

THE CAPITAL STRUCTURE OF SMALL PUBLIC FIRMS:
A CORPORATE GOVERNANCE STORY¹

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ABSTRACT

What is the relation between corporate governance and capital structure for small publicly traded firms? We use a new hand-collected dataset of companies listed on the Canadian junior stock exchange to construct measures of corporate governance and examine their effect on firms' financing. We focus on a time period when the sample firms were unregulated in their governance choices. To address the potential endogeneity of the governance measures, we use both instrumental variables analysis and the exogenous variation in security regulation across different provinces. Our results support theories that predict a relation between leverage and corporate governance, where small firms with low debt capacity incur costly shareholder protection to facilitate access to equity financing. We find that sample firms with low leverage chose better corporate governance provisions and all else equal, the better governance firms were more likely to issue new equity than debt.

JEL Codes: G32, G34

Keyword: Corporate Governance, Financial Constraints, Leverage, Small Firms

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1. INTRODUCTION

The cost and availability of capital are two of the most important issues for a company. They are crucial for small businesses that rarely are financially self-sufficient. Despite small firms' heavy dependence on external financing, the existing evidence on the choice and impact of corporate governance on capital structure is derived from samples of large firms. The main reason is paucity of data. Small firms disclose only minimal details of their corporate governance and financing policies and therefore most empirical analyses have to rely on surveys and relatively coarse data. Given the economic significance of small firms in most countries as the most dynamic, innovative and risk-taking sector of the economy, it is of crucial importance to understand these firms' financing and corporate governance choices³.

In this paper we explore the relation between a firm's capital structure and its corporate governance policy, in the context of small publicly traded Canadian companies, using unique hand-collected data. The Canadian corporate governance environment offers a unique setting for our analysis. Firms listed on the junior stock exchange were not subject to corporate governance guidelines prior to 2005, and hence were relatively unconstrained in their governance choices⁴. The small (and generally young) companies in our sample are characterized by a low level of collateralizable assets and a low level of internally generated funds. As a result, our sample firms have much lower leverage ratios than the companies traded on the main (TSX) exchange. Also they are heavily reliant on equity financing, which provides a strong incentive to improve corporate governance. A trade-off, however, exists because these

³ For example, in the 1990s, US small businesses accounted for approximately half of total private-sector employment and output.

⁴ The Toronto Stock Exchange (TSX) is the senior equity market in Canada, while the TSX Venture Exchange (TSXV) is the second tier marketplace for emerging companies.

firms are small and resource-constrained, and improving corporate governance can be very costly for them. In addition, small firms' managers may prefer opacity in order to have expanded benefits of control (Tirole, 2005). We show that prior to 2005, for the average firm in our sample, one standard deviation increase in leverage leads to a reduction in the governance measure by more than 8%. On the other hand, one standard deviation increase in the governance measure results in almost 20% increase in the probability of issuing new equity. These effects are statistically significant and economically large.

Our work contributes to the growing literature on the impact of corporate governance on firms' investment and financing policies. We find that small firms' corporate governance and financing decisions are consistent with some of the existing theories. First, we document evidence that collateral is the key observable determinant of small firm leverage explaining more than 5% of its variation. Second, we find a strong relation exists between small-firm capital structure and corporate governance practices. Our evidence is consistent with a trade-off theory that links debt capacity to corporate governance (Nielsen, 2006). Since the firms we analyze are small and opaque, the relative costs of information production and its external verification and dissemination (e.g. auditor fees, financial reports and analyst conferences) are high relative to income. In addition, improvement in corporate governance may be costly to insiders who would cede private benefits of control as a result of these improvements. Thus, we argue that small firms with high level of pledgeable assets can reduce agency costs when these assets are used as collateral. Conversely, the absence of such pledgeable assets implies that small firms have to resort to equity financing, which entails costly reduction of information asymmetry via improvement to corporate governance. We document evidence consistent with

this hypothesis. We find that firms with low level of collateral have low leverage ratios and stronger corporate governance provisions.

We also consider whether good corporate governance facilitates the access to equity financing and examine the effect of strong governance provisions on new equity issuance. Firms that choose to access the equity market should be more successful if they offer stronger investor protection (Beck, Demirguc-Kunt and Levine, 2003). We document new evidence supporting this hypothesis. We find a positive relation between governance provisions and the equity issuance of small firms.

The standard approach in the literature is to examine the relation between various governance mechanisms and leverage ratios using OLS analysis. However, some of the determinants of the choice of governance provisions and leverage are endogenously determined. In this paper, we take a different approach and use both instrumental variables analysis and the exogenous variation in security regulation across different Canadian provinces to address endogeneity issues. Our results remain robust under a variety of econometric specifications and using a number of alternative proxy variables.

The remainder of this paper is organized as follows. The next section presents a brief review of the related literature and the Canadian context. Section 3 describes the data and discusses our research design. We present our empirical results and robustness tests in section 4. Finally, section 5 concludes the paper and provides suggestions for future research.

2. BACKGROUND TO THE STUDY

2.1. Related Literature

Most research on corporate governance has focused on how different characteristics of the board of directors and other governance provisions affect firm performance (see below). The bulk of the empirical evidence is inconclusive, suggesting that there is no clear connection between corporate governance and performance. On the other hand, the research on capital structure has concentrated on target debt ratios, pecking order effects and/or market timing. There have been very few studies done on the interaction between corporate governance and capital structure. Unfortunately, the existing theoretical studies offer different predictions and the empirical evidence is mixed.

Nielsen (2006) develops an agency model where a trade-off exists between external control via strong shareholders rights and internal control via tight capital structure. He shows empirically that weaker governance is associated with higher leverage and highly levered firms are more likely to pay dividends. Empirical studies have also documented a negative relation between managerial discretion and firms' leverage ratios (see Friend and Lang (1988), Mehran (1992), Berger, Ofek, and Yermak (1997), and Kayhan (2008)). In contrast, John and Litov (2010) find that firms with entrenched managers, as measured by the Gompers et al. (2003) governance index, use more debt finance and have higher leverage ratios. Their evidence is consistent with entrenched managers receiving better access to debt markets (better credit ratings) and better financing terms. They interpret this as the market response to the more conservative investment policy that entrenched managers pursue.

Prior literature also has analyzed the effect of corporate governance on debt yields and the relation between corporate governance and debt covenants. Papers such as Bhojraj and Sengupta (2003), Klock et al. (2005), Anderson et al. (2004) and Ashbaugh-Skaife et al. (2006) examine the relation between bondholder wealth and corporate governance, and find a negative relation between various corporate governance mechanisms and debt yields or credit ratings. Nini, Smith, and Sufi (2011) show that violations of debt covenants impact the financial and investment policies of the firm⁵. Finally, Chang et al. (2006) examine the effect of greater equity analyst following on firms' debt ratios, market timing incentives, the size and frequency of equity issuance, and the debt-equity choice. While they do not address the issue of whether firms with stronger corporate governance attract more analyst following, or whether analysts directly reduce information asymmetry, Chang et al. find that greater analyst following is associated with lower debt ratios. Similarly, Chang et al. (2009) find that firms audited by the "Big Six" audit firms have lower debt ratios.

