanes Oxley legislation in the U.S. The Canadian model is based on the *comply or explain approach* to governance with companies listed on the Toronto Stock Exchange (TSX/S&P) having to comply with the best practices or explain if adoption is not appropriate. Compliance with best practices is voluntary, but disclosure of compliance or explanation of how it failed to comply is mandatory (Salterio, Conrod, and Schmidt 2013). Canada ranks high in all comparative corporate governance rankings. Nonetheless, hitherto the few academic studies that tried to establish a positive relationship between Canadian firms' quality of governance and firm value have found either no relationship or a negative association. The lack of such association can be explained by different hypotheses, e.g. all firms listed on the TSX follow best governance practices as defined by the national Code of Best Practices, consequently there is little difference among firms to be noted by investors or to be statistically significant. However, the 2008 financial crisis has changed this reality, since lax corporate governance systems were blamed as the main cause of the crisis (Dennehy 2012).

Within this framework, the present study has two objectives. First, to investigate what are the determinants of governance in the case of Canadian firms. Second, considering that the financial crisis has dampened investors' confidence (Bernanke, 2009), the second objective of this study is to check whether investors attribute value to corporate governance information after the 2008 financial crisis. Our measure of governance is a governance score released every year by a reputed Canadian newspaper, *The Globe and Mail*, on selected Canadian companies listed on the TSX/S&P.

From a methodological perspective, we use both ordinary least squares (OLS) regressions and simultaneous equations applying 3-stage least squares (3SLS) regressions. The latter method is used to address the problems of endogeneity and reverse causality that plague governance studies (Börsch-Supan and Köke 2002). Our proxy for the quality of governance is *The Globe and Mail*'s Report on Business annual report on Corporate Governance for selected companies listed on the Toronto Stock Exchange TSX/S&P index. The Governance Score (GS henceforth) is an index composed by four components or sub-categories: board composition; CEO compensation; shareholder rights; and governance disclosure. For this study, we use the scores released in 2009 and conduct a cross-section analysis with firm value as well as with possible determinants of governance.

The use of more complex econometric techniques, such as simultaneous equations, is justified due to the specificity of governance studies. Therefore, necessary to test the hypothesis that governance and firm value are endogenously determined. Moreover, good governance is assumed to positively affect firm value. Firm value, however, can positively or negatively affect firms' governance structure. Low performing firms can have the CEO replaced by the board in an attempt to improve performance, similarly well performing firms can improve their quality of governance in order to increase their access to external capital and reduce their cost of capital. The direction of the causality is unknown *a priori*, which takes us to first test the hypothesis of direct causality between governance and performance. For that, we use the cross sectional OLS regressions approach and regress the governance score (GS) along with five control variables (firm size, firm risk, future growth opportunities, ROA and the composition of firm's assets) on four different measures of firm value (average stock return, excess stock return, Tobin's *q* and the Return on Assets). The results show evidence of a negative impact of governance on firm value but a positive impact on firm profitability. In the regressions of GS on stock return, the results show a significant *negative* impact of the governance scores on stock return. Nevertheless, in the regressions of GS on the Return on Assets, the results show a significant *positive* impact of the quality of governance on firm operating profitability. These results are consistent with the results obtained by other Canadian studies (Foerster and Huen 2004; Klein, Shapiro, and Young 2005; Gupta, Kennedy, and Weaver 2009) for previous years that show no significant effect of governance (measured by the Governance Score) on long term stock return (Gupta, Kennedy, and Weaver 2009; Foerster and Huen 2004) or on firm value (Klein, Shapiro, and Young 2005). In all previous studies, the relationship is assessed assuming direct causality between governance and stock return through the use OLS regressions.

The present study gives a step ahead by using a different methodology to assess this relationship. Hence, we assume that governance and firm value are endogenous and that companies have a variety of governance and control mechanisms available, therefore, companies design their governance structures based on specific needs. To test this hypothesis, we design a system of four simultaneous equations with governance and firm value to be

estimated simultaneously along with capital structure (financial leverage, an important control mechanism) and Tobin's *q*. This approach allows for the interaction among firm's governance structure, firm's financial decisions, firm's growth opportunities and firm value. The results with 3SLS support the main results obtained with the OLS regressions that the quality of governance, as measured by the Governance Score, has a negative impact on stock return. However, because this methodology allows for simultaneity, we find evidence of a substitution effect between governance and leverage, indicated by the reverse causality between these two variables. To better understand these results, we undertake a series of robustness checks by conducting comparisons and regressions with subsamples to try to map the idiosyncrasies of this relationship in the Canadian context. The results indicate there are significant differences between small and big firms, and investors' behavior towards these two groups of firms seems to be quite different.

The paper is divided as follows. Part 2 reviews the literature and defines the theoretical and methodological approach used in the study. Part 3 describes the data and the methods. Part 4 analyses the empirical results and Part 5 concludes the paper.

