

The Relation between Excess Control and Cost of Capital under Different Law Regimes

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Abstract

Prior empirical work examined the relationship between dominant shareholders, whose voting rights exceed cash flow rights, and firm value. In this study, we adopt a different perspective and argue that because of the risk imposed on minority shareholders and debtors such excess control likely increases firms' *weighted-average cost of capital*. We further argue that in legal environments that provide weak investor protection, cost of capital is likely to be higher. Using panel data of 155 Canadian firms over a four-year period from 2002 to 2005, we find supporting evidence.

Keywords: Corporate governance, cost of capital, excess control, ownership, dominant shareholders, agency costs.

JEL classification: G34

I. INTRODUCTION

In the aftermath of one of the most important financial crises in history, many market observers believe that increasing the quality of corporate governance remains a key medicine to avoid similar crises in the future. As it is a central issue in governance, the question of ownership is the subject of many prescriptions. On one hand, a large body of literature attempts to demonstrate that, because it favors the entrenchment of the dominant shareholder, high levels of ownership concentration is assumed to be negatively correlated with firm value (see Claessens et al., 2002, among many others). Also, because it increases the likelihood of expropriation through an increase in private benefits, the existence of control enhancing mechanisms, such as dual class shares and pyramid holdings, is assumed to exacerbate the negative relationship between ownership and firm value (Bebchuck et al., 2000). The literature documenting the negative relationship between excess control and proxies for firm value, mostly Tobin's Q, is growing at an impressive rate.

But on the other hand, a growing number of market analysts observes that, as opposed to firms with dispersed ownership which tend to set short-term targets related to their share price, a certain number of firms controlled by their founding entrepreneurs, who use control enhancing mechanisms, tends to establish long-term strategies aimed at creating sustainable value. According to these analysts, if accompanied by laws that protect minority shareholders, including coat-tail protection, concentrated ownership should be encouraged rather than fought. To that effect, some pressure groups, including the *Institute for Governance in Private and Public Organizations* in Canada, recommend

to adopt legislative measures that favor the concentration of voting rights in the hands of entrepreneurs.

In this paper, we adopt a risk sharing perspective through which excess control is not necessarily detrimental to firm value. We argue that by increasing the risk of expropriation, excess control increases the firms cost of capital rather than having a direct negative effect on firm value *per se*. We further argue that in legal environments that provide weaker protection to minority shareholders the use of control enhancing mechanisms is likely to be more widespread, and the firms' cost of capital is likely to be higher.

The association between excess control and the cost of capital is investigated using a sample of 155 Canadian S&P/TSX firms over a four-year period from 2002 and 2005. In Canada, firms incorporated in all the provinces except Quebec are under common law legislature. But firms incorporated in Quebec are under a civil law regime which, according to the literature, offers weaker protection of minority shareholders. Furthermore, the province of Quebec offers two corporate statutes, namely the *Companies Act (QCA)* and the *Canada Business Corporations Act (CBCA)*. As it grants more power to dominant shareholders, QCA is perceived as being less protective of minority shareholders. Hence, because of its different laws and corporate statutes, Canada offers a rich environment to test the complex relationships between ownership, the cost of capital and investors' protection.

Results from OLS regressions show a positive, but weak, relationship between excess control and WACC. Using 2SLS regressions in order to control for endogeneity, we find a stronger positive association between excess control and WACC, suggesting

that the firms' cost of capital increases with the wedge between the controlling shareholders' voting rights and cash flow rights. We also confirm that for firms incorporated under the less protective Quebec incorporation law the wedge and, therefore, cost of capital is higher than for firms incorporated in the other provinces under the common law regime.

II. THEORY AND LITERATURE

Excess Control and Firm Value: The Current View

Over the last decade, the theoretical as well as empirical literature on the relationship between the separation of ownership and control and firm value has been enriched at an impressive rate. Because concentrated ownership structure appears to be the norm around the world (La Porta et al., 1999), researchers have been focusing on type II agency problems, i.e. conflicts of interests between dominant and minority shareholders (Villalonga and Amit, 2006). Theoretically, the separation of ownership rights and control rights should have a negative effect on firm value. As investors associate excess control with weak governance, they are assumed to discount more heavily the future cashflows of firms controlled by shareholders who have more voting rights than cash flow rights. As a result, empirical studies analyzing excess control and variables related to firm value, most often Tobin's Q, assume a negative relationship between the two.

Among the most prominent empirical studies of excess control, Claessens et al. (2002) were the first to document a negative relationship between excess control and firm value. Later on, the relationship between excess control and firm value was studied

worldwide, including studies by Faccio and Lang (2001) and Barontini and Caprio (2006) in Western Europe, Cronqvist and Nilsson (2003) in Scandinavia, Joh (2003) and Baek et al., (2004) in Korea, Villalonga and Amit (2006) and Gompers et al. (2008) in the U.S. While they yield mixed results, the general conclusion of these studies points towards a negative relationship between excess control and variables that proxy for firm value. For Canada, Bozec and Laurin (2004) document a weak, negative relationship between excess control and firm value. This negative relationship appears to be stronger when firms are family-controlled (King and Santor, 2007) and when free cashflows are available (Bozec and Laurin, 2008).

In these studies, the conjecture is that the negative association between excess control and firm value is the result of weaker governance of firms with concentrated ownership. It is generally assumed that if governance is weak, then cashflows are likely to be reduced as a result of poor management. This problem is exacerbated for firms with a large discrepancy between the controlling shareholder's voting rights and cash flow rights which, in addition to poor management, are prone to expropriation. *Ceteris paribus*, as firms with concentrated ownership are likely to generate smaller cashflows, they should have lower values.