A study that examines the relation between corporate governance and leverage in the context of small firms, is Switzer and Tang's (2009) paper. They argue that small-cap US firms provide a significant nexus for entrepreneurship and innovation, and hence might be viewed as less prone to governance problems than large firms. They allow for interactions between internal and external governance mechanisms and performance, and they show that board independence, firm leverage, CEO ownership, and pay-performance sensitivity are closely related. Their results suggest that excess leverage which significantly reduces firm value is

⁵ Similarly, Billett, King, and Mauer (2007) link debt covenants with firms' investment policies. Chava, Kumar, and Warga (2010) empirically study the effects of debt covenants in the shareholder-manager conflicts.

observed. This is consistent with the view that debt reduces the entrepreneurial capacity of firms, by hindering the firm's ability or willingness to compete aggressively. Larger board sizes are detrimental to performance as they are less effective at monitoring due to the higher coordination costs. Pay-for performance compensation for CEOs, on the other hand is beneficial for small-cap firm performance. Given the paucity of research on the relation between corporate governance and leverage in the context of small firms, further empirical investigation is necessary.

2.2. The Canadian Corporate Governance System and the TSX Venture Exchange

The general approach to corporate governance in Canada is influenced by the relatively small size of the capital markets, the large number of small and micro-cap public companies and the concentration of share ownership. The Canadian regulatory oversight of corporate governance is less stringent than in the US. Canadian public firms are not subject to the mandatory rules like the ones adopted by the SEC in the US, or to the mandatory requirements of the NYSE and NASDAQ. Instead, the Canadian governance environment is characterized by a voluntary guidelines approach. Since 1995, the Toronto Stock Exchange (TSX) has published 14 corporate governance best practice guidelines that firms can choose to implement voluntarily⁶.

There are two main stock exchanges in Canada: the Toronto Stock Exchange (TSX), and the TSX Venture Exchange (TSXV). The TSX Venture Exchange is designed for small and micro-

⁶ The "adopt or explain" governance structure means that firms can be compliant either by voluntarily adopting the guidelines or by explaining the alternative practices they have implemented. TSX firms that fail to comply (i.e., neither adopt nor explain) are in violation of Canadian securities regulation with respect to governance.

cap companies and while they are now subject to the same corporate governance guidelines as companies on the TSX, this did not occur until 2005. Prior to 2005, (and in our sample), both the adoption of the guidelines and its disclosure were left to the discretion of the individual companies' management, resulting in large variation in governance choices⁷.

In addition, securities regulation in Canada is the responsibility of the provincial and territorial governments, each of which has its own legislation and securities regulatory authority. For example, the provinces of Ontario and Québec have additional rules designed to ensure fair treatment of minority shareholders. The consensus historically has been that investors in Western Canada take on more risk and the regulatory structure is more lax. In general, firms in Canada have the choice of incorporating under the Federal Canada Business Corporations Act, one of the provincial counterparts, or even in a U.S. jurisdiction, and essentially can choose their governing law.

The TSX Venture Exchange (TSXV) is also characterized by lenient listing requirements. To be listed on the TSXV, a firm must meet the following conditions: stock price over CAN\$ 0.15 and post-IPO net tangible assets and market capitalization higher than CAN\$ 500,000. TSX Venture has no requirements related to issuers' profitability; it simply stipulates sufficient working capital for 12 months of operations. The more lenient listing requirements in Canada have enabled smaller and unprofitable firms to access the market, while perhaps reducing investor protection and market quality⁸. Because of the relatively small market capitalization

⁷ Prior to 2005, TSX Venture firms did not have to comply with the best practices guidelines, i.e., neither adopt nor explain why they have implemented a different policy.

⁸ In the U.S., the Penny Stock Reform Act (PSRA) in 1990 restricted IPOs that were priced below US\$5.

and the lack of liquidity of most Canadian small and micro-cap stocks, institutional investors are prevented from playing a significant role in this market⁹.

Another characteristic of the Canadian stock market is the large relative weight of natural resources companies. The Energy (Oil & Gas) sector accounts for 13% of companies listed on the TSXV and 25.22% of market capitalization. Corresponding values for the Materials (Mining) sector are 46.74% and 50.70%. Collectively, natural resources (Energy and Materials) companies account for 27.36% of companies listed on the TSX and 38.07% of its capitalization. For more detail see Carpentier and Suret (2008).

3. DATA AND METHODOLOGY

3.1. Data and Summary Statistics

Our initial sample consists of all 1474 companies listed on the TSX Venture Exchange in 2004. We use hand collected data on corporate governance provisions and their disclosure for 2004. The governance data are from the proxy circulars of our sample firms. 2004 is the last year for which there are no regulatory constraints and small Canadian firms were able to choose an optimal level of governance provisions and their disclosure.

We also hand collect accounting data for the period 2003-2005 from the companies' financial statements in SEDAR. Equity prices for the same period are from Bloomberg. After removing all missing observations and winsorizing all variables at the 1% and 99%, we are left with 847 firms.

⁹ Carpentier and Suret (2008) report a median post-IPO capitalization in Canada below CAN\$2 million. Institutional investments are generally limited to the 60 most heavily capitalized Canadian stocks.

Table 1 contains the variables definitions for our study. Table 2 presents descriptive statistics for the sample firms. Table 2 shows that the distribution of most variables is highly skewed, as demonstrated e.g. by the large difference between the mean and the median. The median firm is very small (less than CAD \$2.5 million in total assets), has just over 15% book leverage and 7% market leverage. Also, the median firm has negative profitability and only 1.11% of its assets are property, plant and equipment (PPE). The median stock price is CAD \$0.27, with an annual volatility of 130%¹⁰.

Panel A of Table 2 shows that in terms of total assets, the median firms are similar across Canadian provinces; however Oil and Gas firms tend to be smaller than the firms in Mining and other industries. Moreover, Mining and Oil and Gas firms have lower leverage (both book and market) than other firms and mining firms have higher equity issuance than other firms. Panel B shows that the median Oil and Gas firm and Mining firm are older than other firms (8 years since IPO versus 5). The average stock price and annual volatility are similar across industries.

Panel C highlights the important differences in corporate governance between provinces, as well as the differences in ownership structure between industries. The Corporate Governance Rank in Ontario and Quebec (mean 4.01) is much higher than in other provinces (mean 2.31), reflecting the higher regulatory oversight in these provinces¹¹. The difference in the means is significant at conventional levels. On the other hand, the Oil and Gas and Mining

¹⁰ The majority of sample firms (75%) have market capitalization lower than CAD \$5 million. Only 55 (6.5%) of the sample firms were cross listed on another (US) exchange in 2004.