Literature Review

The determinants of the quality of governance

La Porta et al. (1998) hypothesize that the legal system is fundamental to corporate governance. In particular, they argue that the extent to which a country's laws protect investors' rights and the extent to which those laws are enforced are the most basic determinants of the ways in which corporate finance and corporate governance evolve in that country. Within this framework, Klapper and Love (2004) provide a cross-country study of firm-level corporate governance practices and they conclude that companies operating in the same level of investor protection show different levels in the quality of corporate governance. They find firms with a high level of corporate governance provisions in countries with weak legal environments and vice-versa, and point out to the fact that there is more variation among firms operating under the same legal and institutional environment than among firms operating in different countries.

This approach was first developed by Himmelberg, Hubbard, and Palia (1999) and later extended by Himmelberg, Hubbard, and Love (2004), Klapper and Love (2004) and Durnev and Kim (2005). It states that investor protection has an external component related to the legal environment and an internal component related to the activity developed by the firm and other characteristics (endogenous protection). Klapper and Love (2004) conclude that corporate governance is likely to be endogenously determined and they point out to three sources of endogeneity that in theory could be associated with firms adopting better governance mechanisms: (1) the composition of a firm's assets; (2) unobservable growth opportunities; and, (3) firm size. The composition of a firm's assets will affect its contracting environment because it is easier to control and harder to steal fixed assets (equipments, etc.) than "soft" capital (intangibles, R&D, etc.). In that sense, a firm with a high level of intangibles may find optimal to adopt a higher level of corporate governance (and avoid possible misuse of these assets). The variable 'unobservable growth opportunities' is related to the fact that firms with good growth opportunities will need capital to finance their expansion process, thus it may be optimal to improve their level of governance in order to reduce the cost of capital. Finally, firm size has ambiguous effects because large firms may have greater agency problems due to destination of their free cash flows and small firms may have better growth opportunities and greater need for external finance, thus, both have incentives to adopt better governance mechanisms. In the same direction, Durnev and Kim (2005) develop a model that identifies three firms' attributes that make them adopt better standards of governance: investment opportunities, the need for external financing and ownership structure. They also find that all three attribute are related to better governance standards and that firms ranking higher in their governance index receive better stock valuations. Their results are stronger in less investor-friendly countries what is evidence that firms adapt to poor legal environments to establish efficient governance practices.

The literature on the determinants of the quality of governance is recent and emergent, although, hitherto the few studies produced are consistent in pointing out to size and future growth opportunities (investment opportunities) as significant factors influencing firms' corporate governance decisions. To the best of our knowledge, it is the first time that a study explores the determinants of Canadian firms' governance choices.

Governance indices and scores

How can we measure the quality of governance? Hitherto the answer to this question remains opened. Many scholars have attempted to capture the quality of governance in one single measure; however, there is no consensus on what should be included in such measure (or which questions to ask, or still which weight should be attributed to each question or dimension). Despite the lack of consensus and the relatively novelty of this practice, the use of indexes and scores in the field of corporate governance is quite widespread, as can be observed by the number of countries and/or regions covered by the following studies: Black (2001) for Russia, Gompers, Ishii, and

Metrick (2003), Brown and Caylor (2006), and Bebchuck, Cohen, and Ferrell (2009) for the US, Klapper and Love (2004) for emerging markets, Silveira (2004) for Brazil, Durnev and Kim (2005) for 27 different countries, Black, Jang, and Kim (2006) for Korea, and Beiner et al. (2006) for Swiss.

The governance score used in the present study is a public score prepared and released by a leading Canadian newspaper, *The Globe and Mail*, in its Report on Business. The information is made available to the general public (basically to anybody who either buys the newspaper or has access to the Internet). The newspaper developed the measures based on a "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 p. B6). The data were obtained from public information (the most recent proxy information circular for shareholders released by the companies).

Few studies have previously examined the relationship between the GS released by *The Globe and Mail* and stock performance. Foerster and Huen (2004) find a significant positive association between the GS and the two day window around the release of the report with the governance score, however the coefficient was economically irrelevant and the R^2 was very small (0.0116). The authors also find a negative association between the governance score and both 5-year and 1-year stock return (adjusted for risk), but the coefficient is not statistically significant. Wheeler and Davies (2006) did not find a significant relationship between the GS and shifts in firms' market capitalization. Adjaoud, Zeghal, and Andaleeb (2007)(2007) assess the relationship between firm performance and the GS. They find no significant association between GS and various accounting measures (ROI, ROE, EPS and the market-to-book ratio), but they find some positive association between the GS and value creation measures as the Economic Value Added (EVA) and the Market Value Added (MVA). Finally, Gupta, Kennedy & Weaver (2009) also examine the relationship between the governance scores released by *The Globe and Mail* and firm value, but they look at a series of four years (2002 to 2005), all other studies have looked at the year 2002 report. The authors do not find evidence of an association between GS (or its sub-categories) and any measure of firm value.

