Family Values: Ownership Structure, Performance and Capital Structure of Canadian Firms

by Michael R. King and Eric Santor

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Acknowledgements

Abstract

This study examines how family ownership affects the performance and capital structure of 613 Canadian firms using a panel dataset from 1998 to 2005. In particular, we distinguish the effect of family ownership from the use of control-enhancing mechanisms. We find that freestanding family-owned firms with a single share class have similar market performance than other firms based on Tobin's q ratios, superior accounting performance based on ROA, and higher financial leverage based on debt-to-total assets. By contrast, family-owned firms that use dual-class shares have valuations that are lower by 17% on average relative to widely-held firms, despite having similar ROA and financial leverage. Finally, concentrated ownership by either a corporation or a financial institution does not significantly affect firm performance.

JEL classification: G12, G15
Bank classification: Financial markets; International topics

Résumé

En se fondant sur un ensemble de données de panel relatif à 613 entreprises canadiennes et allant de 1998 à 2005, les auteurs examinent comment le fait qu'une entreprise soit la propriété d'une famille influe sur sa rentabilité et la structure de son capital. Ils s'attachent en particulier à bien distinguer les rôles respectifs de ce facteur et des mécanismes de renforcement du contrôle. Les auteurs constatent que les entreprises familiales indépendantes qui émettent une seule catégorie d'actions sont aussi bien évaluées que les autres (d'après le ratio q de Tobin), plus rentables (d'après le rendement de l'actif) et plus endettées (d'après le ratio de la dette à l'actif total). À l'opposé, les entreprises familiales dont les actions sont assorties de droits de vote différents sont sous-évaluées en moyenne de 17 % par rapport aux entreprises à capital dispersé, même si le rendement de leur actif et leur endettement sont semblables à ceux de ces entreprises. Enfin, le fait d'appartenir à une autre société ou à une institution financière n'influe pas de façon significative sur les résultats.

Classification JEL : G12, G15
Classification de la Banque : Marchés financiers; Questions internationales

1. Introduction

This study examines how family ownership affects the performance and capital structure of 613 Canadian firms using a panel dataset from 1998 to 2005. Theories of the relationship between concentrated ownership and firm performance predict positive, negative, or no statistically significant relationship, depending on the tradeoffs between the alignment and entrenchment effects.[1] Not surprisingly, empirical studies of family ownership and firm performance in the U.S. and abroad have produced mixed results, with a number of studies arguing that the relationship is endogenous. There is less research linking ownership structure and capital structure, and the few existing studies report mixed results. As Anderson and Reeb (2003a) conclude, the question of how family ownership affects firm performance and capital structure remains an empirical issue.

The mixed results of prior studies may be due to two problems – one related to model specification and the other to model estimation. First, Demsetz and Villalonga (2001), Claessens et al. (2002), and Villalonga and Amit (2003) argue that the relationship between family ownership and performance cannot be identified without disentangling ownership (claims against the cash flow of the firm) from control (the holding of voting rights at the Board level).[2] Family owners may be active managers or passive investors. As active owners, families may be in a better position to monitor managers, mitigating the principal-agent problem identified by Jensen and Meckling (1979).[3] But family-controlled firms may use mechanisms to enhance their voting control, such as dual-class shares or pyramidal structures, which create a wedge between control rights and cash-flow rights.[4] Dual-class shares occur when there are two or more share classes with differential voting rights (as opposed to a "one share-one vote" structure).[5] Pyramidal

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[1] The alignment effect describes the positive incentive effects of ownership on corporate governance. As the ownership stake increases, there are greater incentives for controlling shareholders to monitor the firm. The entrenchment effect describes the negative consequences of higher ownership by managers, as poorly-performing firms are insulated from the possibility of a takeover. Managers may also pursue their private interests at the expense of other shareholders.

[2] For the purposes of this study, we define control as holding 20% or more of the firm's voting shares.

[3] Family managers may be good for firm performance when the founder is CEO or Chairman of the Board, but the existing research suggests that heirs typically make bad managers and reduce performance.

[4] Almeida and Wolfenzon (2006) provide a theory of pyramidal ownership and family business groups that explains under what conditions it is optimal to use a pyramid instead of dual-class shares to enhance control.

[5] Following Amoako-Adu and Smith (2001), we use the term dual-class shares to refer to three categories of shares in Canada: non-voting shares, subordinate voting shares and restricted voting shares. Nenova (2003) reviews the literature on dual-class shares, and provides a rigorous analysis for measuring the private benefits of control.

ownership structures occur when a blockholder – typically a family – controls an apex firm or holding company that has control stakes in a related group or chain of firms.[6] These control-enhancing mechanisms decrease the alignment of incentives between controlling and minority shareholders, increase managerial entrenchment, and heighten the risk of expropriation or tunnelling.[7] Numerous studies have documented that firm value decreases when control rights exceed cash-flow rights.[8] Studies that do not disentangle the alignment and entrenchment effects of ownership and control may conflate these effects, leading to inconclusive results.

A second explanation for these mixed results relates to the problem of unobserved firm heterogeneity. Demsetz and Lehn (1985), Himmelberg, Hubbard and Palia (1999), and Coles, Lemmon and Meschke (2007) argue that managerial ownership and performance are determined by common characteristics, some of which are unobservable to the econometrician. This endogeneity makes it difficult to estimate the true effects of ownership on firm performance, as there may be systematic differences between firms with high and low ownership concentration. This generates an identification problem – while theory may suggest the direction of causation runs from family ownership to performance, an alternative explanation is that the causation is reversed. Consequently, single-equation models that fail to take account of unobserved firm heterogeneity – such as cross-sectional studies relying on a single year of ownership data – will generate biased results. The use of panel data sets by Anderson and Reeb (2003a,b), Cronqvist and Nilsson (2003), and Villalonga and Amit (2006) may explain why these studies have generated different results from earlier research.

Many studies that document the prevalence of family ownership around the world have expressed concerns that concentrated ownership may have negative implications for firm performance, since it may contribute towards the entrenchment of poor managers, the

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[6] For example, Firm A may own 60% of the shares in Firm B, while Firm B owns 30% of the shares in Firm C. Firm A therefore controls Firm C with only an 18% ownership stake. In this way, a pyramidal structure allows a blockholder to control assets that are collectively worth much more than the family's actual equity stake. Another mechanism of control is that of crossholdings. Crossholdings occur when firm A owns shares in firm B, and firm B owns shares in firm A. Crossholdings are most common amongst firms within a pyramidal structure or are used to cement ties about firms in a related group, such as a Japanese keiretsu or Korean chaebol. Crossholdings are relatively uncommon in Canada and are not studied in this paper.

[7] Tunneling is defined as the "transfer of assets and profits out of firms fir the benefit of those who control them" (Johnson et al 2000, p. 22).

[8] This inverse relationship holds in the U.S. (Gompers, Ishii and Metrick 2006), Canada (Jog and Riding 1986; Smith and Amoako-Adu 1995) and abroad (Claessens et al. 2002; Faccio, Lang and Young 2001; Claessens et al.. 2002; Lins 2003; Lemmon and Lins 2003; Cronqvist and Nilsson 2003).

expropriation of resources from minority shareholders, capital misallocation, reduced or inefficient investment, and thus ultimately lower economic growth (Morck, Wolfenzon and Yeung 2005).[9] The implication of this statement is that if family ownership does indeed have such negative effects, then policymakers may wish to consider implementing policies that discourage family ownership, or at the very least, the use of control enhancing mechanisms. As noted above, however, the empirical evidence of the effects of concentrated ownership on firm performance is mixed. Consequently, it is necessary to further examine the relationship of family ownership and performance in order to determine whether a policy response is warranted.

We contribute to this debate by revisiting the question of family ownership, firm performance, and capital structure using a unique panel data set of 613 Canadian firms from 1998 to 2005. Canada provides an ideal setting for studying this question, as it features more concentrated corporate ownership than the United States and more prevalent use of multiple classes of voting shares and pyramidal structures (Attig 2005; Morck, Stangeland and Yeung 2000). While the ownership structure is quite different between Canada and the United States, these two countries feature similar legal, regulatory and market institutions (Buckley 1997).[10] This greater variation in ownership structure provides increased power for tests of the links between family ownership, firm performance, and capital structure, while holding key country-level factors constant.

Our study makes four contributions to the literature. First, we collect annual data for 613 firms covering eight years that allows us to control for potential endogeneity using panel regression techniques. We identify the owner, the percentage control of votes, the percentage cash-flow stakes, and the use of dual-class shares or pyramidal structures in these firms. To our knowledge, this is the largest and most comprehensive database of Canadian ownership. Second, we focus on family-owned firms and examine how their performance and capital structure varies relative to other controlling shareholders. In particular, we can distinguish the effect of family ownership from the use of control-enhancing mechanisms. Third, we examine the impact of both market

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[9] Morck, Stangeland and Yeung (2000) link family ownership to poor macroeconomic performance, as they find per capita GDP growth is slower in countries where inherited billionaire wealth is larger as a fraction of GDP. La Porta et al.. (1999) study the ownership of the 20 largest publicly traded firms in 27 countries. For U.S. studies, see Shleifer and Vishny (1986), Anderson and Reeb (2006) and Villalonga and Amit (2006). For Europe, see Faccio and Lang (2002) and Barca and Becht (2001). For Asia, see Claessens et al. (2000). For other emerging markets, see Khanna (2000) and Lins (2003).