¹¹ We construct an indicator of corporate governance to measure the extent to which a firm has adopted the 14 TSX corporate governance guidelines (Governance Rank). See section 3.2 for details.

companies have lower Corporate Governance Rank (means of 1.84 and 2.51 respectively) than other industries (mean of 3.60).

There are also important differences in the ownership structure. First, on average there are fewer widely held firms in Ontario and Quebec (38%) than in the rest of Canada (48%). There are more widely held firms in Mining (58%) and in Oil and Gas (40%) than in other industries (25%). Ownership concentration is higher in Ontario and Quebec than the rest of Canada. Next, ownership concentration is much lower in Mining (median of 18.6%) than in other industries (median of 34.6%). Finally, block ownership by institutions and individuals is lower in Oil and Gas and in Mining than in other industries. The average institutional ownership is 6% in Mining and 9% in Oil and Gas versus 12% in other industries. The average individual ownership is 26% in Mining and 47% in Oil and Gas versus 60% in other industries. Similarly, there is more individual block ownership in Ontario and Quebec (45% vs 37% in other provinces).

Table 3 illustrates the main ideas of the paper in a simple way. The table reports different characteristics for the average firm in the top and bottom leverage quartile. Panel A shows results for firms sorted by book leverage, whereas panel B reports the results when firms are sorted by market leverage. The table shows that the results are the same for both measures of leverage.

As expected, on average larger firms have higher leverage. For the firms in the top book leverage quartile, PPE (collateralizable assets) represent 22.68% of total assets whereas for the firms in the bottom quartile it is only 2.59%. These firms are also more likely to be audited by a

“big 4 Auditor”, and have higher concentration and individual block ownership. On the other hand, low leverage firms have a much higher corporate governance rank. Similarly, the sample probability of being widely held and of having stronger governance provisions such as larger Boards of Directors (BoD) and independent BOD’s chair are also higher. The differences in these characteristics for the firms in the top and bottom quartile are significantly different at conventional levels.

3.2. Leverage Regressions

In our first set of results, we examine the determinants of leverage for small publicly traded firms. We follow the literature on capital structure and estimate a standard leverage regression with the following specification:

$$\begin{aligned}
 \text{Leverage}_{it} = & \\
 & = \alpha_i + \beta_1 * \text{Collateral}_{it-1} + \beta_2 * \text{Size}_{it-1} + \beta_3 * \text{Profitability}_{it-1} + \beta_4 * \text{Cash}_{it-1} + \beta_5 * \text{MktBk}_{it-1} \\
 & + \text{Controls} + \varepsilon_{it}
 \end{aligned} \tag{1}$$

where the dependent variable *Leverage_{it}* is either the ratio of book value of debt to book value of total assets, or book value of debt to market value of assets (market value of equity plus book value of debt). This specification is motivated as follows.

Agca and Mozumdar (2004) argue that the conflicting nature of the existing evidence on corporate capital structure is due to the difference between financing practices of large and small firms, and the skewness of the firm size distribution. For example, they show that the

pecking order theory performs poorly for small firms because they have low debt capacities that are quickly exhausted, forcing them to issue equity¹². Also, small firms are younger, riskier, and less profitable and have greater growth options. Barclay, Morellec, and Smith (2002) argue that not only is the incremental debt capacity associated with growth options lower than that of tangible assets, it is in fact negative. At the same time, their need to borrow is high as their internal cash flows are small relative to their large investment needs. The debt capacity constraint therefore binds and becomes the primary determinant of their leverage.

In the above specification, we hypothesize that one of the most important determinant of leverage is Collateral (PPE/TA). We argue that for small firms the availability of pledgeable assets is the key determinant of debt capacity¹³. We include the logarithm of total assets to control for size effects, the ratio of net income to total assets (Profitability), as it is a well-documented fact that in a leverage regression, profits are negatively related to debt equity ratios. Myers (1993) and Fama and French (2002) argue that such evidence supports the rejections of the trade-off theory. Similarly, Agca and Mozumdar (2004) argue that an extended pecking order model that takes into account the role of the trade-off theory in determining credit constraints on small and unprofitable firms appears to provide a more realistic

¹² The pecking order theory, however, performs satisfactorily for large firms, firms with rated debt, and when the impact of debt capacity is accounted. The level of firm borrowing depends on borrowing constraints (its debt capacity), as well as how much it wants to borrow. The observed debt level is the lower of the two. The pecking order theory focuses on the latter, and largely ignores the former. Large firms are typically older and more profitable, and have more tangible assets and fewer growth options. Such firms have large debt capacities but low borrowing demand, since their internal cash generations are large relative to their limited investment needs. Their external financing choices are therefore guided primarily by the preference for debt over external equity, as predicted by the pecking order theory.

¹³ In the presence of contract incompleteness, Barro (1976), Stiglitz and Weiss (1981) and Hart and Moore (1994) point out that collateral pledging enhances a firm's debt capacity. Providing outside investors with the option to liquidate pledged assets ex post acts as a strong disciplining device on borrowers. This, in turn, eases financing ex ante. Asset liquidation values thus play a key role in the determination of a firm's financing capacity.

description of corporate financing practices. Frank and Goyal (2011), on the other hand, argue that the effect of profits on equity drives the negative coefficient in the usual leverage regression. They show that highly profitable firms typically issue debt and repurchase equity, while the lowest profitable firms tend to raise external funds and particularly equity. Their sample firms experience an increase in both the book value of equity and the market value of equity. Poor market conditions lead to reduced use of external finance and the impact is particularly strong on small and low profit firms.

Finally, we include the ratio of cash holdings to total assets (Cash) and market to book ratio to control for internal sources of funds and growth opportunities. The vector *Controls* includes year and industry dummies.

3.2. Corporate Governance and Capital structure

If for small firms debt capacity is mainly determined by the availability of collateral, we expect that firms that have exhausted their debt capacity will turn to equity financing. We hypothesize that in order to improve their access to the equity market these firms will offer stronger shareholder protection and improved disclosure. Conversely, for small firms with access to debt financing, it is not optimal to increase the level of governance provision. This hypothesis is consistent with the model of Nielsen (2005) where a tight capital structure could

serve as a commitment device for managers not to undertake unprofitable investments that could lead to future bankruptcy¹⁴.