But more recently, the assumed link between excess control and weak governance has been questioned by many market observers (Allaire and Firsirotu, 2009). This questioning emerges from the counter-factual evidence that the set of firms with excess control includes a fairly large number of well-governed firms, sometimes owned by wealthy families. While excess control can lead to disastrous consequences to minority shareholders, like it was the case in the Conrad Black – Hollinger saga, the governance of

firms like Google, Berkshire Hathway, Ford and many other media firms appears to be of very high quality. To date, empirical research has failed to link excess control and specific governance variables such as board size, independence and manager compensation practices (Khalil and Magnan, 2009). As a result, the nature of the relationship between excess control and the quality of governance, which would ultimately affect firm value, is still unclear.

Excess Control and Firm Value: An Alternate View

An alternate view to analyze the relationship between excess control and governance is to tackle the issue from a risk sharing perspective. Through excess control, dominant shareholders get a form of “guaranteed ownership” which, to them, certainly has value. When dominant shareholders have a large proportion of voting rights, they are in a position to block any attempt of hostile takeover and secure their ownership. Among other things, this form of guaranteed ownership allows them to implement strategies that provide long-term benefits without fearing the adverse effect of having weaker short-term results. When long-term benefits exceed myopic short-term benefits, implementing this kind of strategy is a sign of strong rather than weak governance.

On the other hand, this guaranteed ownership is a form of entrenchment, which certainly imposes some risk on minority shareholders. Proponents of type II agency conflicts argue that excess control generates agency costs that, for instance, can take the form of expropriation through so-called “tunneling”. To that effect Bechuck et al. (2000) provide an extensive description on how minority shareholders can be expropriated by dominant shareholder when the latter has excess control. In equilibrium, however, the

existence of a very large number of publicly traded firms controlled by dominant shareholders shows that minority shareholders are willing to accept this risk.

In our view, minority shareholders will accept this risk as long as they perceive that they are compensated for it. From the firm perspective, more risk usually results in a higher weighted average cost of capital (WACC), i.e. higher cost of equity and cost of debt. From the investor's perspective, higher cost of capital means higher return on their investment, which is a form of compensation. Therefore, we argue that excess control is likely to have a more direct relationship with cost of capital than with firm value or performance, especially since value is not only affected by risk but also by the firm's growth opportunities (Hail and Leuz, 2006).

A direct relationship between excess control and WACC does not contradict the previous literature that hypothesized a negative association between excess control and firm value. All else equals, firms with higher WACC should have lower values. Our main contribution is that by focusing on the direct link between excess and WACC, we recognize that firms endowed with excess control are not necessarily poorly governed. In fact, these firms could also have sound management that compensates the adverse effects of higher WACC, and that might explain why testing the indirect link between excess control and firm value yields mixed results.

Previous Literature

Other studies attempted to link investors' protection and governance quality with the cost of capital. Analyzing a sample of more than 30,000 firm year observations from 40 different countries over a ten-year period, Hail and Leuz (2006) conclude that firms in

countries with more extensive disclosure requirement, stronger securities regulation and higher quality legal systems have lower cost of equity capital.

A number of studies analyze the link between governance mechanisms and one portion of the cost of capital, i.e. cost of equity or cost of debt. For the U.S., Ashbaugh et al. (2004) also find a negative link between variables that proxy for governance quality and the cost of equity capital. Among many key results, they find that for a sample of more than 500 U.S. firms analyzed over a period of six years, the cost of equity capital is positively associated with ownership concentration, measured using the number of outside blockholders. Focusing more on financial institutions, Bhojraj and Sengupta (2003) show a negative link between the quality of governance and the cost of debt.

Some studies attempt to link the overall cost of capital with investors' protection and ownership variables. Himmelberg et al. (2002) argue that in countries where investor protection is relatively low, entrepreneurs are forced to retain a larger share of equity. In these countries, lower levels of available capital result in higher cost of capital. The empirical results support their argumentation. In the same vein, Elston and Rondi (2006) find that concentrated ownership is positively linked to the cost of capital in Italy, but this link is insignificant in Germany where investor protection is assumed to be stronger and capital more available. In contrast, Pham et al. (2007) find that Australian firms with concentrated ownership and small boards tend to have a lower weighted average cost of capital.

While the above studies focus on ownership concentration, none of them specifically assesses the relationship between excess control and cost of capital. Guedhami and Mishra (2007) is one exception as the authors find that excess control is

positively associated with the cost of equity, using a multi-country sample of firms. Our study adds to this literature by investigating the impact of excess control on the firms' weighted-average cost of capital, including cost of equity and cost of debt, for a sample of Canadian firms incorporated under different law regimes. As Canadian institutions are generally believed to offer good protection to minority shareholders, ownership concentration in Canada is not likely to be strongly linked to the firms' cost of capital. However, due to risk sharing and different law regimes, we expect excess control to be positively associated with the weighted average cost of capital of Canadian firms especially when firms are incorporated under a regime that offers less protection to minority shareholders. The next section describes the methodology we use to estimate the firms cost of capital.

III. METHODOLOGY

Sample Selection

Our study covers a four-year period from 2002 to 2005. We initially select firms listed on the Toronto Stock Exchange comprising the S&P/TSX composite index in 2005 ($n = 209$). In line with previous studies, we delete financial companies from the sample ($n = 28$) given their unique characteristics. We also eliminate firms with incomplete data to compute the set of variables described below. Our final sample is an unbalanced panel of 155 Canadian firms and 589 firms-years observations.