[10] Under the Multi-Jurisdictional Disclosure System put in place in 1991 (and amended in 1994), Canadian companies can satisfy their U.S. filing and disclosure requirements using their Canadian filings.

and accounting performance on our full sample, using as proxies Tobin's q and return on assets (ROA), respectively.[11] These performance measures have been used widely in studies of U.S., European, and emerging market firms, making our results comparable. Fourth, we test different theories relating ownership to capital structure. We are not aware of any other Canadian study that examines this issue.

Our findings can be summarized as follows. We document that family-owned firms that use only a single class of shares (family-single) have higher financial leverage and higher ROA than widely-held firms, while family-owned firms that use dual-class shares (family-dual) have similar financial leverage and ROA to widely-held firms. On average, family-controlled firms are the only firms with concentrated ownership that exhibit lower Tobin's q ratios than widely-held firms, based on panel regressions that control for other firm characteristics. Further examination reveals that family-single firms exhibit similar valuations to other firms, consistent with the theory that ownership is an endogenous outcome that should have no observable effect on firm performance. By contrast, family-dual firms have valuations that are 17% lower on average than widely-held firms, consistent with evidence that firms with a separation between cash-flow rights and control rights have lower valuations due to a higher risk of expropriation from minority shareholders. In summary, family ownership is not negative for performance per se: rather, it is the use of control-enhancing mechanisms that reduces a firm's valuation.

The remainder of this paper is organized as follows. Section 2 reviews the theories and evidence relating ownership to firm performance and the use of financial leverage. We also review existing studies of Canadian firms. Section 3 describes the Canadian sample, provides comparisons to ownership structures in Europe and Asia, and summary statistics. Section 4 discusses our empirical methodology and then estimates the relationship between ownership concentration, firm performance, and capital structure. Section 5 takes a closer look at family-owned firms, and looks at the impact of dual-class shares and pyramidal structures. Section 6 concludes.

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[11] Tobin's q is defined as the ratio of market value of equity plus book value of debt scaled by total assets as of fiscal year-end.

2. Theory and Evidence of Ownership Structure

2.1 Ownership and Firm Performance

Concentrated ownership – whether by insiders or outside investors – has been hypothesized to lead to better performance, worse performance, or to have no observable effect on performance.[12] Increased ownership by insiders or the presence of a large blockholder can lead to better performance due to three main reasons. First, Jensen and Meckling (1976) argue that greater equity ownership by insiders improves corporate performance because it better aligns the monetary incentives of the manager with other shareholders, since the principal-agent conflict disappears when the manager is also the majority shareholder. Second, Shleifer and Vishny (1986) argue that even when controlling blockholders are not involved in management, they are nonetheless more capable of monitoring and controlling managers, thereby contributing to better corporate performance.[13] Third, Stein (1989) and James (1998) argue that family-owned firms may make better investment decisions, since families are less myopic and have longer investment horizons, with less emphasis on short-term results. The longevity of the family owner's interaction with the firm also implies a higher degree of firm knowledge, better decision making, and less shirking, thus leading to better performance.

Concentrated ownership by insiders or an outsider can have a negative effect on firm performance due to four principal reasons. First, while high levels of control increase the alignment of interests between controlling and minority shareholders, Stulz (1988) and Barclay and Holderness (1989) argue that low and intermediate levels of control reduce the probability of a takeover and entrench poor managers. Second, managers or controlling shareholders may pursue actions that maximise their personal utility but lead to suboptimal policies for the firm, such as the consumption of perquisites (Shleifer and Vishny 1986; Morck, Shleifer and Vishny 1988; Anderson and Reeb 2003; Morck, Wolfenzon and Yeung 2005). For example, family-owners who manage a firm may pay themselves excessive compensation, or the family may appoint its members to positions in management over better-qualified external candidates. Third, due to the concentration of family wealth in the business and the concern for the family legacy,

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[12] There are over 100 studies of firm performance and ownership. Mathiesen (2002) provides a comprehensive review of the literature prior to 2002.

[13] Burkart, Panunzi and Shleifer (2003) predict that this effect will be even more important in countries with lower investor protection where the private benefits of control are greater.

Morck, Wolfenzon and Yeung (2005) argue that family-owned firms may display excessive risk-aversion and forego profitable expansion strategies or mergers. And lastly, the use of control-enhancing mechanisms to separate control rights from cash-flow rights weakens the alignment between controlling and minority shareholders and increases the incentives for controlling shareholders to extract private benefits (DeAngelo and DeAngelo 1985; Johnson et al. 2000).

Finally, concentrated ownership may have no observable effect on firm performance due to endogeneity. Demsetz (1983), Demsetz and Lehn (1985) and Kole and Lehn (1997) argue that ownership and firm performance are endogenous and should vary systematically by firm and by industry in ways that are consistent with value maximization. Efficient markets will lead to the best firm-specific ownership structure, as firms with inefficient ownership structures will fail to survive in the long run. As a result, there should be no statistical relationship between ownership and firm performance, as the observed ownership structure will balance the marginal advantages and disadvantages to the firm's shareholders.

Table 1 summarizes the mixed results from the voluminous empirical literature on ownership and firm performance. Early studies beginning with Morck, Shleifer and Vishny (1988) document a non-monotonic (hump-shaped) relationship between ownership and Tobin's q ratios that reflects the relative importance of alignment and entrenchment effects. They find that valuations increase until ownership reaches 5%, then declines until 25%, before increasing again with larger ownership stakes. Others find document similar patterns with different break points. The interpretation is that either low or high levels of ownership increase alignment and are associated with increasing Tobin's q ratios, while intermediate levels of ownership increase entrenchment and the private benefits of control, and are associated with declining Tobin's q ratios.[14] Most studies find no relationship when using accounting measures of performance. Other studies beginning with Demsetz and Lehn (1985) find no statistically significant relationship between ownership and firm performance, consistent with the view that they are endogenous. Himmelberg, Hubbard and Palia (1999) partly explain these inconsistent results by suggesting that many studies failed to address potential reverse-causality between ownership and performance, leading to biased results due to unobserved firm heterogeneity.

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[14] This pattern is referred to the trade-off between the alignment and entrenchment effects (Claessens et al 2002).

A second category of studies focus on family-owned firms with results that depend on who is running the firm. For example, Villalonga and Amit (2006) find that insider ownership has a positive impact on both market and accounting profitability when the founder serves as CEO or as Chairman with an external CEO. If the founder is succeeded by their heirs, family-owned firms underperform with lower valuations and lower profitability than widely-held firms, suggesting that nepotism hurts performance by limiting the scope of labour market competition. A third category of studies disentangle the alignment and entrenchment effects of concentrated ownership by studying firms with dual-class shares and/or pyramidal structures. Beginning with Claessens et al. (2002), these studies consistently find a negative relationship between market performance and the size of the wedge between control rights and cash-flow rights. Many of these studies find that family-owned firms are more likely to use control-enhancing mechanisms than other owner types.

Given the mixed theoretical and empirical evidence, the relationship between ownership and firm performance for Canadian firms becomes an empirical matter. In terms of the use of control-enhancing mechanisms, we expect to find an inverse relationship between the between Canadian firms' Tobin's q ratios and the size of the wedge between control and cash-flow rights. The relationship with accounting performance is not clear.

2.2 Ownership and Capital Structure

The theoretical literature on ownership and capital structure predicts either higher or lower levels of financial leverage depending on the manager's risk aversion, the costs of monitoring and bankruptcy, the threat of takeovers, and the growth opportunities of the firm.[15] Theories of ownership and capital structure emphasize the role of debt in reducing agency problems between managers and shareholders. Jensen and Meckling (1976), Fama (1980), and Grossman and Hart (1982) argue that managers prefer lower financial leverage because it reduces the risk of bankruptcy and protects their underdiversified human capital. Jensen (1986) argues that shareholders prefer higher leverage as it reduces the overinvestment problem, particularly in firms with excess free cash flow. These theories assume that managers and owners are distinct, and do not make predictions about the relationship between concentrated ownership and financial leverage. By contrast, Stulz (1988) argues that firms with a controlling shareholder

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[15] Rajan and Zingales (1995) and Myers (2001) provide excellent surveys of the capital structure literature.

should exhibit higher financial leverage, as it increases their voting control for a given level of equity investment, reduces the risk of a hostile takeover, and increases the takeover premium embedded in the stock price.

The literature on the private benefits of control has focused on the potential expropriation of minority shareholders by controlling shareholders, and largely ignores the potential to transfer wealth from bondholders. There is therefore little theory linking capital structure with control-enhancing mechanisms. Israel (1992) is one exception, as his model predicts that firms with supermajority rules issue less debt.[16] In the case of dual-class shares, debt effectively curbs the private benefits of control as creditors are better able to monitor the controlling shareholder and can impose constraints via covenants. In this case, the controlling shareholder has an incentive to avoid debt and can grow the firm without diluting control by issuing restricted voting stock. We therefore expect to find lower financial leverage for firms with dual-class shares relative to other widely-held firms. In the case of pyramidal firms, the cash flows of the group are less volatile as owners have access to an internal capital market to smooth cash flows across business lines (Gertner, Scharfstein, and Stein 1994; Schiantarelli and Sembenelli 2000). Bianco and Nicodano (2006) predict that owners in pyramids will have preferred access to debt markets, and thus should have higher leverage than free-standing firms.

