Family Ownership, Agency Problems, Corporate Governance and Acquiring Firm Shareholder Wealth: Evidence from Acquisitions of New Economy Firms

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Abstract

Considerable academic research documents wealth destruction following mergers and acquisitions. The last decade has seen an unprecedented level of merger activity, in particular involving new economy firms. Prior studies (Kohers and Kohers 2000; 2001) suggest that high-tech M&A are associated with the payment of large premiums and involve target firms with high growth potential but with high risk. We investigate the shareholder wealth implications of high-tech M&A undertaken by Canadian firms over the period 1997-2006. We examine the relationship between ownership structure, agency problems, corporate governance, deal characteristics and acquiring firm performance. Canada offers an interesting setting given ownership is highly concentrated like in many countries with dominant family shareholdings. Some argue (e.g., Morck and Yeung 2004, 2005) that family firms are less likely to undertake optimal investment decisions or creative destructionism so as to maintain the benefits of concentrated ownership. Using the Villonga and Amit (2006) framework, we examine not only the impact of family ownership but contrast two potential agency conflicts, the conflict between shareholders and professional managers (Agency problem 1) and the conflict between large and small investors via control enhancing mechanisms such as multiple class voting shares and pyramids (Agency problem 2).

First, we document positive announcement period abnormal returns for new economy deals. Second, we find a positive relationship between both family and institutional ownership and acquiring firm performance. Third, we show that the conflict between shareholders and professional managers (Agency problem 1) has a detrimental impact on announcement period abnormal returns whereas the conflict between large and small investors via control enhancing mechanisms (Agency problem 2) does not. However, the presence of both agency problems has a negative impact on shareholder wealth. Fourth, abnormal returns are higher during the boom years of 1997-2000 but lower for deals involving acquiring firms with large boards, deals involving publicly listed targets and deals involving acquirers with higher market to book ratios.

Keywords: new economy, mergers and acquisitions, ownership, corporate governance, event studies

JEL Classification: G14; G34

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1. INTRODUCTION

Recent financial research has shown that a high degree of corporate ownership concentration is the norm around the world (La Porta et al. 1999; Faccio and Lang 2002; Claessens et al. 2000; Lemmons and Lins 2003). In most countries, large publicly listed corporations have dominant shareholders who exercise control over the voting rights with a small fraction of cash flow rights. This separation between ownership and control rights is achieved through the use of multiple voting shares, stock pyramids and cross-shareholdings (La Porta et al. 1999). These findings have shifted the focus of finance researchers from the traditional conflict of interests between a professional manager and dispersed shareholders - Agency problem 1 (Jensen and Meckling 1976; Villalonga and Amit 2006) towards another conflict of interests between controlling and minority shareholders – Agency problem 2 (Villalonga and Amit 2006). Dyck and Zingales (2004) suggest that the main agency problem outside the US and the UK is the risk of expropriation of minority shareholders by the controlling shareholder.

This study examines the relation between family control, the type of agency problem, governance mechanisms and the value creation from new economy deals in Canada during and subsequent to the most recent new economy merger wave. The past decade was witness to an unprecedented international wave of M&A[1]. The Canadian market for mergers and acquisitions also grew substantially during the 1990s in numbers as well as in dollar value. According to Crosbie and co., the average deal value (number of deals) increased from $18 million (723) in 1991 to $226 million (1297) in 2000 (Acharya 2001). This M&A wave involved a large number of new economy or high technology firms[2]. For example, Kohers and Kohers (2000, p. 40) report that ‘takeovers in information technology and communications increased 92 percent in just the

first half of 1999, and these deals accounted for $1 out of every $3 spent by acquirers worldwide.' Despite the high growth in high-tech acquisitions, few studies (Kohers and Kohers 2000, 2001; Benou and Madura 2005) have examined their effects on target and shareholders wealth. While the market seems to have a positive reaction at the announcement of these transactions, Kohers and Kohers (2001) document evidence of underperformance over the long run.