To accommodate the possibility of endogeneity in our specification, we depart from the standard approach in the literature. Since corporate governance and financing policies are determined simultaneously, the OLS estimates of leverage or governance regressions are biased and inconsistent. To address this endogeneity, we specify the following system of simultaneous equations¹⁵:

Leverage_i =

$$\begin{aligned}
 &= \alpha_L + \beta_{1,L} * \text{Governance}_i + \beta_{2,L} * \text{Collateral}_i + \beta_{3,L} * \text{Size}_i + \beta_{4,L} * \text{Profitability}_i \\
 &+ \beta_{5,L} * \text{Cash}_i + \beta_{6,L} * \text{MktBk}_i + \text{Controls}_L + \varepsilon_{i,L}
 \end{aligned} \tag{2}$$

Governance_i =

$$\begin{aligned}
 &= \alpha_G + \beta_{1,G} * \text{Leverage}_i + \beta_{2,G} * \text{Size}_i + \beta_{3,G} * \text{Profitability}_i + \beta_{4,G} * \text{Cash}_i \\
 &+ \beta_{5,G} * \text{MktBk}_i + \text{Controls}_G + \varepsilon_{i,G}
 \end{aligned} \tag{3}$$

where the dependent variable *Governance_i* is a proxy for the level of corporate governance provision. As argued by Larcker et al. (2007), researchers still do not have a proper understanding of the appropriate measurement of good corporate governance indicators or of the number of dimensions (or constructs) that are necessary to provide a comprehensive

¹⁴ The key insight of his model is that increasing the power of the shareholders limits the ability of capital structure to serve as a commitment device, because it shortens the planning horizon of managers and therefore their concern about future bankruptcy. This effect creates the trade-off between external control by shareholders and internal through a tight capital structure.

¹⁵ Since corporate governance data are available only for 2004, the empirical tests (2) above are cross-sectional.

assessment of the quality of corporate governance. We construct indicators of corporate governance using the first factor of an exploratory Principal Component Analysis (PCA Rank) and an indicator constructed to measure the extent to which firm i has adopted the 14 TSX corporate governance guidelines (Governance Rank). The rank is based on scores for 22 dimensions of the guidelines¹⁶.

For purposes of identification of the parameters in system (2)-(3) the presence of exclusion restrictions is necessary. In our specification, the variable *Collateral* causes variation in leverage that does not affect the level of corporate governance. In addition, variables in *Controls_G* that measure disclosure and ownership cause variation in governance that does not affect leverage. It is the variation in these variables that serves to identify the effect of leverage on corporate governance, or the $\beta_{1,G}$ coefficient. In section 4.4 we provide additional robustness checks that address the endogeneity issue using the exogenous variation in governance regulatory oversight across Canadian provinces.

The coefficient of book or market leverage in the governance equation is the main parameter of interest in (3). We argue that highly levered firms will have lower corporate governance provisions. This is consistent with the evidence in John and Litov (2010) but our interpretation differs. Our interpretation of the negative relation between leverage and corporate governance is similar to Nielsen (2009) in that for firms with access to debt financing it is not efficient to increase corporate governance provisions.

¹⁶ See the Appendix for details regarding the construction of the governance measure.

The rest of the explanatory variables in the governance regression are similar to those in Jonh and Litov (2010) in that we include firm size, profitability, cash and market-to-book ratio. In the vector *Controls_G*, we include industry dummies as in the leverage equation. However, we also include measures of disclosure and ownership: a dummy variable that equals one if the firm is audited by one of the big four (*Big 4 auditor*) and a dummy variable that equals one if there is no blockholder with more than 10% voting rights (*Widelyheld*)¹⁷.

3.3. New Equity Issuance

Most of the existing general literature has focused on the correlation between corporate governance structure and firm performance and valuation outcomes. However, it is still debatable what the channels are through which governance mechanisms affect firms and their decisions. Previous studies have suggested a number of potential channels for corporate governance effects. La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998) and (2000) and Beck, Demirguc-Kunt and Levine (2003) suggest that the effect is channeled via stronger shareholder rights and legal protection mechanisms which lower investor capital costs. Gompers, Ishii and Metrick (2003), Bebchuk, Cohen and Ferrell (2004) and Cremers and Nair (2005) argue that takeover vulnerability creates incentive effects associated with better corporate governance. Other suggested channels included greater coverage and reporting by ratings agencies (Klapper and Love, 2004; Linden and Matolsky, 2004; and Brown and Caylor, 2006), improved management structure and oversight through voluntary or legislative enforcement of codes of

¹⁷ The results remain the same if we use dummy for independent audit committee and ownership concentration (the cumulative percentage of blockholders' voting rights).

governance practice (Black, 2001; Black, Jang, Kim and Park, 2005; Black, Jang and Kim, 2006; and Henry, 2008), and enhanced disclosure (Beekes and Brown, 2006)¹⁸. In our paper, we find evidence to support the hypothesis that good governance improves the access and terms of equity finance for small publicly traded firms.

Our final set of regression results explores the effect of leverage and governance provisions on new equity issuance. We consider the following probit regression for the probability of new equity issuance:

$$\begin{aligned}
 Pr(\text{New Equity Issuance}_i) = & \\
 & = \Phi(\alpha + \beta_1 * \text{Governance}_i + \beta_2 * \text{Size}_i + \beta_3 * \text{Profitability}_i + \beta_4 * \text{Cash}_i \\
 & + \beta_5 * \text{MktBk}_i + \beta_6 * \text{Stock Return}_i(t-1) + \beta_7 * \text{Return Volatility}_i(t-1) + \text{Controls}) \quad (4)
 \end{aligned}$$

where Φ is the cumulative density function of the normal distribution.

The main variable of interest is *Governance*. We expect that the firms that have access to debt financing are less likely to require new equity and therefore provide only limited level of governance for their shareholders. Firms with better corporate governance, on the other hand, are the firms with low debt capacity that need easy access to equity markets. Our hypothesis is that firms with better governance will be more likely to issue new equity.

¹⁸ The pecking order theory developed by Myers and Majluf (1984) considers equity issuance as financing of last resort. However, Frank and Goyal (2003) and Fama and French (2005) both show empirically that external equity is not a financing vehicle of last resort, because of the high frequencies of equity issuances and the order of financing decisions. Overall the leading explanation of for equity issuance is that managers time the market and sell overpriced equity. This explanation is based on the observation that there is a long-run underperformance after equity issuance. Loughran and Ritter (1995), Spiess and Affleck-Graves (1995), and Baker and Wurgler (2002) present pre-issue overperformance and post-issue underperformance, which suggests market timing by managers. Such market-timing effects are not present in the cross-section.

The rest of the explanatory variables included in (4) are the same as in Park (2011) and our hypotheses have the same interpretation. Past stock returns and volatility control for market timing effects. Finally we include industry dummies and dummy variables that equal one if the firm is audited by one of the big four (Big 4 auditor), if there is no blockholder with more than 10% voting rights (Widely held) and industry dummies as controls in (4).