Computing the Weighted Average Cost of Capital (WACC)

Over the past two decades, surveys on common practices in capital budgeting document the widespread use of the weighted average cost of capital (WACC) to assess a firm's cost of capital. In a survey of Fortune 500 firms, Bierman (1993) reports that 93% of the 74 respondents use WACC to discount projected (after-tax) cash flows. Bruner et al. (1998) interview 27 highly regarded U.S. firms and conclude that 89% of the CFOs compute WACC. Meier and Tarhan (2007) find that 71% of the 127 respondents to their survey use WACC. The computation of WACC requires the assessment of the after-tax cost of debt and the cost of equity, which are then weighted by the market capitalization of debt and equity relative to the total market capitalization of the firm.

$$\text{WACC}_i = \frac{D}{D+S}(1-T_C)r_{D,i} + \frac{E}{D+E}r_{E,i} \quad (1)$$

D and S denote the market value of debt and equity, respectively. T_C is the marginal corporate tax rate. r_D and r_E are the cost of debt (pre-tax) and equity. We estimate the market capitalization of debt and equity using the Compustat database. Cost of equity is estimated using monthly returns from CRSP (Center of Research in Security Prices).

In computing the weights we pool preferred and common stock and compute total debt as short-term debt plus long-term debt. The market value of common stock equals common shares outstanding times price per share (Compustat item #25 \times #199). For debt (#34 + #9) and preferred stock (#133) we use book values as an approximation for market values, which is standard practice in the literature.

Estimating the Cost of Equity

The estimation of a company's cost of equity is more challenging. The primary approach suggested by academics and used in the industry is the capital asset pricing model (CAPM). While more complex multi-factor models have been proposed in the academic literature, such as the Fama and French (1992) three-factor model, the one-factor CAPM is the preferred choice among firms. Estimating the cost of equity of individual firms using regression analysis often results in low R-squares. However, adding explanatory variables tends to increase the estimation error. In fact, Graham and Harvey (2001) find that three out of four CFOs use the CAPM to determine the firm's cost of equity. According to Welch (2008), about the same percentage of finance professors recommend to use the CAPM to determine the cost of capital for capital budgeting decisions. Da et al. (2009) also provide evidence supporting the use of the CAPM for estimating cost of capital. The implementation of the CAPM requires a risk-free rate, the estimation of the sensitivity of the stock returns to changes in market returns (beta coefficient) and the equity premium, which quantifies the expected excess return on the market over the risk-free rate.

The choice of the appropriate risk-free rate is motivated by the average length of a typical project of a firm. The CAPM is a single-period model and, hence, in order to estimate the expected return on equity over this period we need to assess the appropriate time horizon. The risk-free rate then has to correspond to the same time frame. The study mentioned above by Bruner et al. (1998) documents that most firms use a long-term government bond yield, such as the yield to maturity on 10-year Treasury bonds, as the risk-free rate. While the choice of the exact time horizon is difficult it is rarely critical.

Typically, the term structure of interest rates flattens out at longer horizons and the differences between the 10-year and 20-year yields are relatively small. Secondly, in the CAPM the risk-free rate enters positively as the intercept, but at the same time is deducted from the expected market return, which balances somewhat out. For our study we assume an average project life of 10 years and use the 10-year Government of Canada benchmark yield prevailing at the date of the computation of cost of capital.

As the market return we use the expected return on the S&P/TSX market index. Booth (2001) provides statistical evidence for Canadian data over the past four decades that stocks outperformed bonds by about 3%. As this estimate is influenced by a period of high government deficits in the 70s that pushed interest rates upwards and conditions on bond markets have changed since then, he recommends using an equity premium of about 4.5% for the Canadian market. This estimate is also in line with recent studies that argue that the historical equity premium in the U.S. of 7-8% exceeds the ex-ante expected equity premium (e.g. Jagannathan et al., 2000 and Fama and French, 2002) and survey answers from financial managers (Graham and Harvey, 2005).

Having assessed the risk-free rate and the equity risk premium we use five years of monthly return data to estimate a firm's beta coefficient by regressing a firm's returns on the equity risk premium. All returns represent total returns and take into account reinvested dividend payments. The choice of a five-year horizon balances out the preference for a large number of observations and that the data should be representative of the firm's current characteristics. Besides being commonly applied in the academic literature, most professional data service providers such as Reuters or Bloomberg also use five years of monthly data (or two years of weekly data) to estimate company betas. The

use of monthly observations avoids the problems of noise inherent in daily data and five years provide a sufficient number of observations.

Estimating the After-Tax Cost of Debt

The remaining two variables are the cost of debt and the marginal tax rate. We assess a firm's cost of debt from its credit rating. Then, based on its credit rating we add a fraction or multiple of the difference between the weighted average long-term corporate bond yields computed by Scotia Capital Inc. minus the 10-year Government of Canada benchmark yield (credit spread) to the 10-year Government of Canada benchmark yield (riskfree rate). For all firms for which Compustat provides an S&P long-term senior debt rating we assign the firm to four categories. For firms rated AAA to A- we add 0.5 times the credit spread, for ratings from BBB+ to BB we apply the credit spread for the average corporate bond, for ratings from BB- to B we use 1.5 times the credit spread, and for firms with ratings below B we add twice the credit spread. For all remaining firms without an S&P rating we base our cost of debt estimate on Altman's (1968) Z-score.¹ For financially healthy firms with a Z-score below 1.81 we use the 10-year Treasury bond rate plus the average corporate credit spread, for firms with a Z-score between 1.81 and 3 we add 1.5 times the credit spread, and for firms with Z-scores above 3 (unhealthy firms) we add two times the credit spread.