Our study contributes to the literature on the impact of ownership and governance structure on firm performance in a number of ways. First, we examine the interaction between family ownership, control and management and the acquirer shareholders' wealth around the announcement of M&A. Villalonga and Amit (2006) posit that academic research should distinguish between these three elements to understand the effect of family control on firm value. To the best of our knowledge, this paper is the first to examine the interactions between family firms, type of agency problem and its impact on the financial performance of M&A.

While examining the role of family firms, we control for the effect of multiple governance mechanisms on the acquiring firm returns. These mechanisms include institutional ownership, board size, composition and leadership structure. Andrade et al. (2001) and Bruner (2002) document that acquirer returns are related to different transaction characteristics (financing method, hostility, relative size, diversification and location). Since these observed characteristics are strategic decisions made by the acquirer's executives and board of directors, Faleye and Huson (2002) suggest that the governance structure should be related to bidder returns.

Second, we expect bidder's ownership structure, agency problems and governance mechanisms to play a key role in the context of high tech acquisitions. As suggested by Kohers

and Kohers (2000; 2001), technology-based industries are characterized by high growth potential and high risk due to the uncertainty associated with the complexity of their activities and the unproven nature of technology that is being developed. These particular features make high-tech takeovers different from acquisitions in other industries (Ahuja and Katila 2001; Hagedoorn and Duysters 2002; Benou and Madura 2005).

Third, we investigate this research questions in a Canadian context. The Canadian governance setting is interesting since we find a fairly high level of ownership concentration by dominant family shareholdings, similar to many countries around the world with the noted exception of the US and the UK (Ben-Amar and André 2006). For some, the presence of large shareholders reduces agency costs and enhances firm performance (Berle and Means 1932; Jensen and Meckling 1976) since they have the incentives and the resources to monitor managers (the convergence-of-interest hypothesis, Morck et al. 1988)[3]. For others, large family shareholders introduce costs to small investors because these dominant shareholders don't bear the full cost of their decisions given control structures (pyramids, multiple class voting shares) leading to a wedge between voting and cash flow rights. Using the Villonga and Amit (2006) framework, this context allows us to examine not only the impact of family ownership but contrast two potential agency conflicts, the conflict between shareholders and professional managers (Agency problem 1) and the conflict between large and small investors via control enhancing mechanisms such as multiple class voting shares and pyramids which are prevalent among Canadian family firms (Agency problem 2).

Furthermore, the Canadian approach to corporate governance is significantly different from the one adopted in the United States (US). (Anand, 2005; Broshko and Li, 2006).

Following the enactment of the Sarbanes-Oxley Act and the subsequent changes introduced to the NYSE and NASDAQ corporate governance rules, the U.S. adopted a "*rules-based approach"* to corporate governance for listed companies that requires full compliance with the legislation (Broshko and Li 2006). In contrast, the Canadian corporate governance regime is largely voluntary (Anand, Milne and Purda 2006). Effective since 1995, the Canadian "*principles-based approach*" consists of a list of best practice guidelines and a mandatory disclosure requirement[4]. TSX listed firms are only recommended to implement the suggested guidelines and are required to disclose, in the proxy circular or annual report, the extent of their compliance with the suggested guidelines or to explain why they did not adopt these best practices (Broshko and Li 2006)[5]. Therefore, we should expect a higher cross-sectional variation in the quality of corporate governance practices in Canada compared to the US.

Nevertheless, Canadian firms are frequently cross-listed on the US market, a common practice for companies in countries with less active stock markets. Authors such as Coffee (1999), Reese and Weisbach (2002), Doidge (2004) and Karolyi and Stulz (2004) suggest that cross-listing is a signal used by these firms to indicate their willingness to accept stricter governance rules. Finally, in contrast to the overall US evidence, prior Canadian studies (Eckbo and Thornburn 2000; Yuce and Ng 2005; Ben-Amar and André 2006) document that acquirer shareholders obtain, on average, significant positive announcement period abnormal returns.