The contribution of this research

The present study aims at investigating whether the lack of significance of governance coefficients on firm value regressions reported by previous studies on Canadian firms remains after the 2008 financial crisis. For that we use the governance scores released by *The Globe and Mail* for the year 2009. Additionally, this study aims at contributing to the research on the determinants of governance by offering evidence on the factors that affect companies' decision to adopt better standards of governance in Canada.

In regards to the determinants of governance, we depart from the assumption that companies have a variety of governance mechanisms available and that they build their governance structures depending on an array of conditions, primarily their institutional and legal environment, but also based on some specific firm-characteristics. These characteristics influence companies' decision to adopt better standards of governance and increase their access to external finance at a lower cost. In order to assess the hypothesis that there are some observable factors that make companies adopt different levels of governance under the same contracting environment, i.e. in Canada, we are interested in answering the following research question: *What are the determinants of the quality of governance in Canada?*

We, thus, put forward the following hypotheses to be tested:

H_1: There is a significant relationship between firm size and the standards of governance adopted by the companies.

H_2: There is a significant positive relationship between future growth opportunities and the standards of governance adopted by the companies. And, companies with better future growth opportunities present higher governance scores.

H_3: There is a significant positive relationship between the level of intangibles and the standards of governance adopted by the companies. And, companies with more intangible assets present higher governance scores.

From a theoretical point of view, it is expected that companies that adopt better standards of governance would experience a higher valuation by the markets, *ceteris paribus*. By adopting higher governance standards, good governance companies would reduce the asymmetry of information between shareholders and managers. It would promote the alignment of interests between principal and agent, and also increase the protection of minority shareholders. On the other hand, investors would apply a discount to companies with lower standards of governance in order to offset their higher agency costs. The fourth hypothesis is put forward accordingly:

H_4: There is a significant positive relationship between the quality of governance and the performance of Canadian companies. And, companies with higher quality of governance present both higher stock return and higher profitability.

Methodology

Sample selection and data collection

The sample is composed by 156 companies listed on the Toronto Stock Exchange (TSX/S&P) at the end of calendar-year 2009 for which there is financial information for the last three fiscal years and that was listed on *The Globe and Mail* Report on Business Governance Score. All financial and accounting information (balance sheets, income statements, capital structure, industry/sector, book values, stock prices, etc.) was obtained from the database *OSIRIS* from Bureau Van Dijk. Finally, all right hand variables are lagged one year to ensure exogeneity, and despite the fact that these variables are highly serially correlated it does not significantly affect the explanatory power of the regressions.

Variables definition

We use the end of calendar-year price of the stock and shares outstanding to compute market capitalization and book values are obtained from companies' annual reports for years 2006 to 2009. The measure of firm profitability is the Return on Assets (ROA). Tobin's q (*Q*) is used as a proxy of firm value and is calculated based on the approximation proposed by Chung and Pruitt (1994) (1994) (Tobin's q $\cong$ (Market value of equity + Book value of debt)/Total Assets), LEVER is the ratio between firm's long-term debt scaled by long-term debt plus market value of equity. LnAssets is used as a proxy for firm size and is calculated as the natural logarithm of book value of the total assets. The measure of future growth opportunities is calculated as the geometric average of the last 3-year sales growth. We also run a robustness check with an alternative variable, the market to book ratio (*M-B*), which is simply the ratio between the market value of common stock to the book value of equity. Table 1 provides a description of all variables included in the analysis and provides the descriptive statistics. Table 2 provides a correlation matrix of all variables.

Table 1. Summary of the research variables and descriptive statistics

CODE	VARIABLE	DEFINITION	Mean	Std Dev	Min	Max
Q	**Tobin's q**	Ratio of the market value of equity plus the book value of debt to book value of total assets	1.576	1.588	0.1230	12.786
Ret	**Stock return**	Average annual return of stock *i*	0.054	0.053	-0.011	0.2371
M/B	**Market-to-Book Ratio**	(Market value of equity)/(Book value of equity)	14.530	1.336	10.640	17.523
r_i-R_i^B	**Stock excess return**	Return of the stock during year *t* less stock's *i* benchmark portfolio return during the same period. The benchmark portfolios were formed on size and book-to-market following Fama and French (1993)	0.0007	0.050	-0.098	0.256
GS	**Corporate Governance Scores**	Index composed by four dimensions released every year by *The Globe and Mail* Report on Business	0.627	0.1509	0.27	0.94
BCom	***Board Composition score***	GS component	0.668	0.149	0.226	0.968
CEO	***CEO Compensation score***	GS component	0.564	0.224	0.000	0.958
ShareR	***Shareholder Rights score***	GS component	0.641	0.194	0.121	1.000
Disclo	***Disclosure score***	GS component	0.609	0.250	0.000	1.000
GROWTH	**Future Growth Opportunities**	Geometric average of 3-year sales growth (2006-2009)	0.2850	1.105	-0.741	11.583
LnAssets	**Firm Size**	Natural logarithm of Total Assets	14.727	1.379	11.112	17.596