The tax rate in the WACC equation should represent the marginal tax rate of the firm. The balance sheet provides information about the average tax rates which we use as

¹ Altman's (1968) model is specified as follows: $Z = 1.2 (\text{working capital}/\text{total assets}) + 1.4 (\text{retained earnings}/\text{total assets}) + 3.3 (\text{EBIT}/\text{total assets}) + 0.6 (\text{market value of equity}/\text{book value of total liabilities}) + (\text{sales}/\text{total assets})$. For the computation we use the following annual Compustat data items: $Z = 1.2 \times (\#119/\#6) + 1.4 \times (\#36/\#6) + 3.3 \times (\#172/\#6) + 0.6 \times [(\#199 \times \#25)/\#181] + \#117/\#6$.

an approximation of a firm's marginal tax rate. For all firms in our sample we compute the average ratio over the past three years of income tax payments (#16) divided by income before taxes (#170). To avoid excessive estimates resulting as an artefact of accounting regulations on deferred taxes and tax credits we winsorize these tax rates at 50%.

Explanatory Variables

Ownership Variables

Following the pioneering work of La Porta et al. (1999) and subsequent influential papers (e.g. Claessens et al., 2000; Faccio and Lang, 2002), this study focuses on the ultimate, rather than the immediate, controlling shareholder. Pyramid structures in many corporations in Canada suggest that identifying an immediate controlling shareholder is not sufficient for defining corporate ownership structure (Bozec and Laurin, 2008). Using firms' 2005 proxy circular available on the SEDAR website, we identify the ultimate owner – i.e, the largest ultimate shareholder whose voting rights are above 10% – and collect his voting rights (VR), his cash flows rights (CFR) and the gap between his voting rights and his cash flow rights (EXCESS).² As an additional metrics of excess control, we use a dummy variable (SEPARATION) which takes the value of either 1 if the ultimate shareholder's voting rights exceed his cash flow rights or 0 otherwise, and a ratio which consists of cash flow rights over voting rights (CFR/VR). Lastly, we create a dummy variable (FAMILY) taking the value of one if the ultimate dominant shareholder is a family.

² Note that if the firm has no ultimate owner (widely-held firm), VR and CFR are computed using the manager with the greatest voting rights.

Law Variables

Firm law variables also come from the SEDAR website. QUEBEC is a dummy variable identifying firms headquartered in the province of Quebec and captures the impact of civil law regime. As in Bozec et al. (2008), QUEBEC-QCA (QUEBEC-CBCA) is a dummy variable taking the value of one if the firm's law of incorporation is QCA (CBCA), otherwise zero.

Firm-Specific Controls

We collect the following firm level characteristics from Compustat and Stock Guide: SIZE, DEBT, AGE, CAPEX, and book-to-market ratio (BM). SIZE is the log of total assets and DEBT measures the level of debt of the firm defined as the book value of long-term debt over total assets. AGE is a dummy variable that takes the value of 1 if the firm has been operating for at least 10 years and 0 otherwise. CAPEX and book-to-market are proxies for growth opportunities. CAPEX is measured by the ratio of capital and R&D expenditures over total assets. As in Pham et al. (2007), BM is computed as the book value of equity divided by the market value of equity.³

Empirical Model

It is well known that in the presence of endogeneity, OLS regression models may yield biased and inconsistent estimates. Endogeneity is present when the following two situations happen. First, a control variable is missing from the regression model and is determining both, the explanatory variable (EXCESS in our case) and the dependent variable (WACC), which leads to spurious correlation between EXCESS and WACC.

³ We also used the book value of assets divided by the market value of assets as an additional metric.

Second, there is a simultaneous causality bias (reverse causality bias), that is EXCESS may cause WACC which in turn may cause EXCESS. Demsetz and Lehn (1985), Himmelberg et al. (1999), Demsetz and Villalonga (2001), among others, provide compelling evidence of the endogeneous nature of ownership structure.

One standard approach to address the endogeneity problem is to run instrumental variables regressions, estimated using two-stage least squares (2SLS) for panel data models. We therefore specify the following system of equations:

$$\begin{aligned} WACC_{i,t} = & \delta + \theta_1 EXCESS_{i,t} + \theta_2 SIZE_{i,t} + \theta_3 DEBT_{i,t} + \theta_4 AGE_{i,t} + \theta_5 CAPEX_{i,t} \\ & + \theta_6 BM_{i,t} + \theta_i YEAR_j + \theta_j FIRM EFFECT_j + \varepsilon_2 \end{aligned} \quad (2a)$$

$$\begin{aligned} EXCESS_{i,t} = & \alpha + \beta_1 QUEBEC_i + \beta_2 QUEBEC-QCA_i + \beta_3 FAMILY_{i,t} \\ & + \beta_4 SIZE_{i,t} + \beta_5 DEBT_{i,t} + \beta_6 AGE_{i,t} + \beta_7 CAPEX_{i,t} + \beta_8 WACC_{i,t} \\ & + \beta_i SECTOR_i + \beta_j YEAR_j + \beta_j FIRM EFFECT_j + \varepsilon_1 \end{aligned} \quad (2b)$$

Equation (2a) is the second stage regression where the firm's cost of capital (WACC) is regressed against the wedge between the ultimate dominant shareholder's voting rights and cash flow rights (EXCESS), a set of observable firm characteristics (SIZE, DEBT, AGE, CAPEX, BM), and firm and year effects that aim to control for unobservable firm heterogeneity. If dominant shareholders who enjoy excess control do actually increase the risk of minority shareholders' expropriation, EXCESS should be positively associated with WACC.