Conditional on issuing new equity we also analyze the effect of corporate governance and other determinants of the issuance size:

New Equity Issuance_i =

$$= \alpha + \beta_1 * Governance_i + \beta_2 * Size_i + \beta_3 * Profitability_i + \beta_4 * Cash_i + \beta_5 * MktBk_i + \beta_6 * Stock Return_i(t-1) + \beta_7 * Return Volatility_i(t-1) + Controls + \xi_i \quad (5)$$

where the dependent variable is the ratio of new equity issue to total assets. The explanatory and control variables are the same and have interpretations similar to those in specification (4).

4. RESULTS

4.1. Leverage Results

We consider the determinants of leverage according to our specification (1) in Table 4. We present the results for book leverage (columns (I) to (III)) and also for market leverage (columns (IV) to (VI)). The estimated coefficient of *Collateral* β_1 is significant and positive in all specifications. This result suggests that *Collateral* is an important firm-specific determinant of leverage. Our analysis shows that *Collateral* alone explains more than 5% of the variation of

leverage. The effect is also economically significant since for the results in column (I), one standard deviation increase in *Collateral* increases book *Leverage* by almost 13%. This is large relative to the mean of 25.57%.

The rest of the coefficients of the explanatory variables in (1) have the expected signs. For example, large firms have higher leverage ratios and there is a negative effect of profitability on debt levels. For our sample firms, profitability, cash and market-to-book ratio are significant only when we use book leverage. Overall our results are consistent with our empirical hypothesis that collateral is the most important determinant of small firm capital structure. This result remains robust regardless of whether we use book or market leverage.

4.2. Governance Results

We consider the determinants of small firm corporate governance according to our specification (2)-(3) in Table 5. As discussed above, the dependent variable is either *Governance Rank*, constructed by scoring on the 14 guidelines of the TSX or *PCA Rank*, constructed using the first factor from a principal component analysis. The main result in the table is that leverage has a significant negative effect on the level of governance provisions. Corporate governance, however, does not have a significant effect on leverage. This is consistent with our hypothesis that highly levered firms do not find it optimal to increase shareholders control rights whereas firms with binding debt capacity constraints choose to implement stronger governance provisions which facilitates their access to equity financing. The result remains robust regardless whether we use book or market leverage.

The signs of the other explanatory variables in the *Leverage* regression remain the same whereas in the *Governance* regression they are consistent with previous findings in the literature. Our results show that larger, more profitable and less cash rich firms have better corporate governance. The significance of the auditor firm effect shows the importance of external verification and certification in reducing asymmetric information for small firms. Overall our results support theoretical models that postulate a trade-off between tight capital structure (high leverage) and strong shareholders protection.

4.3. Equity Issuance

Table 6 shows the probability of new equity issuance according to our specification (4) and Table 7 presents the results from regressions of the size of new equity issues according to our specification (5).

The main result in Table 6 is that corporate governance has a significant positive effect on the probability of new equity issuance. This result lends further support to our hypothesis that enhanced corporate governance facilitates the access to equity financing. The signs of the remaining explanatory variables are as expected. The effect of profitability on the likelihood of new equity issuance is significantly negative as in Park (2011) whereas consistent with market timing, the coefficient of past stock returns is significantly positive. The effect on stock price volatility on equity issuance is not statistically significant. Also, larger firms with more cash and higher market-to-book ratios are more likely to issue equity. Finally, from our control variables, ownership (widely-held) has a significantly negative effect on equity issuance, whereas having a

“big four” auditor has a significant positive effect. In summary our results lend support for the effect of corporate governance on small firms is via easier access to equity financing.

Table 7 shows that the size of equity issue is also positively affected by corporate governance characteristics although the significance is weaker. On the other hand, cash flow and market to book ratio have a significant effect on the amount of equity raised. This is consistent with our hypothesis that corporate governance act as an enabling device to raise equity finance, while the particular financing needs of the firm determine the actual size of the issue. As expected past stock returns have a positive effect while equity volatility has a negative effect. From the control variables only, “widely-held” ownership variable is significant.

4.4. Further Tests

Finally, we carry out a number of robustness checks. First, we provide another endogeneity test to address the fact that some of the determinants of the choice of governance provisions and leverage are endogenously determined. We use the exogenous variation in security regulation across different Canadian provinces and instrument our measures of governance with a dummy variable that equals one if the firm i is incorporated in Ontario or Quebec and zero otherwise. Table 8 presents the results of this instrumental variables estimation. Second, we control for endogeneity between corporate governance provisions and new equity issuance in the same way. We use the exogenous variation in security regulation across different Canadian provinces. Table 9 presents the results from this robustness tests. Both table 8 and table 9 show that our main results are robust.

Several other robustness tests provide further insight. We control for the effects of persistence in leverage that may be caused by regular rebalancing and include a one period lag of the dependent variable to the regressions in specification (1). We use GMM to estimate the model. We also control for stale prices and illiquidity of small and micro-cap firms and include two- and three period lagged returns in specification (4) and (5). The results remain essentially unchanged¹⁹.

5. CONCLUSIONS

We examine the relation between the corporate governance and financing choices of junior publicly traded Canadian firms. We document evidence supporting the hypothesis that when debt capacity constraints are binding, corporate governance enhancements serve as a mechanism enabling access to equity financing. We find that small firms with low level of collateral have low debt-to-equity ratios. These firms choose high level of investor protection as a way to facilitate their access to equity financing. Our empirical evidence suggests that there is a need for theoretical work that models how firms' choices regarding corporate governance reflect trade-offs between costs and availability of external finance, as well as private benefits of control, and how these trade-offs differ for large and small firms.

¹⁹ These results are available upon request.

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Appendix

TSX corporate governance guidelines and the construction of *Governance Rank* variable