CODE	VARIABLE	DEFINITION	Mean	Std Dev	Min	Max
TANG	**Composition of firm's assets**	Fixed assets / Total assets	0.530	0.274	0.000	0.960
INTANG	**Composition of firm's assets**	Intangibles / Total assets	0.124	0.183	0.000	0.819
LEVER	**Capital Structure**	Long Term Debt / Market Value of Equity plus Long Term Debt	0.201	0.186	0.000	0.831
ROA	**Return on Assets**	Net income / Total assets	0.020	0.066	-0.219	0.241
BETA	**Firm risk (beta)**	60-month firm beta (own calculations)	1.045	0.693	0.024	3.867

Table 2. Correlation matrix

	GS	GROWTH	ROA	Ret	LEVER	Q	INTANG	TANG
GROWTH	-0.0872							
ROA	0.2311***	-0.0498						
Return (r_i)	-0.4637***	0.0549	-0.2115*					
LEVER	0.1749**	-0.1196	-0.0731	-0.3330***				
Q	-0.1432*	0.0611	-0.1809**	0.3119***	-0.4066***			
INTANG	0.1047	-0.1020	0.1070	-0.2732***	0.2246***	-0.1491*		
TANG	-0.1307	0.0522	-0.1576**	0.0921	0.0578	-0.1380*	-0.5602***	
LnAssets	0.5680***	-0.1425*	0.2479**	-0.4708***	0.4374***	-0.3953***	-0.1491*	-0.1380*

This table provides Pearson correlations for the main variables used in the study. GS is the Governance Score, GROWTH is the three year compound sales growth. ROA is the return on Assets, Return is the annual stock return, LEVER is LT Debt scaled by LT Debt plus MV of equity, Q is Tobin's *q*, LnAssets is the natural logarithm of total assets (proxy for firm size), TANG and INTANG is fixed assets to total assets and intangibles to total assets respectively. The data refers to the year 2009. ***, **, * denotes statistical significance at the 1%, 5% and 10% level respectively.

Model specification

The determinants of governance to be tested are future growth opportunities (GROWTH), firm size (LnAssets), the composition of firm's assets (INTANG) and firm value (Q). We also test the impact of these factors on each governance sub-category or component (board composition, CEO compensation, Shareholders Rights and Disclosure). Table 3 describes the variables defined as determinants of governance and provides an explanation about its possible influence on the governance of the companies.

The general model for assessing the determinants of governance is the following:

$$GS_i = \alpha + \beta_1 GROWTH_i + \beta_2 SIZE_i + \beta_3 INTANG_i + \beta_4 Q_i + \varepsilon_I \quad (1)$$

The specification described in Equation 1 is intended to capture only the effect of the three possible determinants of governance described by Klapper and Love (2004) and firm value on the quality of governance.

Table 3. Possible determinants of governance

Governance Determinant	Reasoning	Code
Future Growth Opportunities	A growing firm with large needs for outside financing has more incentive to adopt better governance standards in order to lower its cost of capital (Klapper and Love 2004).	***GROWTH***
Firm Size	The effect of size is ambiguous as large firms may have greater agency problems and small firms may have greater need for external finance, so both have incentives to adopt better governance (Klapper and Love 2004).	***LnAssets***
Composition of Firm's Assets	Fixed assets are easier to monitor and harder to steal than intangibles. Hence, the firm operating environment will affect its governance system. (Himmelberg, Hubbard, and Palia 1999).	***INTANG***

Recent research and the extant literature in the field of corporate governance (Beiner et al. 2006; Bhagat and Jefferis 2005; Himmelberg, Hubbard, and Palia 1999; Ødegaard and Bøhren 2004; Barnhart and Rosenstein 1998; Wei-Peng et al. 2010) consider the use of different econometric approaches as very important for capturing the reverse causality between governance and performance and the potential endogeneity among the mechanisms of governance, considering that different mechanisms are often used as substitutes to one another for firms when designing their governance structures. Mainstream corporate governance studies have shown a positive relation between governance and performance assuming that governance is exogenous and as such used as a regressor in cross-sectional OLS firm value regressions. Recent literature has shown that governance is endogenous (Palia 2001; Beiner et al. 2006; Bhagat and Jefferis 2002; Chi 2005; Demsetz and Villalonga 2001; Ødegaard and Bøhren 2004) and related to some observable and unobservable firm and board characteristics (Demsetz and Lehn 1985; Himmelberg, Hubbard, and Palia 1999).