In terms of control variables, we argue that older firms are often larger than younger firms and their operations are more diversified. Therefore, one could expect a lower firm risk and consequently a lower cost of capital. Leverage (DEBT) may lower firm's cost of capital because it offers tax savings (interest payments are tax deductible). But higher leverage is also associated with higher risk (risk of bankruptcy) and, hence increases the firm's WACC (Fama and French, 1992). Previous studies (e.g. Bozec and Laurin, 2008; Cronqvist and Nilsson, 2003) show that growth opportunities are positively associated with risk, implying a positive (negative) relationship between WACC and CAPEX (BM). Note, however, that because these variables are correlated to some degree, the relationship between WACC and the control variables, including SIZE, DEBT, AGE, CAPEX and BM, is difficult to predict.

Equation (2b) is the first stage regression where EXCESS, the endogeneous variable, is regressed on the following instruments: QUEBEC, QUEBEC-QCA, a set of control variables (FAMILY, SIZE, DEBT, AGE, CAPEX), WACC, and year and firm effects.

In determining the potential instruments for EXCESS, we follow the law and finance literature (La Porta et al., 1997; Bozec et al., 2008) and primarily consider the law variables. La Porta et al. (1997) suggest that ownership concentration is inversely related to the quality of the protections extended to investors. In their view, investors are better protected in countries with a common law tradition, compared to those in countries with a civil law regime. They show that civil law countries exhibit higher levels of ownership concentration. Although Canada's legal origin is based on common law traditions, the province of Quebec is the only civil law jurisdiction in the country.

Furthermore, two corporate statutes co-exist in the province of Quebec: the *Quebec Companies Act* (QCA), adopted by the Quebec legislator, and the *Canada Business Corporations Act* (CBCA), decreed by the federal legislator (Bozec et al. 2008). Both statutes are available to Quebec firms that want to incorporate their business, but they differ with respect to the level of legal protection of investors, QCA being perceived as less protective than CBCA. Bozec et al. (2008) shows that firms from Quebec and, especially those incorporated under the QCA, exhibit higher levels of ownership concentration and a more pronounced separation between voting rights and cash flow rights (EXCESS) than Canadian firms outside Quebec.

Hence, in equation (2b), the parameters β_1 (QUEBEC) and β_2 (QUEBEC-QCA), estimate respectively the relationship between legal regime (civil versus common law) and the law of incorporation (QCA), and EXCESS. Consistent with Bozec et al. (2008), we expect both QUEBEC and QUEBEC-QCA to be positively associated with EXCESS. Equation (2b) also includes family ownership (FAMILY), firm size (SIZE), capital expenditures (CAPEX), firm age (AGE), and leverage (DEBT), since previous studies (e.g. Bozec et al. 2008; Demsetz and Villalonga, 2001) have shown that these firm-level controls may have an impact on EXCESS. WACC is added in equation (2b) as an explanatory variable in order to control for a possible reverse causality. This is consistent with the view that EXCESS affects WACC which, in turn may determine EXCESS. Lastly, we also control for year and firm effects in equation (2b).

This system of equations (equations 2a and 2b) allows us to estimate the association between excess control and WACC while taking into consideration the endogenous nature of excess control.

IV. RESULTS

Descriptive Statistics

Table 1 reports descriptive statistics for the cost of capital, ownership structure, law, and firm-specific controls. Table 1 shows that firms' weighted-average cost of capital (WACC) is on average 7.9% for the period 2002-2005. Using a sample of Australian firms, over the period 1994-2003, Pham et al. (2007) report an average of 10%. Table 1 also shows that the average of cost of debt and cost of equity is 5.9% and 8.9% respectively. This is somewhat lower than the cross-country average of cost of equity (12.7%) reported by Hail and Leuz (2006) for a sample of firms from 40 countries, between 1992 and 2001.

In terms of ownership structure, our sampled firms display a high level of family ownership as about 42% of firms are family firms. This statistics is actually 66% (unreported) if we only consider firms controlled by a dominant shareholder. The ultimate dominant shareholder holds 24.2% of the voting rights with only 13.3% of the equity, leading to an average wedge (EXCESS) of 10.9%. Overall, these summary statistics are quite similar to those of King and Santor (2007) and Bozec et al. (2008) who also cover Canadian non-financial firms. When comparing with previous cross-country studies (e.g. La Porta et al., 1999; Faccio and Lang, 2002; Claessens et al., 2000, we note that the incidence of family ownership and wedge is much more prevalent in Canada than it is in the U.S., but it is similar to what is observed in most Continental European and East Asian countries.⁴

⁴Faccio and Lang (2002) for instance, find that 48% of European firms are family firms – 71% in France, 69% in Germany and 25% in the UK.

Table 1 reports that only 7% of our sampled firms are Quebec firms incorporated in the province itself (QCA) while 12% of the firms (about 2/3 of Quebec firms) are incorporated under the federal CBCA corporate law. In terms of firm level controls (AGE, SIZE, BM, DEBT, and CAPEX), the summary statistics are, once again, broadly consistent with those of previous Canadian studies.

Insert Table 1 about here

Matrix of Correlation

Table 2 reports Pearson's correlation coefficients between the key variables used in the empirical analyses. We observe that FAMILIY is highly positively correlated to each voting rights (VR), cash flow rights (CFR) and EXCESS, consistent with previous studies showing that ownership concentration, in general, and excess control in particular, is positively associated with family ownership. Furthermore, these ownership variables are positively correlated with law variables (QUEBEC and QUEBEC-QCA). This is consistent with the results obtained by Bozec et al. (2008) on Canadian firms in 1999 and supports the law and finance theory (La Porta et al. 1998), which argues that both ownership concentration and excess control are more likely to be observed when there is less legal investor protection.