Similar to the empirical results of ownership and firm performance, Table 1 shows that studies of ownership and leverage have produced mixed results. The majority of studies following Holderness and Sheehan (1988) find a negative relationship between managerial ownership and financial leverage, particularly for entrenched managers who are more likely to use equity and avoid high levels of leverage. Several studies by Kim and Sorenson (1986), among others, document the opposite result, with financial leverage increasing with either insider ownership or an index of manager entrenchment. A third category of studies including Anderson and Reeb (2003b) find that insider ownership – by managers or families – has no effect on capital structure choices.

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[16] Supermajority rules require 70% or 85% of the voting shares to make decisions, as opposed to a simple majority.

The empirical evidence on the impact of control-enhancing mechanisms on leverage is very limited. Bianco and Nicodano (2006) find evidence that pyramidal firms have higher financial leverage than free-standing firms using a sample of Italian holding companies. Given this limited and contradictory evidence, we are not able to hypothesize a relationship between ownership and financial leverage and we let the empirical results speak for themselves.

2.3 Canadian Studies of Ownership

A number of authors have looked at different aspects of Canadian ownership.[17] These studies find that over half of large Canadian firms feature concentrated ownership, with families as the most common blockholder. Family-owners are more likely to use dual-class shares and pyramidal structures, particularly firms based in Quebec or in domestic industries with foreign-ownership restrictions.

To our knowledge, there are only several studies that look at the impact of ownership on firm performance or capital structure.[18] Attig (2005) examines the ownership of 478 firms cross-sectionally for 1997, of which 63% are family-owned firms; half of the sample firms are controlled via pyramidal holdings, and 15% use dual-class shares. Firms belonging to a pyramid have lower Tobin's q on average, but not dual-class firms. Family-owned firms and pyramidal firms exhibit wider bid-ask spreads on average, consistent with greater information asymmetry between controlling and minority shareholders. Finally, firms at lower tiers of pyramids and those with a larger number of firms in their ownership chain are more vulnerable to earnings restatements. Attig concludes that family-ownership, particularly through pyramid structures, has a negative impact on firm performance. Studies of Canadian family-owned firms such as Morck, Stangeland and Yeung (2000) find a negative relationship between management by heirs and firm performance.

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[17] Studies examine the history and prevalence of family-owned firms (Buckley 1997; Morck et al. 2004; Attig 2005), the prevalence and valuation of dual-class shares (Jog and Riding 1986; Bailey 1988; Smith and Amoako-Adu 1995; Robinson, Rumsey and White 1996; Amoako-Adu and Smith 2001; Jog, Zhu and Dutta 2006a,b; Allaire 2006), the impact of family succession on performance (Smith and Amoako-Adu 1999; Morck, Stangeland, and Yeung 2000), the market for corporate control (Smith and Amoako-Adu 1994; Ben-Amar and Andre 2006), the impact of dual-class shares and pyramidal structures on stock liquidity (Attig et al. 2006), and the role of corporate governance mechanisms (Allaire and Firsirotu 2003; Klein, Shapiro and Young 2004; Foerster and Huen 2004)

[18] The edited volume by Daniels and Morck (1995) contains three contributions that examine concentrated ownership, although none take account of control-enhancing mechanisms. Two of the studies find no relationship between ownership, accounting performance, and firm leverage while the third finds a positive relationship with profitability and a negative relationship with a firm's valuations.

The study closest to our own is Amoako-Adu, Smith and Kalimipalli (2007) who compare the valuation of widely-held firms to firms with either a controlling shareholder and a single-share class or a controlling shareholder with dual-class shares, based on the average of variables for the years 1998, 2000, and 2002. They find that only dual-class firms have lower valuations than widely-held firms, with an average discount of 12.9%. The authors do not examine the impact on accounting measures of performance or financial leverage.

3. Ownership Characteristics

We collect annual data on ownership and the relative size of cash-flow and control stakes from management proxy circulars, the Statistics Canada InterCorporate Ownership database, and the Financial Post Top 500.[19] We follow Claessens et al. (2002) and divide firms into five categories based on a 20% control threshold: widely-held firms where no shareholder owns more than 20% of the voting rights, firms controlled by a family or its members, firms controlled by a government (whether federal, provincial or foreign), firms controlled by a non-financial corporation (including publicly-traded subsidiaries), and firms controlled by a financial institution (pension/mutual funds, insurance, banks).[20] For firms that are part of a pyramid, we assign control based on the weakest link along the chain of control. We measure the private benefits of control as the absolute difference (or wedge) between control and cash-flow rights. We collect annual financial statement data from Standard & Poor's Compustat, and stock prices from the CRSP and the TSX-Canadian Financial Markets Research Center (CFMRC) databases.

The full sample consists of all Canadian firms that meet the following criteria: positive assets (DATA6 on Compustat), positive sales (DATA12), non-missing book value of equity (DATA60), and non-missing income before extraordinary items (DATA18). We exclude financial firms to make our sample comparable with other studies. We drop firms with a market capitalization below C$10 million Canadian dollars. Following Villalonga and Amit (2006) we exclude 43 observations of firms with Tobin's q ratios above 10. These restrictions result in final

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[19] Investors must report ownership stakes at the 10% threshold or higher. The size of ownership stakes and the share of votes controlled are disclosed in management proxy circulars, which are consistently available electronically from 1998 onwards via the System for Electronic Document Analysis and Retrieval (SEDAR) at www.sedar.com. We were not able to find reliable data on ownership and control stakes from any other sources.

[20] While 50% or more of the votes may be required to guarantee control, La Porta et al. (1999) argue that the dispersed nature of share ownership and the fact that many shareholders do not exercise their votes allows a blockholder to effectively control a firm with 20% or less of the votes. "Corporate" and "financial" refer to owners who are corporations or financial institutions that are controlled by a widely-held firm.

sample size of 2,768 firm-year observations from 613 firms, of which the median firm is in our sample for four years. Panel A of Figure 1 provides the distribution of owner type for the entire sample for all years: 56% are widely-held, 32% are family-owned, 8% are controlled by a corporate entity and 4% by a financial institution. Panel B of Figure 1 provides the distribution of control-enhancing mechanisms in our sample: 79% of all firms are free-standing with a one share-one vote structure, 14% of firms have dual-class shares, and 7% belong to a pyramid.[21]

[Insert Figure 1 here]

To draw comparisons with other countries, we compare our data to non-financial firms from Europe and Asia, as reported by Faccio and Lang (2002) and Claessens, Djankov, and Lang (2000), respectively. In the year 1998, 66% of firms in our Canadian sample are widely-held, 22% are family-owned, 9% are controlled by a corporate entity, and 2% by a financial institution.[22] There are very few examples of state-owned firms in Canada.[23] These figures compare to the European average of 52% widely-held, 26% family-owned, 3% corporate, and 8% financial (Faccio and Lang 2002), and the Asian average of 3% widely-held, 45% family-owned, 11% corporate and 35% financial. On a country by country basis, the distribution of ownership of Canadian firms falls between that of the United Kingdom and Sweden. With respect to the prevalence of dual-class shares and pyramidal structures, in 1998, 15% of Canadian firms in our sample have dual-class shares, and 13% belong to a pyramidal structure.[24] This distribution is similar to Europe, where 21% of firms have dual-class shares and 10% belong to a pyramidal structure. In contrast, close to half of Asian firms belong to a pyramid. Finally, the average control and cash-flow stakes are higher for the Canadian sample, but the average wedge is similar to European firms.

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[21] The 7% figure underestimates the true distribution of pyramid firms across our sample, as we classified pyramid firms that use dual-class shares as dual-class firms. This categorization was necessary to create mutually-exclusive groups for the regressions that follow.

[22] Attig (2005) reports ownership statistics for 478 firms in 1997. In his sample, family-owned firms represent 63%, based on a 10% control threshold, while 28% are widely-held. Of this total, 53% of firms are controlled via pyramids, while 15% use dual-class shares.

[23] Our sample had only 34 observations of state-owned firms, so we dropped them from this analysis. Our results are robust if we consider these firms as widely-held corporate or widely-held financial.

[24] In the same year, Gompers, Ishii and Metrick (2006) report that 6.6% of U.S. firms use dual-class shares, with average control rights of 60.4%, cash-flow rights of 39.3%, and wedge of 21.1%.

3.1 Characteristics of Canadian firms

Table 2 provides summary statistics of the key variables used in our analysis for the 613 Canadian firms over the period 1998 to 2005. Panel A provides the distribution of firm characteristics by ownership type for different size categories. Market capitalization and total assets are measured in millions of Canadian dollars as of fiscal year-end. Tobin's q is the ratio of market value of equity plus book value of debt scaled by total assets as of fiscal year-end. Sales growth is the two-year average growth rate in revenues, or one-year if two-year data are not available. Financial leverage is total debt divided by total assets. ROA is operating earnings divided by total assets. Capital expenditures (CAPEX)-to-sales is capital expenditures divided by net revenues. Cash-to-total assets is cash and short-term securities divided by total assets. The average Canadian firm has market capitalization of C$1.95 billion, total assets of C$2.50 billion, Tobin's q of 1.713, ROA of 7.3%, financial leverage of 24.4%, sales growth of 23.6% per year and cash-to-total assets of 13.2%. There are notable differences across size categories, so we show the breakdown of these statistics for the largest 25% of firms, the middle 50% and the smallest 25% by market capitalization. The largest firms have market capitalization (total assets) that is 120 (24) times larger than the smallest firms in our sample. Larger firms have higher Tobin's q compared to smaller firms (1.906 vs. 1.428), higher financial leverage (27.8% vs. 24.1%), but lower capex-to-sales and cash-to-assets.