The particularities and specificities of the relationship between corporate governance and firm value and the sensitivity of corporate governance models to model specification associated with the fact that the field of corporate governance lacks a theoretical model that establishes the direction of the causality (Ødegaard and Bøhren, 2004; Barnhart and Rosenstein, 1998), we conducted the empirical analysis in two steps in order to better assess how governance and firm value interact in the case of Canadian companies. We first use ordinary least squares (OLS) cross-sectional regressions that tend to be less sensitive to misspecification errors. In a second step, we use a more robust methodology in order to capture the possible reverse causality among the variables, specifically the three-stage least squares (3SLS) method applied to the following system of four equations:

$$\begin{cases} GOV\text{-}I_i = \alpha + \beta_1 stock\_ret_i + \beta_2 Q_i + \beta_3 LEVER_i + \beta_4 INTANG_i + \beta_5 SIZE_i + \sum_{j=1}^{9} \delta_j IND_{ji} + \varepsilon_I \\ stock\_ret_i = \alpha + \beta_1 GS_i + \beta_2 Q_i + \beta_3 LEVER_i + \beta_4 INTANG_i + \beta_5 SIZE_i + \beta_6 ROA_i + \sum_{j=1}^{9} \delta_j IND_{ji} + \varepsilon_I \\ Q_i = \alpha + \beta_1 GS_i + \beta_2 stock\_ret_i + \beta_3 LEVER_i + \beta_4 INTANG_i + \beta_5 SIZE_i + \beta_6 ROA_i + \sum_{j=1}^{9} \delta_j IND_{ji} + \varepsilon_I \\ LEVER_i = \alpha + \beta_1 GS_i + \beta_2 stock\_ret_i + \beta_3 Q_i + \beta_4 INTANG_i + \beta_5 SIZE_i + \beta_6 ROA_i + \sum_{j=1}^{9} \delta_j IND_{ji} + \varepsilon_I \end{cases}$$

Results

OLS Regressions

Table 4 reports the coefficient estimates from the regressions of the governance score and all four sub-categories on its possible determinants. Column 1 reports the regression coefficients of the composite index (GS). Columns 2, 3, 4 and 5 report the results for the sub-categories. The results support H_1 only, by showing evidence that larger firms adopt better standards of governance. The cost of adopting a more complex governance structure is high, and bigger firms face higher agency costs, thus they may find optimal to adopt better standards of governance in order to offset these costs. Small firms are mostly family businesses that suffer less from the separation between ownership and control. Future growth opportunities (H_2) and the level of intangibles (H_3) do not appear significant in any specification, albeit the effect is positive.

Tobin's *q* (Q) shows a positive statistically significant effect on the standards of governance in all specifications except for the sub-category *disclosure*. This result is interpreted as evidence that higher market value firms adopt better standards of governance, as it seems that causality runs from Q to GS. However, it is possible that causality runs both ways.

Table 4. Results from OLS regressions of governance score on governance determinants

Dependent variable	***GS***	***Board composition***	***CEO compensation***	***Shareholders rights***	***Disclosure***
Independent variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Q	0.0443** (0.033)	0.0488** (0.037)	0.0361* (0.087)	0.0483** (0.033)	0.0377 (0.114)
GROWTH	0.0067 (0.264)	0.0098 (0.147)	0.0014 (0.818)	0.0088*** (0.177)	0.0035 (0.615)
INTANG	0.0321 (0.771)	0.1163 (0.347)	0.1821 (0.106)	-0.1700 (0.158)	0.0699 (0.581)
LnAssets	0.1279*** (0.000)	0.1180*** (0.000)	0.1350*** (0.000)	0.1264*** (0.000)	0.1434*** (0.000)
Constant	-1.4839*** (0.000)	-1.3170*** (0.000)	-1.6405*** (0.000)	-1.4418*** (0.000)	-1.7180*** (0.000)
Adjusted R^2	0.3409	0.2701	0.2942	0.2942	0.3318
Probability F	0.000	0.000	0.000	0.000	0.000
Companies (N)	154	154	154	154	154

This table reports the results from OLS regressions of the Governance Score (GS) and all sub-categories or components on the determinants of governance. The independent variables are: Tobin's q (Q), Future Growth Opportunities proxy by 3-year sales growth (GROWTH), intangibles to total assets (INTANG) and firm size proxy by the natural logarithm of firm's assets. The definition of the variables is provided in Table 1. The data is for the years 2008 (independent variables are lagged one year) and 2009 (independent variables). The numbers in parentheses are probability values for two-sided F test. ***, **, * denotes statistical significance at the 1%, 5% and 10% level respectively.