Table 2 also shows an unexpected negative correlation between WACC and EXCESS. However, as expected, DEBT is negatively correlated with WACC but positively with EXCESS, suggesting that firms where the dominant shareholder's voting rights exceed the cash flow rights are more leveraged and thus exhibit a lower cost of

capital.⁵ These preliminary results highlight the need to control for the level of debt when testing the relationship between WACC and EXCESS. Lastly, and as expected, WACC is negatively correlated to SIZE, AGE, and BM, as generally shown in previous studies (e.g. Pham et al. 2007).

Insert Table 2 about here

Multivariate Analysis

Our empirical tests examine the relationship between EXCESS and WACC using first an ordinary least squares (OLS) regression on the pooled sample period 2002-2005. The results are reported in first column of Table 3. EXCESS displays a positive and marginally statistically significant coefficient ($p < 0.10$), while controlling firm-level control that potentially influence WACC. This result suggests that the firm's weighted-average cost of capital rises as the excess control of the dominant shareholder increases. Furthermore, the results show that cost of capital decreases with firm size, leverage, and age. The coefficients for SIZE, DEBT, and AGE are negative and statistically significant ($p < 0.01$). BM also displays a weakly significant negative coefficient.

Insert Table 3 about here

OLS estimates could be biased and inconsistent in the presence of endogeneity. To increase the robustness of our results, we use a two-stage least squares procedure

⁵ Indeed, in an unreported t-test of mean difference, we observe that firms with excess control have an average debt ratio of 39%, which is statistically different from the average of 26% observed for the subsample of firms without excess. Given that the cost of debt is inferior to the cost of equity (see table 1), high leveraged firms may have lower WACC.

(2SLS). The second column of Table 3 displays the results of the first stage regression where EXCESS is regressed on the determinants including law variables (equation 2b). We notice that together these factors explain about 37% of the variability of excess control and that our regression model is robust (F-statistic is 30.295, $p < 0.01$) which is indicative of the instruments validity. We also note that the QUEBEC-QCA coefficient is positive and statistically different from zero ($p < 0.01$), suggesting that in firms incorporated under QCA, the dominant shareholder's excess control is likely to be higher than in firms located outside Quebec. This is consistent with the results obtained by Bozec et al. (2008). However, the QUEBEC dummy variable displays a statistically significant negative coefficient. This result suggests that Quebec firms incorporated under the more protective CBCA law have lower levels of excess control than firms outside Quebec. In addition to the law variables, we observe a strong positive relationship between FAMILY, AGE and EXCESS. As expected, and consistent with the corporate ownership literature, excess control is largely associated with family ownership. Excess control is also more likely to be observed in older firms. Lastly, none of the other determinants (SIZE, DEBT, CAPEX, and WACC) appears to be significantly related to EXCESS at conventional levels.

The next three columns of Table 3 report the second stage results (equation 2a). Consistent with the OLS results, the coefficient for EXCESS (column 3) is positive and statistically significant at conventional levels ($p < 0.10$). Furthermore, when using additional metrics for EXCESS (columns 4 and 5), we still observe a positive association between WACC and excess control. The positive (negative) coefficient for

SEPARATION (CFR/VR) is statistically significant at the 1% level, suggesting that, overall, excess control is positively associated with WACC.

As for the control variables, DEBT and AGE are still displaying a negative coefficient across all models. SIZE becomes positive, indicating that larger firms have higher cost of capital. However, these results may potentially reflect multicollinearity between SIZE, DEBT and AGE. Table 3 also reports a positive coefficient for CAPEX and BM. These results suggest that firms with highly risky investments such as R&D investments (CAPEX) or low growth opportunities (BM) are more likely to have higher returns required from them.

Robustness Checks

To check the robustness of our results, we conduct the following two additional tests. First, since ownership concentration itself might involve large agency costs, one can argue that the positive relationship between EXCESS and WACC shown in Table 3 might reflect in part the incidence of ownership concentration. In order to control for this factor, we re-run our 2SLS panel regressions using the controlling shareholder's cash flow rights (CFR) as an additional explanatory variable. In unreported results, we obtain qualitatively similar regression results. The coefficient for EXCESS is still positive whereas CFR is negative, consistent with the incentive effect reported by Claessens et al. (2002) and La Porta et al. (2002).

Second, we rerun our 2SLS panel regressions using as dependent variables the two main components of WACC, that is, the cost of equity (CE) and the cost of debt (CD). Second stage results are reported in Table 4. Results show that the cost of equity

and the cost of debt are both positively associated with EXCESS. These results suggest that firms with excess control tend to have higher cost of equity and cost of debt. These results are in line with Guedhami and Mishra (2007) who find a positive relationship between cost of equity and excess control for a sample of firms from 8 Asian and 13 Western European countries.

Insert Table 4 about here

V. CONCLUSION

The objective of this study is to further investigate the excess control-performance relationship while proposing an alternative approach: investigating the link between excess control and firms' weighted-average cost of capital (WACC). Prior work predominantly used Tobin's Q as a proxy for firm value or performance. In this study, we argue that excess control is likely to have a more direct relationship with cost of capital than with Tobin's Q mainly because the assumed link between excess control and weak governance is not always verified.