[Insert Table 2 here]

Next we consider how these characteristics vary by owner type. We observe considerable cross-sectional variation based on firm size, but importantly, the relative distribution is comparable across owner types. The only consistent patterns are that Tobin's q ratios and ROA increase with firm size for each category of owner. The pattern for financial leverage, however, shows no clear relationship, nor does sales growth, capital expenditure-to-sales and cash-to-total assets.

Panel B of Table 2 shows the distribution of owner type by industry. We classify firms into five broad industries based on the firm's primary North-American Industry Classification System (NAICS) codes: high technology firms (NAICS 51, 333, 334, 5415); transportation and utilities (NAICS 22, 48, 49); natural resource firms including oil and gas, mining, forestry and fishing (NAICS 21, 321, 322); firms involved in manufacturing and construction (NAICS 311, 312, 323-

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327 and 311, 335,366) and wholesale and retail trade, and services (all remaining NAICS codes). Demsetz and Lehn (1985) predict that regulated industries or industries with stable technologies or market shares should feature dispersed ownership. Consistent with this prediction, close to 70% of firms in transportation and utilities and natural resources are widely-held at the 20% threshold, with family ownership accounting for 22% in each sector. By contrast, family ownership is higher in the manufacturing (37%), service (40%), and high tech sectors (35%). Corporate ownership also tends to be higher in services and high tech, while financial ownership is highest in the service sector. Given the variation in owner type by industries, we control for industry in our analysis below.

Panel C of Table 2 describes the prevalence of control-enhancing mechanisms by owner type and size. For the entire sample, larger firms are more likely to have dual-class shares, or to be part of a pyramid. Moreover, given the presence of a blockholder, larger firms tend to have a greater control rights but lower cash-flow rights, implying a larger wedge between control and cash-flow rights for these firms. Breaking the sample by owner type, it is immediately clear that the vast majority of dual-class and pyramidal firms are family-owned. Family-owned firms account for 87% of dual-class shares, and 95% of pyramids, while only representing 72% of firms that have a control stake greater than 20%. This to compares to corporate- and financial-controlled firms which represent 13% of dual-class firms and 5% of pyramidal firms, but account for over 28% of firms with a controlling shareholder. Figure 2 shows the distribution of control enhancing mechanisms by ownership type. Clearly, family-owned firms are more likely to have dual class shares than corporate or financial firms, and are more likely to be part of a pyramid. Un-tabulated results show that almost half of the family-owned firms that use dual-class shares are headquartered in the province of Quebec. The use of dual-class shares increases with firm size suggesting that families issue dual-class firms in order to grow their firms while maintaining control. Note that the wedge between control and cash-flow rights increases from 8.6% for the smallest family firms to 26.6% for the largest.

In summary, one-third of our sample is family-owned firms. Families are much more likely to use both dual-class shares and pyramidal structures than other blockholders. Only 41% of family-owned firms are free-standing firms with a single share class (i.e. "family-single").

3.2 Univariate Tests by Owner Type

Table 3 presents univariate tests of the differences in means of firm characteristics by owner type, where the test is always relative to widely-held firms. We highlight three key differences between family-owned firms and widely-held firms. First, family-owned firms have similar market capitalization to widely-held firms but greater total assets, implying that financial leverage at family-owned firms must be higher. In fact, their debt-to-total assets ratio is 27.9%, significantly higher than the 21.4% for widely-held firms. Second, family-owned firms have statistically lower sales growth (19.0%) but higher ROA (10.5%). The Tobin's q ratios are lower at 1.420, an average discount of more than 25% relative to widely-held firms. Given the higher profitability, this discount may be explained by a higher cost of capital while the lower sales growth may point to fewer growth opportunities. Third, family-owned firms have half the capex-to-sales (14.0%) of widely-held firms (30.5%), consistent with lower sales growth. Their cash balances are also lower with cash-to-total assets of 9.4%. While these figures are suggestive, they represent univariate comparisons that do not control for other firm characteristics. We therefore test these relationships in a multivariate setting below.

[Insert Table 3 here]

The bottom part of Table 3 tests for univariate differences based on the wedge between control and cash-flow rights, and the use of dual-class shares vs. pyramidal structures. Close to 80% of our sample have control rights that equal cash-flow rights. This relationship holds for widely-held firms, but also for free-standing firms with a controlling shareholder and a single class of shares. For firms where control rights diverge from cash-flow rights due to the use of dual-class shares or pyramidal structures, total assets are 1.6 times larger, financed by higher financial leverage. This finding is consistent with the view that firms adopt control-enhancing mechanisms in order to grow their businesses while maintaining control. The market does not assign a high valuation to these firms, as the Tobin's q ratio of firms where control rights diverge from cash-flow rights are lower by 28.3% on average relative to firms with no private benefits of control. This lower valuation is consistent with their lower sales growth but not the higher ROA. Again, higher earnings combined with a lower valuation is consistent with a higher discount rate being applied to future earnings. When we look at the mechanisms used to enhance control, we find that both dual-class firms and pyramidal firms exhibit the same patterns. The significantly larger

firm size is driven by pyramidal firms. Dual-class firms have the highest financial leverage on average, but the lowest Tobin's q ratios, the lowest capex-to-sales, and the lowest cash-to-assets.

4. Empirical Analysis

4.1 Methodology

Demsetz and Lehn (1985), Himmelberg, Hubbard and Palia (1999), and Coles, Lemmon and Meschke (2007) argue that ownership and performance are often determined by common characteristics, some of which are unobservable to the econometrician. To address this issue, following Claessens et al. (2002), we use a random-effects specification because a number of our variables of interest are either time-invariant – such as our industry dummies – or exhibit few changes over time – such as our dummies for owner type, dual-class shares, pyramidal structures.[25] We confirm that our results are robust when using OLS regressions with year dummies, controlling for clustering of standard errors by firm.

We examine the impact on family ownership on two measures of a firm's performance: its market performance, proxied by Tobin's q ratio, and its accounting performance, proxied by ROA. Tobin's q is a forward-looking measure that reflects the market's valuation of the firm's assets relative to book value, and it is sometimes used as a proxy for a firm's future growth opportunities. ROA is a backward-looking measure that reflects accounting rules, and is viewed as a measure of profitability or productivity. Both measures suffer from measurement problems related to accounting choices, the difficulty of valuing intangible assets, and the market value of assets and liabilities.[26] Given our interest in looking at ex post and ex ante measures of firm performance, we use both proxies. In order to examine the effect of ownership on firm performance, we estimate the following random-effects model:

$$(1) \quad y_{it} = \boldsymbol{a} + \boldsymbol{b}' x_{it} + \boldsymbol{d} \ OWN_{it} + \boldsymbol{e}_{it}$$

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[25] We are cautious in our interpretations, however, because Coles, Lemmon and Meschke (2007) show that even panel techniques may not adequately address the unobserved firm-heterogeneity. In the absence of a well-specified structural model of the organizational form for drawing inferences about cause and effect, this approach is the best available.

[26] These measures appear to identify different aspects of a firm's performance, as they have a negative correlation of -0.278 in our sample.

where y_{it} is either Tobin's *q,* measured as total assets plus the market value of equity less the book value of equity, divided by total assets, or ROA_{it} measured as operating income before depreciation divided by total assets. e_{it} is the mean-zero residual adjusted for firm-specific heterogeneity. The *X*'s are firm characteristics, namely firm size, sales growth, industry sales growth, ROA, financial leverage, firm age, membership in the TSE300 index, and capex-to-sales. ROA is excluded when it is the dependent variable. *OWN* are measures of ownership, whether the size of the control stake, dummy variables identifying owner type or the use of control-enhancing mechanisms, or the size of wedge between control stakes from cash-flow stakes. To examine the effect of ownership on capital structure, we follow estimate the following random-effects model:

(2) $lev_{it} = \boldsymbol{a} + \boldsymbol{b'}x_{it} + \boldsymbol{d}\ OWN_{it} + \boldsymbol{e}_{it}$

where lev_{it} is financial leverage*,* measured as total debt-to-total assets, and the remaining left-hand side are the same as in (1), except that financial leverage is excluded and cash-to-assets is included.