Next, we examine the hypothesis of causality between governance and firm value by analyzing the effect of firm's quality of governance on firm value (proxy by Tobin's *q*), firm profitability (proxy by ROA) and stock return (proxy by annual stock return and excess stock return). Following the proposed methodological design, the first part is dedicated to the OLS regressions of the governance scores on firm value and stock return. Table 5 reports the results of the regressions. Panel A reports the coefficient estimates of the composite governance score on all four measures. In regards to stock return, the effect of governance is negative and significant at the 0.1% level. The effect of GS on Q is not statistically significant. However, GS has a positive significant impact on the return on assets (ROA). Previous studies have shown no relationship between GS and various measures of firm value (Gupta et al. 2009). Our results show a negative impact of governance on firm stock return that indicates a shift in investors' perception towards corporate governance. The primary function of governance mechanisms is to control managers' behavior and avoid losses to investors and, in a greater extent, to the society at large. After the financial meltdown and the huge losses suffered not only by shareholders but by all stakeholders, corporate governance came into scrutiny as even the companies that had adopted the best practices of governance were affected by the crisis. The compliance to the best practices of governance was not a deterrent of what occurred.

Panel B reports the results for the sub-components. The most important result is the negative effect of CEO compensation on stock return (the only component that shows such result). CEO compensation schemes attached to the stock price (i.e. through stock options) were designed to create an incentive to executives to take on more risk (the alignment of interests hypothesis) and boost firm performance. After the 2008 financial crisis, it became quite obvious that executive compensation schemes had produced the opposite effect. Executives took on excessive levels of risk at the expense of shareholders and prioritized short-term returns at the expense of long-term firm survival. It was clear after the meltdown that CEO compensation was not only a simple co-adjuvant factor but a very *cause* of the crisis. The excessive risks undertaken by executives took many companies, especially banks, to the verge of bankruptcy. The increased cost of bankruptcy is negatively affecting firm value.

Table 5 Results from OLS regressions of firm value on governance score components

	PANEL A. Regressions of stock return/firm value variables on Governance Score			
Dependent variable	***Stock Return (Ret)***	***Excess Return (r_i-R^B)***	***Tobin's q (Q)***	***Ret. on Assets (ROA)***
Independent variables	**(1)**	**(2)**	**(3)**	**(4)**
Gov Score (GS)	-0.077***	-0.010	-0.767	0.067***
	(0.000)	(0.500)	(0.131)	(0.004)
Constant	0.087***	0.005	1.927***	-0.003
	(0.000)	(0.556)	(0.054)	(0.749)
Adjusted R^2	0.2150	0.0036	0.020	0.052
Probability F	0.000	0.500	0.131	0.004
Companies (N)	156	156	154	156
Independent variables	**(1)**	**(2)**	**(3)**	**(4)**
Board Composition	-0.019	-0.009	-0.045	0.040
	(0.406)	(0.754)	(0.941)	(0.308)
CEO Compensation	-0.053**	0.033	-2.7350***	0.063
	(0.032)	(0.235)	(0.000)	(0.104)
Shareholder Rights	0.014	-0.049*	0.473	0.008
	(0.536)	(0.085)	(0.308)	(0.817)
Disclosure	-0.019	0.015	0.210	-0.056
	(0.367)	(0.472)	(0.842)	(0.087)
Constant	0.085***	0.007	1.891***	-0.004
	(0.000)	(0.443)	(0.000)	(0.695)
Adjusted R^2	0.2415	0.0374	0.0371	0.0766
Probability F	0.000	0.1969	0.110	0.013
Companies (N)	156	156	154	156

This table reports the results from OLS regressions of stock return (Ret), excess stock return (measured through the Fama-French methodology) Tobin's q (Q) and Return on Assets (ROA) on the Governance Score (GS) and on each governance score component. The definition of the variables is provided in Table 1. The data is relative to the year 2009. The numbers in parentheses are probability values for two-sided F test. ***, **, * denotes statistical significance at the 1%, 5% and 10% level respectively. Standard errors are adjusted for heteroskedasticity.

Table 6 reports the results for OLS regressions of the governance score on firm value variables. Other variables are introduced to control for observable firm-characteristics known to affect firm value and stock return, specifically firm size (LnAssets), firm risk (BETA), future growth opportunities (GROWTH), operating profitability (ROA) and the composition of firm's assets (TANG and/or INTANG). Column 1 shows the regression of GS on stock return and its significant negative coefficient is an indication that companies with better governance present lower stock return. Columns 2, 3 and 4 report the results for excess return, Tobin's *q* and ROA, respectively. The coefficients are not significant, thus there is no significant effect of governance on Q, ROA or the excess return. The control variables have in general the expected sign, except for GROWTH that show a negative significant impact on stock return.