We investigate the association between excess control and the cost of capital using a sample of 155 Canadian firms comprising the S&P/TSX index, over a four-year period from 2002 and 2005. Our results show a positive relationship between excess control and WACC, suggesting that the firms' cost of capital increases with the wedge between the controlling shareholders' voting rights and cash flow rights (excess control). Canadian firms whose controlling shareholders enjoy excess control have higher WACC. These findings are robust to the use of alternative econometrics techniques including OLS regressions and panel regressions combining instrumental variables and firm effects.

Our results shed some more light on the complex relationships between ownership, excess control and the firms' overall performance. As higher costs are likely to have a negative effect on performance, the positive association between excess control and WACC could partly explain the negative association between excess control and the various proxies for firm performance that have been used in many previous studies. Also, since slightly higher WACC is not likely to heavily plague a firm that is well governed by a solid entrepreneur who implements and follows a sound long-term strategy, our results are also consistent with the view of those who argue that the group of firms with excess control is a mixed bag of poorly and strongly performing firms. In other words, for these entrepreneurs, higher WACC could be a relatively small price to pay in order to escape the tyranny of short-term results, often pursued at the expense of longer-term benefits.

A last but, in our view, interesting result of our study is the one showing that a law regime that offers less protection to minority shareholders is positively associated with excess control and, therefore, also positively associated with WACC. This result confirms that the price to pay in order to favor guaranteed ownership, i.e. higher firm WACC, could be widespread in an economy that offers less protection to minority shareholders.

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Table 1
Descriptive Statistics

This table reports summary statistics on firms' cost of capital, ownership structure, corporate statute and, other financial characteristics for a sample of 589 firm/year observations, obtained from Compustat and StockGuide. See appendix A for definitions of variables.

	Mean	Median	Standard dev.	Min.	Max.
<i>Cost of capital :</i>					
WACC	7.9%	7.4%	2.1%	5.0%	12.0%
Debt cost	5.9%	5.9%	0.1%	5.0%	8.0%
Equity cost	8.9%	8.3%	2.9%	4.0%	21.0%
<i>Ownership :</i>					
Voting rights (VR)	24.2%	12.8%	26.7%	1.0%	92.0%
Cash flow rights (CFR)	13.3%	10.2%	15.5%	1.0%	70.0%
Excess control (VR-CFR)	10.9%	0.0%	21.6%	0.0%	85.0%
Proportion of Family firm	41.8%				
<i>Law :</i>					
Proportion of firms - Quebec	19.0%				
Proportion of firms - Quebec-CBCA	12.0%				
Proportion of firms - Quebec-QCA	7.0%				
<i>Other characteristics :</i>					
Age	85%				
Size	14.3	14.3	1.5	9.3	17.5
BM	55.8%	45.6%	45.2%	6.0%	133.1%
Debt	29.6%	30.0%	21.1%	0.0%	91.0%
Capex	10.1%	7.0%	9.7%	0.0%	65.0%

Table 2
Correlation Matrix

This table presents a Pearson correlation matrix of the dependent and main independent variables. See appendix A for definitions of the variables. * and, ** are significant at the thresholds of 5% and 1% respectively.

	WACC	VR	CFR	Excess	Family	Quebec	Quebec-QCA	Size	Debt	Capex	BM	Age
WACC	1.000	-.256**	-.212**	-.165**	-.115**	-.030	-.023	-.463**	-.464**	-.228**	-.048	-.263**
Voting rights (VR)		1.000	.591**	.815**	.659**	.132**	.167**	.229**	.290**	.200**	.059	.035
Cash flow rights (CFR)			1.000	.014	.365**	.072	.051	.084*	.098*	.001	-.006	-.031
Excess				1.000	.555**	.112**	.171**	.224**	.290**	-.247**	.077	.066
Family					1.000	.160**	.162**	.024	.111**	-.128**	.092*	.046
Quebec						1.000	.550**	.069	.122**	-.133**	.021	.021
Quebec-QCA							1.000	.028	.049	-.088*	.004	-.022
Size								1.000	.597**	-.328**	.080	.253**
Debt									1.000	-.241**	.075	.094*
Capex										1.000	-.260**	-.296**
BM											1.000	.091*
Age												1.000

Table 3
Results from OLS and 2SLS Regressions of WACC on Excess Control

	Expected sign ^a	WACC OLS #1	EXCESS 1st stage #2	WACC 2 nd stage #3	WACC 2 nd stage #4	WACC 2 nd stage #5
Intercept	(?)	0.153 ^{***} (27.16)	-0.026 ^{***} (-6.37)	0.037 (0.18)	0.137 (0.61)	0.079 (0.38)
EXCESS (x10)	(+)	0.015 [*] (1.73)		0.044 [*] (1.92)		
SEPARATION	(+)				0.002 ^{***} (3.91)	
CFR/VR	(-)					-0.005 ^{***} (-4.89)
QUEBEC	(+)		-0.054 ^{***} (-4.47)			
QUEBEC-QCA	(+)		0.091 ^{***} (9.63)			
FAMILY	(+)		0.207 ^{***} (26.89)			
SIZE (x10)	(+/-)	-0.031 ^{***} (-9.51)	0.059 (0.01)	0.235 ^{***} (4.19)	0.175 ^{***} (6.76)	0.214 ^{***} (5.31)
DEBT (x10)	(+/-)	-0.306 ^{***} (-10.48)	0.027 (0.01)	-1.700 ^{***} (-5.05)	-1.343 ^{***} (-9.57)	-1.571 ^{***} (-6.97)
AGE (x10)	(+/-)	-0.111 ^{***} (-7.78)	0.215 ^{***} (4.12)	-0.378 ^{***} (-3.89)	-0.351 ^{***} (-8.17)	-0.373 ^{***} (-5.82)
CAPEX	(+)	-0.083 (-0.89)	-0.001 (-0.02)	0.113 [*] (1.86)	0.151 ^{***} (4.60)	0.139 ^{***} (2.85)
BM (x10)	(-)	-0.015 [*] (-1.89)		0.124 (1.12)	0.191 ^{***} (4.14)	0.143 [*] (1.89)
WACC	(?)		-0.005 (-0.01)			
Sector Dummies	?	Yes	No	No	No	No
Year Dummies	?	Yes	Yes	Yes	Yes	Yes
Firm effects	?	No	Yes	Yes	Yes	Yes
Adj. R2 or Pseudo R2		0.371	0.374	0.322	0.317	0.332
F		27.684 ^{***}	30.295 ^{***}	1491.504 ^{***}	1004.995 ^{***}	1265.169 ^{***}
N		589	589	589	589	589