4.2 Regressions on Firm Performance

Panel A of Table 4 presents the results of estimating equation (1) using firm-level random effects, where the dependent variable is a firm's valuation proxied by Tobin's q. The benchmark model in column 1 shows that size, ROA, and financial leverage are negatively correlated to Tobin's q. Sales growth, industry q, membership in the TSE 300 and capex-to-sales are positively correlated to Tobin's q. Firm age is not significant. These estimated coefficients and their statistical significance are robust across all specifications. Controlling for these firm-level characteristics, column 1 includes the percentage of the control stake as a continuous variable. Contrary to theory and prior empirical studies by Morck, Shleifer and Vishny (1988) and Chen, Hexter and Hu (1990), we find that higher levels of control above 20% are negatively correlated to Tobin's q.[27]

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[27] We then explore whether there are threshold effects by including dummies for when the firm has an owner with a controlling block between 20% and 50%, or a controlling block greater than 50%. Interestingly, controlling blocks of greater than 50% have a more negative impact than control blocks of less than 50%. This result is not consistent

[Insert Table 4 here]

The specification in column 2 examines whether the type of controlling blockholder matters: namely, is firm performance worse for all types of controlling blockholders, or do family-owned firms perform worse than other types of blockholders? Inclusion of a dummy variable for the ultimate owner reveals that it is only family-owned firms that have lower Tobin's q ratios relative to widely-held firms. Corporate and financial-owned firms do not exhibit statistically different Tobin's q ratios from widely-held firms, consistent with the endogeneity argument of Demsetz and Lehn (1985). The coefficient of -0.244 for family-owned firms implies a discount of 12% relative to the average Tobin's q ratio of 2.182 for widely-held firms. While we do not control for whether the founder or his heirs serves as the CEO or Chairman, are results are nonetheless consistent with Morck, Stangeland and Yeung (2000), Villalonga and Amit (2006), and Perez-Gonzales (2006).

We next separate ownership from the mechanisms used to enhance-control. Recall in Table 2 that 87% of firms with dual-class shares are family-owned. Consequently, family-owned firms are more likely to exhibit ownership structures where control rights diverge from cash-flow rights. To account for this effect, column 3 includes a continuous variable measuring the wedge between control rights and cash flow rights. This variable is strongly negative and significant. The coefficient of -0.686 must be multiplied by the size of the wedge to estimate the discount. The average wedge is 5.9% with a standard deviation of 14.9%. A one-standard deviation increase would therefore reduce the Tobin's q ratio by 0.102 or close to 5% relative to the average widely-held firm. To test whether this discount is due to dual-class shares or pyramidal structures, column 4 estimates the model using a separate dummy variable for both control-enhancing mechanisms. The discount is largely due to dual-class shares. While the dummy for pyramidal structures is negative, it is not significant. Lastly, we estimate the model including the level of control, and dummy variables for whether the firm is family-owned with single-class shares (family-single) or family-owned with dual-class shares (family-dual). The coefficient for control stakes is not significant, while the dummy for family-dual firms is negative and

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with the hypothesis that as the control stake rises, the incentive of controlling shareholders to expropriate from minority shareholders diminishes.

significant at -0.368, representing a discount of 17%. This combination implies that it is not control nor family ownership per se that leads to lower Tobin's q ratios, but the use of dual-class shares to separate control from cash-flow rights. This result confirms the findings in Claessens et al. (2002), Villalonga and Amit (2006), and Gompers, Ishii and Metrick (2007). When compared to the Canadian evidence, however, our results differ from Attig (2005) who finds that only pyramidal firms exhibit a lower Tobin's q ratio than widely-held firms.

Panel B of Table 4 presents the results of estimating equation (1) using firm-level random effects, where the dependent variable is a firm's ROA. For the benchmark model in column 1, we find that larger firms with higher growth opportunities have higher ROA. Higher financial leverage and capex-to-sales are associated with lower ROA, with firm age and TSE 300 membership not significant. The estimated coefficients for these controls from the benchmark model are robust for all specifications. Column 1 shows that higher levels of control are positively correlated with ROA. This result contrasts sharply with most previous Canadian evidence that found no strong link between ROA and ownership. Column 2 shows that this effect is driven by family-owned firms. Interestingly, inclusion of a variable measuring the wedge between control and cash flow rights in column 3, or the presence of either dual-class shares or pyramids in column 4, does not show any significant relationship with ROA. Finally, column 5 shows that the higher accounting performance is only statistically significant for family-owned firms with a single shares class, with higher ROA of 3.3% on average. Recall that these firms had similar Tobin's q ratios to widely-held firms in Panel A While there may appear to be a contradiction between higher ROAs and lower Tobin's q, this is not necessarily the case. Simply, it may be that, on average, family-owned firms have higher profitability, but that the cash-flow is accordingly discounted by investors (due to the threat of tunnelling, etc).

4.3 Regressions on Financial Leverage

Panel C of Table 4 presents the results of estimating equation (2) using firm-level random effects, where the dependent variable is a firm's total debt-to-total assets. For the benchmark model in column 1, we find that larger firms with higher ratios of capex-to-sales have higher financial leverage. Higher ROA, membership in the TSE 300, and higher cash-to-assets are associated with lower financial leverage. The estimated coefficients for these controls are robust for all specifications.

Inclusion of the level of ownership control in column 1 shows that higher levels of control are associated with higher financial leverage, results that are consistent with the theoretical prediction of Stulz (1988), and the empirical findings of Mehran (1992) and Litov (2005). The type of controlling owner matters as seen in column 2, as both family and financially-controlled firms exhibit higher financial leverage. Family-owned firms may use more debt to grow their firms without diluting their ownership. Financial leverage is not statistically different in cases where control rights exceed cash-flow rights in column 3, nor for dual-class firms in column 4. This result contradicts our expectation that firms with dual-class shares should exhibit lower leverage. Pyramids firms have statistically lower financial leverage, consistent with internal capital markets. This result contradicts those of Bianco and Nicodano (2006), who find that pyramidal firms have higher financial leverage. Finally, column 5 suggests that it is family-single firms that have more debt in their capital structures, with financial leverage that is 2.2% higher on average than the other firms in the sample. We check the robustness of our results to our estimation method and to the definition of our dependent variables (see Appendix 1 for details) and the results do not materially change.

5. Focus on Family-Owned Firms

The previous results suggest that family ownership per se is not the source of underperformance of Canadian firms. Instead it is the combination of family ownership and dual-class shares that reduces firm value. Family-owned firms with a single share class have similar Tobin's q ratios, higher ROA, and higher financial leverage than other firms on average. To further explore this relationship, we estimate equations (1) and (2) using only family-owned firms. Whereas the previous regressions constrained the coefficients on the control variables to be equal across owner types, this specification provides estimated coefficients that are specific to family-owned firms. We reduce the number of observations (and the power of our tests) but increase the differentiation by firm characteristics. This approach also allows us to benchmark our results against Claessens et al. (2002), Cronqvist and Nilsson (2003) and Villalonga and Amit (2006).

Table 5 presents the results of our panel regressions, estimated using random effects. In these regressions, the control variables have the same direction and significance except sales growth that is no longer significant and ROA that reverses direction and is positive and significant. More profitable family-owned firms have higher Tobin's q ratios. In column 1, the level of control

stakes is negative but no longer significant. Family-owned firms that have a higher wedge between cash-flow and control in column 2 exhibit lower Tobin's q ratios than family-owned firms with no control divergence, confirming the findings in Villalonga and Amit (2006) that disentangling ownership from control is important. This finding is reinforced in column 3 by estimating the model with a dummy variable if the firm has dual-class shares, or is part of a pyramid. Dual-class share firms have the lowest Tobin's q ratios, with a discount of 17% relative to family-single firms on average. Pyramid firms exhibit a discount of 9% from family-single firms on average. An F-test rejects that the coefficient on dual-class firms is statistically different from the coefficient on pyramidal firms. In both cases where a control-enhancing mechanism creates a wedge between control rights from cash-flow rights, the firm has a lower valuation consistent with Claessens et al. (2002) and Cronqvist and Nilsson (2003). In column 4 we replicate the specification from Claessens et al. (2002) Table VII where we include a dummy variable to identify firms where control rights diverge from cash flow rights, and a second dummy variable if this wedge is higher than the median wedge where control and ownership differ. The simple difference is negative and statistically significant but the dummy for a higher than mean wedge is not. It is the presence of control-enhancing mechanisms, not extreme values of the wedge, that matters for valuations.

[Insert Table 5 here]

Panel B of Table 5 examines the relationship between ROA and ownership for family-owned firms. The controls are unchanged from before. Controlling for these firm-level characteristics, we then introduce the different measures of ownership control. Unlike the results in Table 4, there are no clear relationships between accounting performance and any of the ownership variables. This result confirms that profitability is not affected by the use of control-enhancing mechanisms, which is in contrast to earlier studies on this topic. Despite having similar accounting performance, family-owned firms with dual-class shares or pyramidal structures have lower Tobin's q ratios, implying that investors must discount their future expected earnings more heavily.

Finally, Panel C of Table 5 examines the relationship between capital structure and ownership for family-owned firms. The controls have the same direction and significance throughout.