Relevant TSX guideline	Scoring	MaxScore
1. Board of directors explicitly assume responsibility for stewardship, specifically the adoption of a strategic planning process; identification of risk and risk management systems; succession planning, communications policy; and integrity of internal control and management information systems.	Coded 1 if disclosures state that the board: -assumes responsibility for stewardship. -has established a strategic planning process. -assumes responsibility for identification of risk. -has a clear succession policy.	4
2. The board of directors should be constituted of a majority of individuals who qualify as unrelated directors.	Coded 1 if disclosures state that the board: -majority is independent of management. -reviews the status of a director with respect to significant shareholder.	2
3. The circumstances of each individual director should be examined in determining their relationship. Firms should disclose annually whether a majority of directors are unrelated.	Coded 1 if disclosures indicate for each director if the director is independent.	1
4. Firms should have a committee of directors for nominating new directors and assessing directors on an ongoing basis; members of this committee should be non-management.	Coded 1 if disclosures indicate that: - the company has a Nominating committee. - the Nominating committee is comprised completely of independent directors.	2
5. Firms should implement a process for assessing the effectiveness of the board, its committees, and individual directors.	Coded 1 if disclosures indicate that there is a process for assessing the performance of the Board, its committees and its members.	1
6. An orientation and education program should be provided to new board members.	Coded 1 if disclosures indicate that the company has a formal orientation program.	1
7. The board should consider its size and the potential for reduction.	N.A.	0
8. The board should review the adequacy and form of director's compensation.	Coded 1 if disclosures indicate that the company has a Compensation committee.	1
9. Committees of the board of directors should generally be composed of outside directors, a majority of whom are unrelated directors.	Coded 1 if disclosures indicate that the all committees described are comprised completely of independent directors.	1
10. Firms should have a committee with responsibility for governance issues.	Coded 1 if disclosures indicate that the company has a corporate governance committee.	1
11. The board of directors, together with the CEO, should develop position descriptions for the board and for the CEO, including the definition of the limits to management's responsibilities.	Coded 1 if disclosures indicate that the company -has a Code of business conduct / ethics. -has a written charter.	2
12. Firms should have structures and procedures so that the board can function independently of management.	Coded 1 if disclosures explicitly state that: - the Board Chair is separate from the CEO. - the company has a lead director. - the Board Chair is an independent director. - directors can meet independently of management.	4
13. The audit committee should: be composed only of outside directors; have specifically defined roles and responsibilities; have direct communication with internal and external auditors; have oversight responsibility for management reporting on internal control.	Coded 1 if disclosures explicitly indicate that the audit committee consists entirely of independent directors.	1
14. The board of directors should implement a system enabling any director to engage an outside adviser at corporate expense in appropriate circumstances.	Coded 1 if disclosures indicate that there is a formal process for allowing directors to engage outside advisors at company's expense.	1

Table 1: Variable Definitions

All variables except total assets are winsorized at 1% in each tail of the distribution.

Variable	Definition
Main Variables	
<i>Financial</i>	
Net equity issues	Sale of common & preferred stock – purchase of common & preferred stock divided by assets.
Net debt issues	Long-term debt issuance – long term debt reduction divided by total assets.
Book leverage	Book debt to total assets at the end of the current fiscal year. Book debt is defined as total assets – book equity.
Market leverage	Book debt divided by: total asset – book equity + total shares outstanding * price.
<i>Governance</i>	
Governance rank	The rank is constructed to measure the extent to which a firm has adopted the 14 TSX corporate governance guidelines. See Appendix for detail.
Board size	Defined as $\ln(\text{board size})$.
Board structure	Defined as outsiders on the board / board size.
Big 4 Auditor	Dummy variable that equals one if the auditor is one of the big four.
Widely held	Dummy variable that equals one if a firm has no blockholders (entities with more than 10% voting rights).
Concentration	The cumulative percentage of blockholders' voting rights.
Institutional ownership	Dummy variable equal to 1 if there is at least one institutional shareholder with at least 10% stake in the company.
Individual ownership	Dummy variable equal to 1 if there is at least one individual shareholder with at least 10% stake in the company.
Control Variables	
Market-to-book	The ratio of the market value of assets to the book value of asset.
Collateral	Net property, plant and equipment divided by total assets as of the current fiscal year.
Profitability	Net income divided by total assets as of the current fiscal year.
Firm size	Logarithm of total assets as of the end of the fiscal year.
Firm age	Firm age measured as the difference between the current year and the year when the firm was incorporated.
Return volatility	Standard deviation of the daily returns within each fiscal year.

Table 2: Summary Statistics

The table presents the mean values summary statistics for a sample of firms listed on the TSX Venture. Non-missing, winsorized data are available for 847 firms. Corporate governance data are hand-collected from companies' proxy circulars for 2004. Financial and market data are collected for the period 2003-2005. Total assets are reported in thousands CAD\$. Standard deviations are reported in parenthesis. T test reports the p-values from a test for differences in means for (i) Ontario and Quebec vs the rest of Canada (O&Q vs RC) and (ii) Oil&Gas/Mining vs others (O&G vs O/M vs O). *, ** and *** represent significance level of 10%, 5% and 1%.

	All Firms		Ontario and Quebec		Rest of Canada		O&Q vs RC	Industry								
	mean	median	mean	median	mean	median		Oil&Gas	Mining	Others	O&G vs O	M vs O				
<i>Panel A: Financials (SEDAR, 2003-20005)</i>																
	mean	median	mean	median	mean	median	T test	mean	median	mean	median	mean	median	T test	T test	
Total assets (TA)	6,770 (15000)	2,461	7,292 (13800)	2,843	6,608 (15300)	2,300	0.31	7,903 (15800)	2,113	5,948 (14500)	2,350	7,842 (15300)	2,898	0.95	0.01***	
Book Leverage	25.57% (0.2604)	15.18%	26.56% (0.2537)	17.73%	25.26% (0.2624)	14.52%	0.34	30.53% (0.2423)	24.64%	15.65% (0.1948)	8.04%	46.57% (0.2773)	44.93%	0.00***	0.00***	
Market Leverage	17.38% (0.2197)	7.04%	18.46% (0.2210)	8.38%	17.05% (0.2192)	6.56%	0.19	20.37% (0.2088)	13.38%	9.71% (0.1510)	3.81%	31.88% (0.2659)	26.17%	0.00***	0.00***	
Net Debt Issuance/TA	1.60% (0.0690)	0.00%	1.36% (0.0646)	0.00%	2.37% (0.0813)	0.00%	0.01***	1.30% (0.0621)	0.00%	0.33% (0.0273)	0.00%	4.42% (0.1121)	0.00%	0.00***	0.00***	
Net Equity Issuance/TA	27.69% (0.2983)	17.95%	28.77% (0.3015)	19.58%	24.31% (0.2859)	12.03%	0.00***	24.76% (0.3013)	10.64%	34.74% (0.3057)	28.11%	15.37% (0.2326)	0.88%	0.00***	0.00***	
Collateral (PPE/TA)	13.21% (0.2373)	1.11%	10.18% (0.2032)	0.85%	14.15% (0.2462)	1.15%	0.00***	28.24% (0.3501)	3.15%	4.83% (0.1381)	0.40%	22.27% (0.2491)	12.11%	0.00***	0.00***	
Profitability (NI/TA)	-0.79 (2.1742)	-0.20	-0.67 (1.8072)	-0.17	-0.83 (2.2756)	-0.21	0.09*	-0.79 (2.7370)	-0.12	-0.81 (2.2219)	-0.23	-0.80 (1.9447)	-0.17	0.66	0.89	

Table 2: Summary Statistics (continued)