Table 6 Results from OLS regressions of firm value variables on Governance Score (GS)

Dependent variable	*Stock Return (Ret)*	*Excess Return (r_i-r^B)*	*Tobin's q (Q)*	*Ret. on Assets (ROA)*
Independent variables	**(1)**	**(2)**	**(3)**	**(4)**
GS	-0.0441*** (0.000)	-0.0151 (0.367)	0.3779 (0.425)	0.002 (0.945)
Q	-0.002 (0.925)			
LEVER	-0.0080 (0.660)	-0.0036 (0.894)	-2.7350*** (0.000)	-0.114*** (0.000)
ROA	0.0320 (0.467)	-0.0742 (0.272)	-3.5852* (0.062)	
LnAssets	0.0017 (0.527)	0.0004 (0.909)	-0.1490 (0.219)	0.015*** (0.001)
INTANG	-0.0020 (0.905)	0.0807*** (0.003)	-0.6957 (0.353)	-0.034 (0.306)
BETA	0.0547*** (0.000)	-0.0140 (0.155)	0.9854*** (0.001)	
GROWTH	-0.0058** (0.026)	0.0055 (0.172)	0.0442 (0.698)	0.001 (0.817)
Constant	-0.0106 (0.798)	-1.639† (0.083)	3.4850* (0.054)	-0.159** (0.050)
Industry	Included	Included	Included	Included
Adjusted R^2	0.6465	0.1595	0.3439	0.2234
Probability F	0.000	0.000	0.000	0.000
Companies (N)	154	154	154	154

This table reports the results from OLS regressions of stock return (Ret), excess stock return (measured through the Fama-French methodology), Tobin's q (Q) and Return on Assets (ROA) on governance (Governance Score – GS) along with all exogenous control variables. The definition of the variables is provided in Table 1. Control variables for industry (IND) were included in the regressions. The data is relative to the year 2009. The numbers in parentheses are probability values for two-sided F test. ***, **, * denotes statistical significance at the 1%, 5% and 10% level respectively. Standard errors are adjusted for heteroskedasticity.

Simultaneous equations with 3 SLS estimation

Table 7 reports the results of the estimation using the simultaneous equations approach. This procedure allows for interdependence among the four dependent variables: stock return, the Governance Score (GS), Tobin's *q*, and leverage. The most important result from the estimation of the system of equations is the negative significant impact of GS on stock return, reported in column 1. This result is an indication that better governance is related to lower stock returns. We thus do not find empirical evidence to support H_4, as the results do not support the agency theory. This result is aligned to other studies that show either a negative impact of an increase of firm's quality of governance on firm value or a not significant coefficient (Foerster and Huen 2004; Gupta, Kennedy, and Weaver 2009; Klein, Shapiro, and Young 2005)(Foerster and Huen 2004; Gupta, Kennedy, and Weaver 2009; Klein, Shapiro, and Young 2005). The results with simultaneous equations corroborate the OLS results. However, some relations can be assessed from the estimation with simultaneous equations. The joint significance of LEVER and GS indicate a substitution effect between these two variables. Financial leverage is an important governance mechanism, as described by Jensen (1986)(1986) leverage can discipline managers as an important part of the firm's cash flows would be committed to servicing debt. Leveraged firms can use debt as a substitute of a more complex (and expensive) governance structure, and obtain the same results in terms of control as if it used other governance mechanisms.

Regarding firm size, it has a significant positive effect on stock return, governance and leverage. In light of this evidence, we conducted a series of robustness checks by dividing the sample into sub-samples grouped by firm size. We create a dummy variable that takes the value of 1 if LnAssets is bigger than the median firm and 0 otherwise. In results not reported here we show that large firms present better governance standards (mean GS_{BIG}=0.839 and GS_{SMALL}=0.414), so as leverage (mean $LEVER_{BIG}$=0.28 and $LEVER_{SMALL}$=0.12). The stock return of small firms is significantly larger than the expected return of big firms (7% for small firms and 3.2% for large corporations). We tested all mean differences and they are statistically different. These differences may explain the negative effect of GS on stock return. Moreover, the population of firms that compound the TSX/S&P index are quite different than the population of other indices around the world. The Canadian index is composed 68% by natural resources and financial firms (financial firms represent 34% of the total firms).

Table 7. Results from estimations using 3 SLS regressions

Panel A Relationship between the Governance Score and stock return

	Dependent variables			
Independent variables	***Stock Return***	***GS***	***Q***	***LEVER***
Stock Return		-1.9044*** (0.007)	7.4112* (0.060)	-1.2102 (0.171)
GS	-1.1465*** (0.000)		1.6061 (0.151)	-0.7742*** (0.000)
Q	0.0050* (0.080)	0.0248 (0.185)		0.0251 (0.114)
LEVER	-0.0637** (0.023)	-0.9486 *** (0.000)	-3.1280*** (0.002)	
SIZE	0.0159*** (0.000)	0.1364*** (0.000)	-0.2357 (0.161)	0.1062*** (0.000)
ROA	0.0394 (0.336)		-2.6869* (0.060)	-0.5532** (0.015)
BETA	0.0476*** (0.000)			
INTANG	-0.0147 (0.416)	-0.0272 (0.752)		
TANG				0.0244 (0.655)
Constant	-0.1649*** (0.007)	-	-	-1.0163*** (0.000)
Industry	Included	Included	Included	Included
Adjusted R^2	0.3833	0.2893	0.2310	0.2216
P-value of F-test	0.000	0.000	0.000	0.000