Controlling for firm characteristics, more concentrated ownership is positively correlated with financial leverage in column 1. Column 2 shows that the size of the wedge between cash-flow and control is not correlated with higher financial leverage. Column 3 confirms that firms with dual-class shares and firms that belong to a pyramid have lower financial leverage than family-single firms, and the two coefficients are not statistically different from each other. Lower financial leverage in this instance may be attributed to the fact that firms with control-enhancing mechanisms can finance their assets using equity capital without diluting their control stakes. Given the higher monitoring by creditors and the potential for onerous covenants, these firms may prefer more expensive equity to cheaper debt. Finally, column 4 confirms that it is the presence of a control-enhancing mechanism that decreases financial leverage, not the presence of larger than average wedge between control and cash flow rights.[28]

6. Conclusion

This study examines the link between family ownership, firm performance, and capital structure using a panel data set of 613 Canadian firms from 1998 to 2005. This unique dataset includes information on firm characteristics, as well as the size of control stakes, the identity of the ultimate owners, the use of control-enhancing mechanisms, and the degree of separation of cash-flow from control rights. Previous U.S. and international studies of ownership, firm performance and capital structure have produced mixed or inconclusive results, likely due to the endogeneity between these variables as well as the failure to distinguish between ownership and mechanisms that enhance control. Canada provides an ideal setting to revisit these questions, as it features similar legal and regulatory institutions as the United States, with the same English common-law legal system, similar levels of minority shareholder protection, and comparable levels of disclosure. At the same time, Canada has more concentrated corporate ownership with one-third of large companies controlled by families and one in five firms using either dual-class shares or pyramidal structures to enhance control. This greater variation in ownership structure provides increased power for tests of the links between family ownership, firm performance, and capital structure, while holding key country-level factors constant.

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[28] Again, we check the robustness of our results to our estimation method and to the definition of our dependent variables (see Appendix 1 for details).

Following Himmelberg, Hubbard and Palia (1999), we use panel data techniques to control for unobserved firm heterogeneity in order to better measure the relationship between family ownership, firm performance, and capital structure. Panel data studies of ownership have been rare, due to the difficulty of collecting the data required, and we are not aware of any study of this type with as complete a picture of Canadian ownership. Similar to Claessens et al. (2002), we disentangle the alignment and entrenchment effects of family-ownership from the use of control-enhancing mechanisms that create a wedge between control and cash-flow rights. We find that freestanding family-owned with a single share class have similar market performance based on Tobin's q ratios, superior accounting performance based on ROA, and higher financial leverage than other firms. By contrast, family-owned firms that use dual-class shares have valuations that are lower by 17% on average relative to widely-held firms, despite having similar ROA. Finally, concentrated ownership by either a widely-held corporation or a widely-held financial institution does not significantly affect firm performance. Future research will explore the motivations for families to adopt dual-class shares or pyramidal structures and the impact of changes in ownership on firm performance and financing constraints.

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Appendix 1: Robustness Analysis

We check the robustness of our results in Table 4 to our estimation method and to the definition of our dependent variables. First, we re-estimate Table 4 using pooled OLS regressions with standard errors adjusted for clustering by firm. The results on Tobin's q are stronger with the same direction and statistical significance. The regressions on ROA are weaker, with similar direction but a lack of statistical significance for family-single firms. The regressions on total debt-to-total assets are also weaker, with only family-owned firms exhibiting higher leverage. Second, we re-estimate (1) with two alternative measures of market performance: (i) industry adjusted Tobin's q, and (ii) the market-to-book ratio of a firm's common equity. Industry adjusted Tobin's q is the firm's Tobin's q minus the mean Tobin's q for its 2-digit NAIC industry. The results are unchanged from before. Market-to-book provides qualitatively similar results, although the lack of precision in the estimates renders many of the results insignificant. Third, we re-estimate (1) with ROE as our alternative measure of accounting performance. Higher levels of control and family-controlled firms have higher ROE, with no differentiation based on control-enhancing mechanisms as before. Fourth, we re-estimate (2) replacing total debt-to-total assets with total debt-to-equity. The results are broadly as before, with family-owned firms having higher total debt-to-equity than other firms. Interestingly, the wedge for control minus cash, the dummy for dual-class firms, and the dummy for family-dual firms are also positive and significant, suggesting that family-owned firms with control-enhancing mechanism have higher debt-to-equity than other firms.

Robustness: Family-Only

We check the robustness of the results from Table 5 using pooled OLS regressions with clustering by firm, and with different proxies for the dependent variables. The results for market performance are similar when estimating with pooled OLS, although the statistical significance on total debt-to-total assets is weaker. Using different proxies for market performance generates similar results, both with panel regressions with random effects and pooled OLS with clustering by firm. When using debt-to-equity as an alternative measure of capital structure, none of the ownership variables are statistically significant using either random effects or pooled OLS. We are thus cautious when interpreting differences in capital structure across family-owned firms.

Table 1: Summary of Empirical Literature
The table summarizes the empirical literature on ownership, firm performance, and financial leverage. The studies are representative. Mathiesen (2002) provides a comprehensive review of the literature prior to 2002.

Relationship	Positive relationship	Negative relationship	No relationship
Concentrated ownership and performance	Morck, Shleifer and Vishny (1988), Chen, Hexter and Hu (1990), McConnell and Servaes (1990), Hermalin and Weisbach (1988), Kole (1995) and Holderness, Krozsner, and Sheehan (1999)[1]		Demsetz and Lehn (1985), Holderness and Sheehan (1988), Loderer and Martin (1997), Himmelberg, Hubbard and Palia (1999), Demsetz and Villalonga (2001)
Family ownership and performance	Anderson and Reeb (2003a), Adams, Almeida and Ferreira (2005), Villalonga and Amit (2006), Barontini and Caprio (2006)[2], Barontini and Caprio (2006)[3]	Morck, Stangeland and Yeung (2000), Villalonga and Amit (2006), Perez-Gonzales (2006)[3]	
Control-enhancing mechanisms and performance		Claessens et al. (2002), Lins (2003), Lemmon and Lins (2003), Cronqvist and Nilsson (2003), Villalonga and Amit (2006), Barontini and Carprio (2006), Gompers, Ishii and Metrick (2007)	
Concentrated ownership and financial leverage	Kim and Sorenson (1986), Agrawal and Mandelker (1987), Mehran (1992), Litov (2005)	Holderness and Sheehan (1988), Friend and Lang (1988), Agrawal and Nagarajan (1990), Jensen, Solberg and Zorn (1992), Berger, Ofek, and Yermack (1997), Moh'd, Perry and Rimbey (1998)	Holderness, Krozner, and Sheehan (1999), Anderson and Reeb (2003b)
Control-enhancing mechanisms and financial leverage	Litov (2005), Bianco and Nicodano (2006)	Berger, Ofek, and Yermack (1997)	

1. Non-monotonic relationship
2. Firms run by founder
3. Firms run by heirs

Table 2: Summary Statistics for 613 Canadian firms from 1998 to 2005

The table presents summary statistics for the sample. Panel A summarizes characteristics by firm size (based on market capitalization) and by type of controlling blockholder. A firm is widely-held if it does not have a blockholder controlling 20% or more of the votes. Controlling blockholders are classified into four types: firms controlled by an individual or family group (including management), firms that are state-owned, firms controlled by a widely-held corporation, and firms controlled by a widely-held financial institution (including banks, mutual funds, or pension funds). Market capitalization and total assets are millions of Canadian dollar as of fiscal year-end. Tobin's q is (total assets + market value of equity -book value of equity)/ total assets. ROA is operating earnings / total assets. Financial leverage is total debt / total assets. Sales growth is two-year average growth rate, or one-year if two-year data is not available. Capex/Sales is capital expenditures /sales. Cash/Assets is cash and short-term securities / total assets. Panel B shows the distribution of owner type by industry based on the firm's primary NAICS code. Panel C provides statistics on the prevalence of dual-class shares or pyramidal structures by owner type. It also provides the mean control stake and cash-flows stake, as well as the difference between percentage of control and percentage of cash-flows stakes for firms that either use dual-class shares or that form part of a pyramidal structure.

Panel A: Firm Characteristics by Size and Owner Type

		Obs	Market Value ($m)	Total Assets ($m)	Tobin's q	ROA	Financial Leverage	Sales Growth	Capex/ Sales	Cash/ Assets
All	Smallest 25%	690	55.9	313.2	1.428	-0.026	0.241	0.208	0.246	0.160
	Middle 50%	1,380	495.6	1,150.0	1.759	0.091	0.229	0.257	0.249	0.138
	Largest 25%	690	6,734.7	7,402.5	1.906	0.136	0.278	0.223	0.202	0.092
	Total	2,760	1,945.4	2,503.9	1.713	0.073	0.244	0.236	0.236	0.132
Widely-Held	Smallest 25%	376	56.6	225.8	1.627	-0.085	0.194	0.231	0.320	0.203
	Middle 50%	778	494.9	765.1	1.976	0.070	0.198	0.308	0.328	0.170
	Largest 25%	384	6,471.8	7,306.4	2.059	0.137	0.266	0.233	0.244	0.098
Family	Smallest 25%	225	53.5	405.0	1.211	0.051	0.284	0.189	0.131	0.117
	Middle 50%	441	501.3	1,250.9	1.449	0.122	0.265	0.192	0.148	0.092
	Largest 25%	211	6,164.8	8,073.7	1.583	0.128	0.300	0.186	0.134	0.073
Corporate	Smallest 25%	50	60.5	589.7	0.992	0.039	0.291	0.109	0.218	0.081
	Middle 50%	104	459.7	3,811.5	1.608	0.088	0.296	0.215	0.159	0.119
	Largest 25%	76	10,448.9	7,324.9	1.811	0.157	0.261	0.222	0.184	0.108
Financial	Smallest 25%	39	56.9	270.7	1.323	0.010	0.374	0.216	0.238	0.093
	Middle 50%	57	524.5	766.7	1.475	0.141	0.261	0.152	0.112	0.092
	Largest 25%	19	3,520.2	2,203.3	2.780	0.151	0.357	0.433	0.182	0.114