	All Firms		Ontario and Quebec		Rest of Canada		O&Q vs RC	Industry							
								Oil&Gas	Mining	Others	O&G vs O	M vs O			
<i>Panel B: Market Data (Bloomberg, 2003-2005)</i>															
Years since IPO	9.36 (7.6723)	7.00	8.07 (7.4937)	5.00	9.77 (7.6850)	8.00	0.00***	9.24 (6.5777)	8.00	10.11 (8.3902)	8.00	7.89 (6.3363)	5.00	0.00**	0.00***
Market price (CAD\$)	0.65 (2.6818)	0.27	0.58 (2.7751)	0.26	0.67 (2.6527)	0.27	0.48	0.78 (1.6491)	0.30	0.64 (2.9342)	0.27	0.60 (2.5925)	0.25	0.17	0.75
Annual Equity Volatility	1.55 (1.9832)	1.30	1.61 (3.6206)	1.29	1.53 (1.1268)	1.30	0.62	1.54(1.1516)	1.27	1.54 (2.3715)	1.29	1.58 (1.3743)	1.36	0.59	0.57
<i>Panel C: Corporate Governance (Proxy circulars, 2004)</i>															
Rank	2.71 (3.2374)	1	4.01 (3.7461)	3	2.31 (2.9500)	1	0.00***	1.84 (2.5160)	1	2.51 (3.1277)	1	3.60 (3.5959)	2	0.00***	0.00***
BOD Size	4.84 (1.4182)	5	5.41 (1.5162)	5	4.67 (1.3388)	4	0.00***	4.38 (1.1598)	4	4.76 (1.3502)	5	5.27 (1.5673)	5	0.00***	0.00***
Board structure	59.47% (0.1860)	60%	62.94% (0.1650)	67%	58.39% (0.1909)	60%	0.00***	58.93% (0.1789)	60%	58.87% (0.1904)	60%	61.00% (0.1801)	60%	0.08*	0.01***
Big 4 Auditor	24.67% (0.4312)		34.80% (0.4767)		21.51% (0.4110)		0.00***	24.86% (0.4328)		18.26% (0.3865)		37.74% (0.4851)		0.00***	0.00***
Widely held	45.85% (0.4984)		38.11% (0.4861)		48.24% (0.4998)		0.00***	39.78% (0.4901)		57.63% (0.4943)		24.89% (0.4327)		0.00***	0.00***
Concentration	31.65% (0.1920)	26%	36.27% (0.1980)	33%	29.95% (0.1870)	23%	0.00***	32.04% (0.1848)	29%	26.30% (0.1710)	19%	37.75% (0.2000)	35%	0.00***	0.00***
Institutional ownership	8.26% (0.2753)		8.74% (0.2826)		8.11% (0.2731)		0.64	8.99% (0.2865)		6.29% (0.2429)		11.92% (0.3243)		0.13	0.00***
Individual ownership	38.62% (0.4870)		45.28% (0.4982)		36.56% (0.4817)		0.00***	47.41% (0.5000)		25.96% (0.4386)		59.91% (0.4904)		0.00***	0.00***
# of firms	847		204		643			128		478		241			

Table 3: Corporate Governance Provisions and Leverage Quartiles

The table presents averages for several firm characteristics when we sort 847 sample firms by leverage. Standard deviations are reported in parenthesis. T test reports p-values from a t-test for differences in means. *, ** and *** represent significance level of 10%, 5% and 1%.

Panel A: Book Leverage					
	Top 25%		Bottom 25%		T test
Total assets (thousands)	8,749.93	(22,500)	5,890.31	(6,629.06)	0.0004***
Collateral (PPE/TA)	22.68%	(0.2864)	2.76%	(0.0981)	0.0000***
Governance Rank	1.58	(3.0776)	3.83	(3.4064)	0.0000***
BOD Size	4.73	(1.3606)	4.94	(1.5319)	0.0074***
Board structure	58.39%	(0.1909)	62.94%	(0.1649)	0.0000***
Big 4 Auditor	28.99%	(0.4540)	16.44%	(0.3710)	0.0000***
Widely held	35.31%	(0.4782)	56.50%	(0.4963)	0.0000***
Concentration	23.84%	(0.2406)	11.21%	(0.1677)	0.0000***
Institutional ownership	10.61%	(0.3082)	8.07%	(0.2727)	0.1097
Individual ownership	48.49%	(0.5001)	24.61%	(0.4311)	0.0000***
Panel B: Market Leverage					
Total assets (thousands)	12,000.00	(25,200)	4,765.50	(6,681.99)	0.0000***
Collateral (PPE/TA)	26.24%	(0.3014)	3.94%	(0.1150)	0.0000***
Governance Rank	2.53	(3.0530)	3.09	(3.5157)	0.0025***
BOD Size	4.75	(1.3676)	5.02	(1.5399)	0.0009***
Board structure	58.98%	(0.1893)	59.25%	(0.1989)	0.8067
Big 4 Auditor	29.37%	(0.4558)	19.26%	(0.3947)	0.0000***
Widely held	30.86%	(0.4622)	54.50%	(0.4984)	0.0000***
Concentration	25.65%	(0.2397)	12.45%	(0.1826)	0.0000***
Institutional ownership	9.75%	(0.2969)	9.17%	(0.2888)	0.7241
Individual ownership	53.71%	(0.4990)	26.12%	(0.4397)	0.0000***

Table 4: Leverage and Collateral

The table presents estimation results from standard OLS regressions with fixed effects. The dependent variable for specifications (I) to (III) is book leverage and for (IV) to (VI) market leverage. Year dummies are included in all specifications but not reported. Robust standard errors, clustered by industry, are reported in parentheses. *, ** and *** represent significance level of 10%, 5% and 1%.

Variables	Book Leverage			Market Leverage		
	(I)	(II)	(III)	(IV)	(V)	(VI)
Collateral (PPE/TA)	0.3103 (0.0973)***	0.5568 (0.0810)***	0.5259 (0.1269)***	0.2710 (0.0377)***	0.3406 (0.0386)***	0.3531 (0.0643)***
Size		0.1923 (0.0124)***	0.1892 (0.0205)***		0.1414 (0.0157)***	0.1460 (0.0101)***
Profitability (NI/TA)		-0.1435 (0.0202)***	-0.1345 (0.0439)***		0.0084 (0.0087)	0.0044 (0.0196)
Cash flow (CFO/TA)		-0.0901 (0.0254)***	-0.0675 (0.0351)*		0.0037 (0.0104)	-0.0052 (0.0161)
Mkt_book			-0.0031 (0.0015)**			-0.0010 (0.0060)
Adj R ²	14.10%	21.62%	29.43%	14.25%	16.89%	17.56%
Number of firms	847	847	806	806	806	806

Table 6: Corporate Governance and the Probability of New Equity Issuance

The table presents estimation results from Logit regressions for 2004. The dependent variable equals one if there was equity issue in 2004 and zero otherwise. In specification (I) we use *Governance Rank* and in (II) *PCA rank*. Stock return is the annual return in 2003 and Stock volatility is the annualized volatility of daily returns in 2003. Robust standard errors are reported in parentheses. Industry dummies at 2-digit SIC level are included in all specifications. *, ** and *** represent significance level of 10%, 5% and 1%.