Panel B Relationship between the governance score and firm value

	Dependent variables			
Independent variables	***M-B***	***GS***	***GROWTH***	***LEVER***
M-B		-0.030 (0.504)	0.808*** (0.000)	-1.2102 (0.171)
GS	0.2059 (0.626)		0.4306 (0.662)	-0.3361*** (0.000)
GROWTH	0.1727*** (0.001)	0.0176 (0.506)		0.0289** (0.022)
LEVER	-3.996*** (0.000)	-0.9246 *** (0.000)	3.410*** (0.005)	
SIZE	1.016*** (0.000)	0.1817*** (0.000)	-0.9786*** (0.000)	0.2251*** (0.000)
ROA	-0.2705 (0.681)	-0.3307 (0.316)	0.5107 (0.727)	-0.1826 (0.241)
BETA	0.0325 (0.753)		-0.0604 (0.791)	0.0049 (0.798)
INTANG	0.040 (0.869)	-0.0927 (0.386)	0.1657 (0.786)	
TANG				0.0156 (0.590)
Constant	-0.6651 (0.472)	-1.7828*** (0.000)	-	-1.0163*** (0.000)
Industry	Included	Included	Included	Included
Adjusted R^2	0.8739	0.3019	0.1635	0.5666
P-value of F-test	0.000	0.000	0.000	0.000

This table reports the results from 3SLS regressions of Equations 1-4 of the system of simultaneous equations. The dependent variables are Market-to-Book Value (M-B), Future Growth Opportunities proxy by 3-year sales growth (GROWTH), Governance Score (GS), and Capital Structure (LEVER). Control variables for industry (IND) are included in the regressions. The sample consists of 156 firms listed on the Toronto Stock Exchange (TSX/S&P). The data refers to the year 2009. The numbers in parentheses are probability values for two-sided F test. ***, **, * denotes statistical significance at 1%, 5% and 10% level respectively.

Conclusion

This paper analyzes the determinants of governance in the case of Canadian firms and assesses the relationship between corporate governance and firm value through the use of different econometric approaches. The results on governance determinants provide empirical evidence that large firms and firms with a high Tobin's *q* ratio adopt better standards of governance in Canada. Larger firms may find optimal to adopt better governance structures to offset their agency costs. Similarly, firms with high market-to-book value (high Tobin's *q*) may use the reputational effect of having a good governance "tag" to attract investors.

The relationship between the quality of governance and firm value was first assessed through ordinary least squares (OLS) regressions and next through simultaneous equations using 3SLS. The results with 3SLS support the results with OLS regressions that governance has a significant *negative* impact on firm's stock return. Previous studies with Canadian listed firms ranked by *The Globe and Mail* Report on Business Governance Score show no effect of governance on firm value. Our study show a shift in investors' perception towards governance after the 2008 financial crisis, by showing a *negative* effect of governance on firm value for the year 2009. Our results do not support the agency theory as they indicate that governance negatively affects firm value. Moreover, the results with simultaneous equations show that firms providing higher stock returns adopt lower standards of governance.

Canada is a country with a high degree of investor protection (La Porta, *et al.*, 2000). However, our study is conducted in the aftermath of the 2008 financial crisis. Despite the high degree of investor protection holding in Canada, after the massive losses[1] that average investors experienced during and after the crisis, investors' confidence was deeply affected. Many transferred their investments from equities to fixed income, such as government bonds and real estate. Many investors, not only in Canada, were questioning the value of good governance, as good governance companies had also suffered major losses. There is a generalized sentiment that good governance was not a deterrent to bad performance; therefore why should investors use the quality of governance as a criterion in assets selection? In a certain extent, this reality is being captured by the present study. In addition, small firms, mostly in the natural resources sector, have experienced huge returns in the year 2009, mainly due to the quick recovery of the Chinese economy. These companies rank very low in the Governance Score, therefore our results may be driven by a firm size bias, as smaller firms (mostly from the natural resources sector) present higher stock returns when compared to larger firms (which present higher standards of governance). However, in the aggregate our results show a lack of market reward for the adoption of higher standards of governance.

From the perspective of public policies, this paper offers important insights particularly for policy makers, as Canada has recently proposed changes to its governance regulatory framework from a "comply or explain" approach to a "principles approach". Our study shows there is no reward, in the form of superior stock return, for adopting better standards of governance, which indicates a lack of evidence of market enforcement. Like occurred in other countries, self-enforcement is unlikely to be an effective mechanism for implementation of best practices of governance, particularly without market enforcement, therefore our results provide support for the maintenance of the more stringent "comply or explain" approach as opposed to a change to a more lax, market driven "principles approach".

[1] The TSX composite index (the benchmark for Canadian securities) lost 35% of its value in 2008. By the end of 2009 the TSX had recovered to 11,746 points but still represented a 15% loss in regards to December 31, 2007 (13,833 points) however it represented a gain of 31% in the year (from 8,988 points in December 31, 2008 to 11,746 points by the end of 2009).

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