Panel B: Distribution of Owner Type by Industry

Owner type	High Tech	Transportation & Utilities	Natural Resources	Manufac-turing	Services	All Sectors
Widely-held	51%	69%	68%	51%	43%	56%
Family	35%	22%	22%	37%	40%	32%
Corporate	11%	6%	8%	6%	11%	8%
Financial	4%	3%	3%	5%	7%	4%
Total	100%	100%	100%	100%	100%	100%

Panel C: Control-enhancing Mechanisms and Size of Control Stakes (excluding widely-held firms)

		% of all firms with control stake 20+%	Dual-class=1	Pyramid=1	Control	Cash	Control - cash
Firms controlled At 20% +	Total		100%	100%	0.221	0.162	0.059
	Smallest 25%	26%	16%	9%	0.206	0.177	0.028
	Middle 50%	49%	59%	44%	0.221	0.158	0.063
	Largest 25%	25%	25%	48%	0.237	0.155	0.082
	Family	72%	87%	95%	0.516	0.335	0.181
	Corporate	19%	8%	4%	0.529	0.521	0.008
	Financial	9%	5%	2%	0.318	0.294	0.023
Of which: Family	Smallest 25%	18%	15%	8%	0.473	0.387	0.086
	Middle 50%	36%	49%	39%	0.526	0.338	0.188
	Largest 25%	17%	23%	47%	0.542	0.276	0.266
Corporate	Smallest 25%	4%	1%	0%	0.474	0.474	0.000
	Middle 50%	9%	6%	3%	0.514	0.500	0.014
	Largest 25%	6%	1%	1%	0.585	0.581	0.004
Financial	Smallest 25%	3%	0%	1%	0.304	0.299	0.004
	Middle 50%	5%	4%	1%	0.346	0.302	0.044
	Largest 25%	2%	1%	0%	0.262	0.260	0.002

Table 3: Differences in Means

This table tests for differences at the mean using a parametric t-test. Results for tests at the median using a non-parametric sign-rank test are available upon request. A firm is widely-held if it does not have a blockholder controlling 20% or more of the votes. Controlling blockholders are classified into four types: firms controlled by an individual or family group (including management), firms that are state-owned, firms controlled by a widely-held corporation, and firms controlled by a widely-held financial institution (including banks, mutual funds, or pension funds). Market capitalization and total assets are millions of Canadian dollar as of fiscal year-end. Tobin's q is (total assets + market value of equity -book value of equity)/ total assets. ROA is operating earnings / total assets. Financial leverage is total debt / total assets. Sales growth is two-year average growth rate, or one-year if two-year data is not available. Capex/sales is capital expenditures / sales. Cash/Assets is cash and short-term securities / total assets. *, **, and *** indicate statistical significance of the difference of means at the 10%, 5%, and 1% levels for each row relative to the first row of each category.

	Obs	Market Value ($m)	Total Assets ($m)	Tobin's q	ROA	Financial Leverage	Sales Growth	Capex / Sales	Cash / Assets
Widely-held	1,538	1,880.00	2,266.50	1.912	0.049	0.214	0.27	0.305	0.16
Family	877	1,749.10	2,675.4*	1.420***	0.105***	0.279***	0.190***	0.140***	0.094***
Corporate	230	3,673.7***	4,272.1***	1.541***	0.100***	0.283***	0.194**	0.180***	0.107***
Financial	115	860.9**	835.9***	1.639**	0.098**	0.315***	0.22	0.166***	0.096***
Control = Cash	2,199	1,847.90	2,217.10	1.818	0.06	0.232	0.255	0.269	0.147
Control ? Cash	561	2,327.80	3,628.4***	1.303***	0.122***	0.292***	0.163***	0.108***	0.072***
Single-class	2,179	1,854.10	2,203.10	1.822	0.06	0.231	0.254	0.269	0.148
Dual-class	398	1,284.6**	2,990.9*	1.281***	0.117***	0.302***	0.178**	0.112***	0.067***
Pyramid	183	4,470.6***	5,027.3***	1.359***	0.135***	0.281***	0.146***	0.121***	0.082***

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Table 4: Panel Regressions using all firms

This table reports results of random-effects regressions that estimate the impact of ownership on Tobin's q, financial leverage and ROA. The sample is 613 Canadian firms from 1998 to 2005. Tobin's q is (total assets + market value of equity -book value of equity)/ total assets. Financial leverage is total debt / total assets. ROA is operating earnings / total assets. Ln(assets) is the natural logarithm of total assets in millions of Canadian dollars at fiscal year-end. Sales growth is the two-year average growth rate in sales. If two-year data is not available, one year growth in sales is used. Industry q is the average Tobin's q for an industry based on the 2-digit NAIC code for a given year.. Ln(age) is the natural logarithm of the number of years since incorporation. TSE300 is a dummy set equal to 1 if the firm is a member of the TSE300 index, and zero otherwise. Capex/sales is capital expenditures / total sales. Cash/Assets is cash and short-term securities / total assets. Dummy variables identify the ownership structure: widely-held firms at the 20% threshold, firms controlled by an individual or family group (including management), firms controlled by a widely-held corporation, and firms controlled by a widely-held financial institution (including banks, mutual funds, or pension funds). Control % is the share of votes held by the controlling shareholder. Control-cash is the wedge between control rights and cash-flow rights. Dual-class is a dummy equal to 1 for firms with 2 or more share classes with different voting rights. Pyramid is a dummy equal to 1 for firms that are part of a control pyramid. Industry and year dummies are included but not shown. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels.

Panel A: Tobin's q

Variable	1	2	3	4	5
Constant	2.146***	2.182***	2.098***	2.107***	2.146***
Ln(assets)	-0.197***	-0.207***	-0.196***	-0.196***	-0.198***
Sales growth	0.196***	0.197***	0.199***	0.198***	0.198***
Industry q	0.380***	0.387***	0.381***	0.381***	0.383***
ROA	-0.307**	-0.293**	-0.343***	-0.334***	-0.307**
Financial leverage	-0.812***	-0.796***	-0.847***	-0.826***	-0.795***
Ln(age)	-0.022	-0.019	-0.025	-0.021	-0.02
TSE300	0.345***	0.354***	0.378***	0.381***	0.360***
Capex-to-sales	0.455***	0.451***	0.467***	0.467***	0.456***
Control %	-0.379***				-0.147
Family dummy		-0.244***			
Corporate dummy		-0.049			
Financial dummy		-0.028			
Control-cash			-0.686***		
Dual-class dummy				-0.374***	
Pyramid dummy				-0.156	
Family + single class					-0.105
Family + dual-class					-0.368***
Obs	2,760	2,760	2,760	2,760	2,760
R2 overall	0.252	0.251	0.253	0.255	0.257
Chi2	492.908	492.024	489.803	500.471	507.276

Panel B: Return on Assets

Variable	1	2	3	4	5
Constant	-0.151***	-0.160***	-0.145***	-0.145***	-0.158***
Ln(assets)	0.042***	0.044***	0.043***	0.043***	0.043***
Sales growth	0.035***	0.034***	0.034***	0.034***	0.034***
Industry q	0.011*	0.01	0.010*	0.011*	0.01
Financial leverage	-0.139***	-0.144***	-0.136***	-0.136***	-0.141***
Ln(age)	0.004	0.003	0.004	0.004	0.003
TSE300	0.008	0.007	0.005	0.005	0.009
Capex-to-sales	-0.092***	-0.091***	-0.094***	-0.094***	-0.091***
Control %	0.053***				0.028
Family dummy		0.040***			
Corporate dummy		-0.004			
Financial dummy		0.025			
Control-cash			-0.010		
Dual-class dummy				0.005	
Pyramid dummy				-0.002	
Family + single class					0.033***
Family + dual-class					0.011
Obs	2,760	2,760	2,760	2,760	2,760
R2 overall	0.202	0.204	0.196	0.197	0.203
Chi2	473.938	483.851	460.755	460.923	482.581

Panel C: Total Debt-to-Total Assets

Variable	1	2	3	4	5
Constant	0.209***	0.193***	0.215***	0.215***	0.204***
Ln(assets)	0.030***	0.032***	0.031***	0.031***	0.031***
Sales growth	0.002	0.003	0.002	0.002	0.002
Industry q	-0.007	-0.007	-0.007	-0.007	-0.007
ROA	-0.119***	-0.122***	-0.118***	-0.118***	-0.120***
Ln(age)	-0.009	-0.009	-0.009	-0.008	-0.009
TSE300	-0.020***	-0.019***	-0.021***	-0.021***	-0.020***
Capex-to-sales	0.019**	0.020**	0.018**	0.018**	0.019**
Cash-to-assets	-0.304***	-0.303***	-0.307***	-0.307***	-0.303***
Control %	0.033**				0.01
Family dummy		0.032***			
Corporate dummy		-0.014			
Financial dummy		0.055***			
Control-cash			-0.030		
Dual-class dummy				-0.006	
Pyramid dummy				-0.025*	
Family + single class					0.023**
Family + dual-class					0.023
Obs	2,760	2,760	2,760	2,760	2,760
R2 overall	0.322	0.327	0.319	0.319	0.323
Chi2	583.959	614.938	578.77	581.239	589.167