	(I)	Mrg. effect	(II)	Mrg. effect
Governance	0.1596(0.0682)**	0.0138	0.2920(0.1366)**	0.0175
Size	-0.8343(0.1358)***	-0.0532	-0.8108(0.1356)***	-0.0499
Profitability	0.0569(0.1727)	0.0036	0.0233(0.1738)	0.0014
Cash flow	-0.7836(0.1822)***	-0.1138	-0.8539(0.1858)***	-0.1142
Mkt_book	-0.0470(0.1397)	-0.0030	-0.0463(0.1345)	-0.0029
Stock return (t-1)	0.3792(0.1224)***	0.0242	0.3810(0.1227)***	0.0235
Stock volatility (t-1)	0.1880(0.1246)	0.0120	0.1757(0.1201)	0.0108
Widely held	-0.9746(0.3127)***	-0.0658	-0.9869(0.3126)***	-0.0644
Big 4 auditor	0.7571(0.3686)**	0.0594	0.8595(0.3737)**	0.0672
Pseudo R ²	27.44%		27.82%	
# of firms	806		806	

Table 7: Corporate Governance and the Size of New Equity Issuance

The table presents estimation results from OLS regressions. The dependent variable is the ratio of new equity issued to total assets. In specification (I) and (II) we use *Governance Rank* and in (III) to (IV) *PCA Rank*. Stock return is the annual return in 2003 and Stock volatility is the annualize volatility of daily returns in 2003. Robust standard errors are reported in parentheses. Industry dummies are included in all specifications. *, ** and *** represent significance level of 10%, 5% and 1%.

	(I)	(II)	(III)	(IV)
Governance	0.0096 (0.0056)*	0.0074 (0.0045)*	0.0053 (0.0162)	0.0034 (0.0153)
Size	0.0442 (0.0137)***	0.0292 (0.0155)*	0.0449 (0.0141)***	0.0258 (0.0159)*
Profitability	0.0658 (0.0249)***	0.0183 (0.0275)	0.0654 (0.0249)***	0.0190 (0.0277)
Cash flow	-0.7991 (0.0210)***	-0.8936 (0.0190)***	-0.7981 (0.0210)***	-0.8928 (0.0194)***
Mkt_book		-0.0023 (0.0008)***		-0.0022 (0.0007)***
Stock return (t-1)		0.0183 (0.0067)***		0.0189 (0.0067)***
Stock volatility (t-1)		-0.0352 (0.0182)**		-0.0366 (0.0182)**
Widely held		-0.0836 (0.0405)**		-0.0830 (0.0407)**
Big 4 auditor		-0.0710 (0.0483)		-0.0758 (0.0484)
Adj. R ²	30.70%	31.85%	30.20%	32.02%
# of firms	806	806	806	806

Table 8: Corporate Governance and Leverage: Robustness Tests

The table presents the results from 2SLS IV estimation of model (2) for year=2004. The dependent variable is Leverage. The main variable of interest Governance is instrumented using a dummy for firms incorporated in Ontario and Quebec. In specifications (I) and (III) we use governance rank and in specifications (II) and (IV) we use PCA rank. Industry at 2-digit SIC code level are included in all specifications but not reported. Robust standard errors are reported in parentheses. *, ** and *** represent significance level of 10%, 5% and 1%.

	Book leverage		Market Leverage	
	(I)	(II)	(III)	(IV)
Governance	0.0165 (0.0093)	0.0253 (0.0144)	0.0082 (0.0068)	0.0125 (0.0104)
Collateral	0.2485 (0.0242)***	0.2477 (0.0244)***	0.2105 (0.0185)***	0.2095 (0.0185)***
Size	0.1337 (0.0075)***	0.1329 (0.0071)***	0.0830 (0.0051)***	0.0819 (0.0048)***
Profitability	-0.0209 (0.0059)***	-0.0209 (0.0058)***	-0.0097 (0.0028)***	-0.0097 (0.0028)***
Cash flow	-0.0110 (0.0077)	-0.0108 (0.0078)	0.0169 (0.0098)*	0.0167 (0.0098)*
Mkt_book	-0.0002 (0.0006)	-0.0001 (0.0006)	-0.0003 (0.0002)	-0.0003 (0.0002)
Adj R ²	34.51%	33.55%	34.05%	33.77%
Number of firms	806	806	806	806

Table 9: New Equity Issuance and Governance: Robustness Tests

The table presents the results from 2SLS IV estimation of model (4) and (5) for year=2004. The dependent variable in columns (I) and (II) equals one if there was an equity issue in 2004 and zero otherwise. We estimate a probit model. The dependent variable in columns (III) and (IV) equals the ratio of new equity issued to total assets. We estimate a linear model. The main variable of interest Governance is instrumented using a dummy for firms incorporated in Ontario and Quebec. In specification (I) and (III) we use *Governance Rank* and in (II) and (IV) *PCA rank*. Stock return is the annual return in 2003 and Stock volatility is the annualized volatility of daily returns in 2003. Robust standard errors are reported in parentheses. Industry dummies at 2-digit SIC level are included in all specifications. *, ** and *** represent significance level of 10%, 5% and 1%.

	(I)	(II)	(III)	(IV)
Governance	0.1961 (0.0885)**	0.1458 (0.0313)***	0.0452 (0.0413)	0.0680 (0.0624)
Size	-0.0548 (0.0808)	-0.0542 (0.0794)	0.0390 (0.0133)***	0.0371 (0.0121)***
Profitability	-0.0586 (0.1061)	-0.0661 (0.1066)	0.0218 (0.0236)	0.0196 (0.0242)
Cash flow	-0.2947 (0.2231)	-0.2893 (0.2227)	-0.8974 (0.0223)***	-0.8978 (0.0224)***
Mkt_book	-0.0089 (0.0049)	-0.0089 (0.0049)	-0.0049 (0.0010)***	-0.0050 (0.0011)***
Stock return (t-1)	0.2005 (0.0788)***	0.2026 (0.0786)***	0.0986 (0.0281)***	0.0993 (0.0283)***
Stock volatility (t-1)	-0.3936 (0.4099)	-0.3658 (0.4162)	-0.3252 (0.4494)	-0.1463 (0.4502)
Widely held	0.0831 (0.1696)	0.0459 (0.1525)	-0.0749 (0.0649)	-0.0919 (0.0582)
Big 4 auditor	0.2851 (0.1248)**	0.2769 (0.1277)**	0.1260 (0.0460)***	0.1220 (0.0468)***
Number of observations	806	806	806	806