We examine a sample of 215 high-tech acquisitions undertaken by Canadian bidders between January 1997 and 2006. We find that acquirer shareholders obtain, on average, significant positive abnormal returns around the announcement of the acquisition of new economy firms. Second, we find a positive relationship between both family and institutional

ownership and acquiring firm performance. Third, we show that the conflict between shareholders and professional managers (Agency problem 1) has a detrimental impact on announcement period abnormal returns whereas the conflict between large and small investors via control enhancing mechanisms (Agency problem 2) does not. However, the presence of both agency problems has a negative impact on shareholder wealth. Fourth, abnormal returns are higher during the boom years of 1997-2000 but lower for deals involving acquiring firms with large boards, deals involving publicly listed targets and deals involving acquirers with higher market to book ratios.

The remainder of this paper is organised as follows. The next section reviews the related literature. The third section describes the methodology and section 4 presents and discusses the results. Section 5 offers a conclusion and suggestions for future research.

2. RELATED LITERATURE

2.1 Mergers and Acquisitions and Acquiring Firm Shareholder Wealth

Empirical research on the value creation by M&A has shown that target shareholders are clearly the big winners in M&A transactions (Bruner, 2002). Andrade et al. (2001) examine a large sample of M&A that took place in the US over the period 1973-1998 and report that average announcement period abnormal returns to target shareholders range from 16 to 24 %. On the other hand, the US evidence shows that acquiring firm shareholders obtain either significant negative or non significant returns around the announcement date (See Bruner 2002 for a recent review of the M&A literature).

Few studies have examined the impact of M&A on target and acquiring firms' shareholders wealth in Canada. Similar to the US studies, empirical evidence on Canadian M&A

also document that target shareholders obtain significant announcement period excess returns (Eckbo 1986). Recently, Yuce and Ng (2005) examine a sample of 242 public firms that were takeover targets between 1994 and 2000 and find that shareholders obtain significant positive announcement period abnormal returns ranging from 4% to 9.53%. Unlike the findings in the US, the Canadian evidence shows that acquiring firm shareholders enjoy significant positive average excess returns around the announcement date (Eckbo and Thornburn 2000; Yuce and Ng 2005; Ben-Amar and André 2006). However, Acharya (2001) finds no evidence that the operating performance of Canadian acquirers has improved during the post-merger period. Moreover, André et al. (2004) examine long term stock returns of a sample of 267 Canadian M&A that took place between 1980 and 2000 and document that acquiring firms shareholders obtain significant negative abnormal returns over the three-year post-acquisition period.

New economy or technology-based industries are characterized by a high growth potential associated with high risk due to the uncertainty related to the complexity of their activities and the unproven nature of technology that is being developed (Kohers and Kohers 2000). These marking features make high-tech takeovers different from those in other industries (Kohers and Kohers 2000, 2001; Hagedoorn and Duysters 2002; Benou and Madura 2005). Most of the high-tech acquisitions involve small, relatively young companies and are motivated by the acquirer's need to obtain highly developed technical expertise or cutting-edge technology. Ranft and Lord (2000, p. 296) suggest that '*acquiring firm may not have the ability to develop these valuable knowledge-based resources internally or, alternatively, internal development may take too long or be too costly.*' So, the acquirer's management may seek to obtain these capabilities to enhance the firm's competitiveness and its future performance. In this case, the market should

have a positive reaction to the announcement of the acquisition of these valuable growth opportunities.