Table 5: Panel Regressions using Family-Owned Firms
This table reports results of random-effects regressions that estimate the impact of ownership on Tobin's q, financial leverage and ROA. The sample is family-owned firms from 1998 to 2005. Tobin's q is (total assets + market value of equity -book value of equity)/ total assets. Financial leverage is total debt / total assets. ROA is operating earnings / total assets. Ln(assets) is the natural logarithm of total assets in millions of Canadian dollars at fiscal year-end. Sales growth is the two-year average growth rate in sales. If two-year data is not available, one year growth in sales is used. Industry q is the average Tobin's q for an industry based on the 2-digit NAIC code for a given year. Ln(age) is the natural logarithm of the number of years since incorporation. TSE300 is a dummy set equal to 1 if the firm is a member of the TSE300 index, and zero otherwise. Capex/sales is capital expenditures / total sales. Cash/Assets is cash and short-term securities / total assets. Control % is the share of votes held by the controlling shareholder. Control-cash is the wedge between control rights and cash-flow rights. Dual-class is a dummy equal to 1 for firms with 2 or more share classes with different voting rights. Pyramid is a dummy equal to 1 for firms that are part of a control pyramid. Ctrlmcash dummy is set equal to 1 for firms where control rights are not equal to cash flow rights, and zero otherwise. Ctrlmcash HI dummy indicates firms with higher than the median wedge between control and cash flow rights, following Claessens et al. (2002). Industry and year dummies are included but not shown. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels.

Panel A: Tobin's q

Variable	1	2	3	4
Constant	2.150***	2.030***	2.023***	2.124***
Ln(assets)	-0.143***	-0.135***	-0.121***	-0.119***
Sales growth	-0.062	-0.062	-0.061	-0.069
Industry q	0.162***	0.164***	0.164***	0.163***
ROA	0.438**	0.420**	0.392**	0.393**
Financial leverage	-0.371*	-0.397**	-0.416**	-0.428**
Ln(age)	-0.043	-0.043	-0.038	-0.037
TSE300	0.157**	0.172**	0.184**	0.170**
Capex-to-sales	0.774***	0.762***	0.780***	0.791***
Control %	-0.287			-0.281
Control-cash		-0.393*		
Dual-class dummy			-0.341***	
Pyramid dummy			-0.182*	
Ctrlmcash dummy				-0.271***
Ctrlmcash HI dummy				0.100
Obs	877	877	877	877
R2 overall	0.177	0.173	0.183	0.19
Chi2	124.882	126.381	135.455	134.826

Panel B: Return on Assets

Variable	1	2	3	4
Constant	-0.034	-0.032	-0.033	-0.04
Ln(assets)	0.025***	0.027***	0.028***	0.027***
Sales growth	0.042***	0.042***	0.041***	0.041***
Industry q	0.011	0.011	0.011	0.011
Financial leverage	-0.167***	-0.168***	-0.172***	-0.173***
Ln(age)	0.006	0.006	0.006	0.007
TSE300	0.006	0.007	0.007	0.008
Capex-to-sales	-0.089***	-0.088***	-0.087***	-0.088***
Control %	0.013			0.022
Control-cash		-0.035		
Dual-class dummy			-0.019	
Pyramid dummy			-0.024	
Ctrlmcash dummy				-0.024
Ctrlmcash HI dummy				-0.001
Obs	877	877	877	877
R2 overall	0.13	0.129	0.126	0.126
Chi2	107.399	108.255	109.369	109.879

Panel C: Total Debt-to-Total Assets

Variable	1	2	3	4
Constant	0.051	0.08	0.075	0.047
Ln(assets)	0.040***	0.043***	0.046***	0.045***
Sales growth	0.01	0.01	0.009	0.009
Industry q	0.011	0.009	0.01	0.011
ROA	-0.134***	-0.135***	-0.139***	-0.140***
Ln(age)	0.003	0.002	0.004	0.005
TSE300	-0.034***	-0.034***	-0.033***	-0.032***
Capex-to-sales	-0.005	0.001	0.002	-0.001
Cash-to-assets	-0.243***	-0.251***	-0.246***	-0.241***
Control %	0.074**			0.073**
Control-cash		-0.044		
Dual-class dummy			-0.037**	
Pyramid dummy			-0.056***	
Ctrlmcash dummy				-0.054***
Ctrlmcash HI dummy				0.002
Obs	877	877	877	877
R2 overall	0.217	0.239	0.248	0.232
Chi2	204.73	201.755	215.579	220.912

Figure 1: Sample Characteristics
**Panel A: Owner Type**
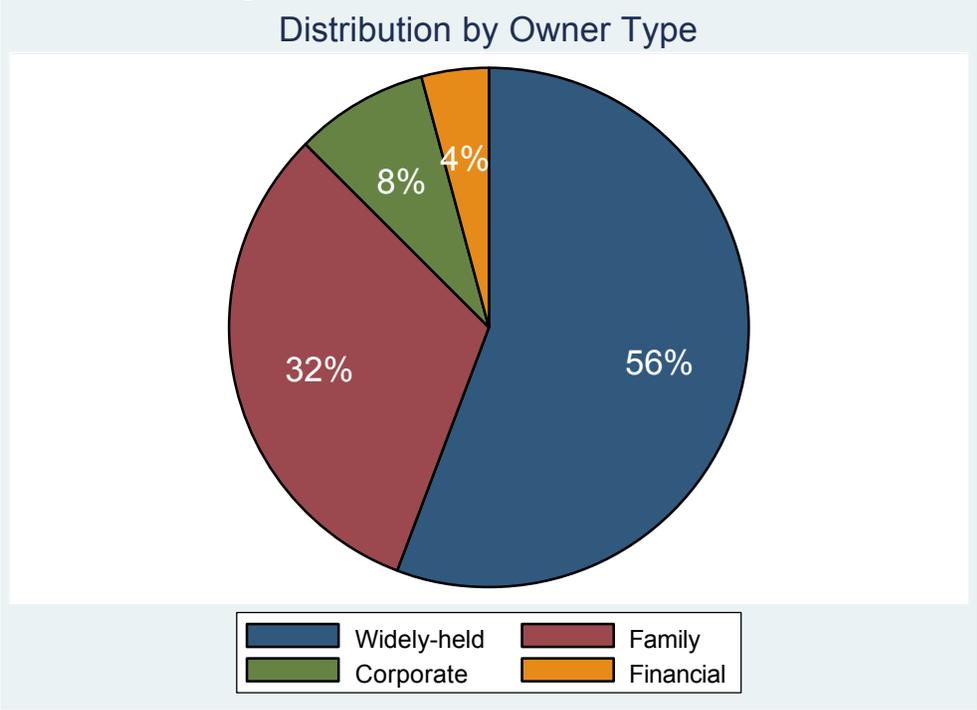
Panel B: Control Mechanism
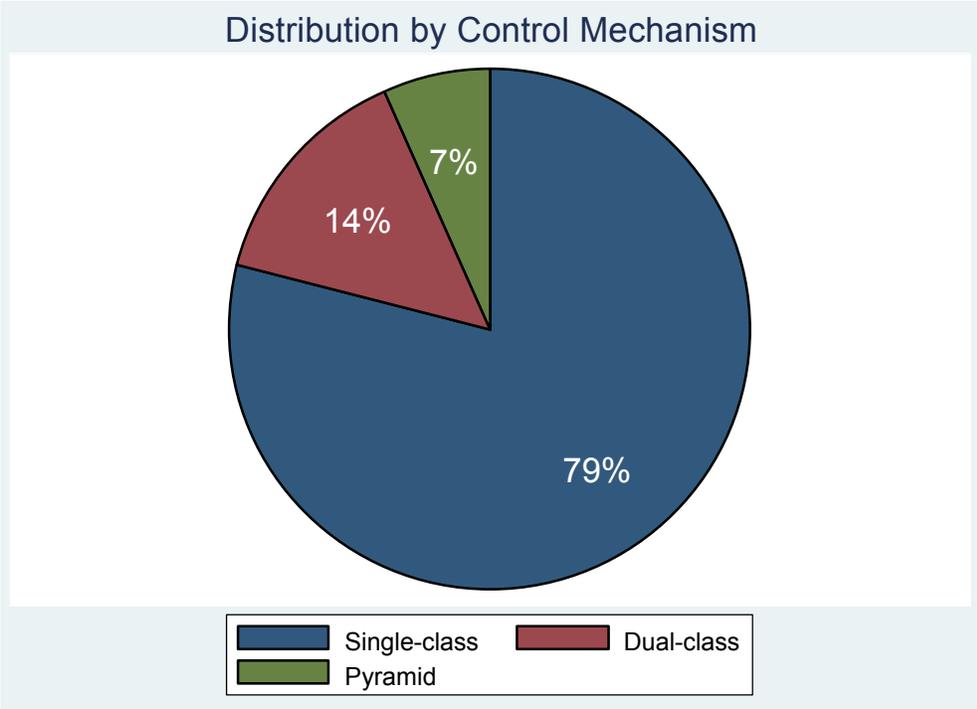
Figure 2: Ownership and Control

Ownership Type and Control Enhancing Mechanisms