This table reports results from OLS and 2SLS panel regressions of the weighted-average cost of capital (WACC) on excess control. The sample consists of an unbalanced panel of 155 firms or 589 firm-year observations for the period 2002-2005. QUEBEC, QUEBEC-QCA and FAMILY are used to instrument excess control. The independent variables are the excess control *instrumented* (EXCESS, SEPARATION, CFR/VR). Control variables include SIZE, DEBT, AGE, CAPEX, BM, random firm, sector, and year effects. WACC is also included in the first stage regressions among independent variables. See Appendix A for variable definition. The *t*-statistics shown under the coefficient is corrected for heteroskedasticity (White, 1980).

*, **, *** indicate statistical significance at 10%, 5%, and 1% levels, respectively.

^a expected signs for the second stage regression.

Table 4
Results from 2SLS Regressions of Cost of Equity (CE) and Cost of Debt (CD) on Excess Control

		CE 2 nd stage	CD 2 nd stage
	Expected sign	#1	#1
Intercept	(?)	0.070 (0.30)	0.099*** (5.33)
EXCESS (x10)	(+)	0.106*** (2.58)	0.015** (2.19)
SIZE (x10)	(-)	0.273*** (7.41)	0.003 (0.74)
DEBT (x10)	(+/-)	-1.786*** (-9.08)	-0.016 (-0.83)
AGE (x10)	(-)	-0.489*** (-10.23)	-0.010** (-2.44)
CAPEX	(+)	0.193*** (4.51)	-0.009** (-2.14)
BM (x10)	(-)	0.205*** (2.70)	0.002*** (4.11)
WACC	(?)		
Sector Dummies	?	No	No
Year Dummies	?	Yes	Yes
Firm effects	?	Yes	Yes
Adj. R2 or Pseudo R2			
F		905.879***	1004.995***
N		589	589

This table reports results from 2SLS panel regressions of the cost of equity (CE) and the cost of debt (CD) on excess control. The sample consists of an unbalanced panel data of 155 firms or 589 firm-year observations for the period 2002-2005. QUEBEC, QUEBEC-QCA and FAMILY are used to instrument excess control. The independent variables are the excess control *instrumented* (EXCESS). Control variables include SIZE, DEBT, AGE, CAPEX, BM, random firm and year effects. See Appendix A for variable definition. The *t*-statistics shown under the coefficient is corrected for heteroskedasticity (White, 1980).

*, **, *** indicate statistical significance at 10%, 5%, and 1% levels, respectively.

Appendix A
Variable Definitions

<p>Cost of capital</p> <p><i>WACC</i> <i>Cost of equity (CE)</i> <i>Cost of debt (CD)</i></p> <p>Ownership</p> <p><i>VOTING RIGHTS (VR)</i> <i>CASH-FLOWSRIGHTS (CFR)</i> <i>EXCESS</i> <i>SEPARATION</i> <i>CFR/VR</i> <i>FAMILY</i></p> <p>Law:</p> <p><i>QUEBEC</i> <i>QUEBEC-QCA</i> <i>QUEBEC-CBCA</i></p> <p>Control Variables:</p> <p><i>SIZE</i> <i>DEBT</i> <i>AGE</i> <i>CAPEX</i> <i>BM</i> <i>SECTOR</i> <i>YEAR</i></p>	<p>Weighted after-tax cost of debt and cost of equity. Risk-free rate + (beta × equity premium). Multiple of the difference between the weighted average long-term corporate bond yields minus the 10-year Government of Canada benchmark yield (credit spread) to the 10-year Government of Canada benchmark yield (risk-free rate).</p> <p>Voting rights directly and indirectly held by the largest ultimate (dominant) shareholder. Cash flow rights directly and indirectly held by the largest ultimate (dominant) shareholder Voting rights minus cash flow rights. 1 if voting rights > cash flow rights, otherwise 0. Cash flow rights over voting rights. 1 if the largest ultimate shareholder is an individual or a member of a family, otherwise 0.</p> <p>1 if the firm's head office is located in the province of Quebec, 0 otherwise. 1 if the firm's corporate statute is QCA, 0 otherwise. 1 if the firm's head office is located in the province of Quebec and corporate statute is CBCA, 0 otherwise.</p> <p>Logarithm of total assets at the end of the financial year. Long-term debt over total assets at the end of the financial year. 1 if the firm is listed on StockGuide for at least 10 years, otherwise 0. Total capital expenditures (including R&D expenditures) / total assets. Book value / market value of equity. Dummies for sector. Dummies for 2002, 2003, 2004, and 2005 (2005 is the reference year).</p>
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