Nevertheless, high-tech takeover targets are associated with high risk because the valuations of these companies are based on uncertain information (Kohers and Kohers 2001). Many technology firms are young start-ups without any present revenues and whose value relies heavily on the future development and commercial success of a new technology (Benou and Madura 2005). Many investors have difficulties understanding the technological complexity of the operations of these companies and to adequately evaluate future outcomes of high tech acquisitions. Kohers and Kohers (2000) note that given the uncertainty associated with the high tech activities, acquirer shareholders may have doubt about the future benefits of the transaction. Further, the risks of overpaying are greater.

Previous empirical studies (Kohers and Kohers 2000; Benou and Madura 2005) find that acquiring firm shareholders experience positive returns around the announcement of high tech takeovers in the US. Benou and Madura (2005) show that the positive market reaction is limited to the acquisition of privately held high-tech firms. Kohers and Kohers (2001) look to the long run performance of high tech acquisitions and report that high tech acquirers obtain significant negative abnormal returns over the three-year post-merger period. They interpret their results as evidence that the market tends to be over-optimistic about the future benefits of high tech acquisitions.

2.2 Ownership Structure, Agency Problems, Corporate Governance and Acquiring Firm Performance

2.2.1 Ownership structure and agency problems

The agency literature (Jensen and Meckling 1976; Fama and Jensen 1983) discusses in length the agency costs arising from the conflict of interest between shareholders and professional managers (Agency problem 1). The presence of large shareholders such as families should reduce costs associated with this agency problem and therefore should enhance firm performance. These large investors have strong incentives and resources to collect information and monitor professional managers (Shleifer and Vishny 1997; Claessens et al. 2002). However, large shareholders can also pursue personal or family objectives which may differ from profit maximization and can be detrimental to minority shareholder interests (Agency problem 2). Prior research suggest that controlling shareholders, particularly when they are also managers, impose significant costs to the firm because they may undertake sub-optimal investments due to their lack of diversification (Zhang 1998). Dominant family shareholders may also appoint incompetent family members to executive positions in the firm rather than to hire competent professional managers (Perez-Gonzalez 2006). Finally, as suggested by Morck et al. (2002), controlling shareholders may block the creative destruction of their controlled but outdated technologies from the forces of innovation at the expense of outside minority shareholders.

The conflict of interests associated with agency problem 2, opposing large and small investors, is exacerbated when controlling shareholders maintain control of the voting rights while holding a small fraction of cash flow rights. Bebchuck et al. (2000) suggest that these ownership structures involve large agency costs due to the presence of both entrenchment and incentive problems. Since the controlling shareholder have the power to make decisions but does

not bear the full cost, Bebchuck et al. (2000) show how these ownership structures distort controlling shareholder's decision making with regard to investment projects choice, firm size and transfer of control. Prior studies (Claessens et al. 2002; Cronqvist and Nilsson 2003; Anderson and Reeb 2003; Villalonga and Amit 2006) show that the deviation from the 'one share one vote' rule has a negative impact on firm performance.

Previous research (Bae et al., 2002; Bigelli and Mengoli, 2004; Holmen and Knopf, 2004; Buysschaert et al., 2004; Faccio and Stolin, 2006) suggest that controlling shareholders may use M&A as an instrument to obtain private benefits at the expense of minority shareholders, particularly in jurisdictions offering poor legal protection to minority shareholders. Shareholders holding control of the voting rights with a small fraction of cash-flow rights do not bear the full cost of their sub-optimal investment decisions and may initiate M&A transactions to maximize their personal interests rather than the acquiring firm value (Faccio and Stolin 2006).

However, studies testing the expropriation hypothesis through M&A have obtained mixed results. Bae et al. (2002) find evidence that controlling shareholders in large Korean business groups (chaebols) use M&A to tunnel wealth from minority shareholders to themselves. Biggelli and Mengoli (2004) report a negative association between the separation of ownership and control and the bidder's announcement returns in Italy. However, Holmen and Knopf (2004) as well as Faccio and Stolin (2006) do not find any evidence supporting the hypothesis of minority shareholders expropriation through mergers and acquisitions in Western Europe.

In a related study, Yen and André (2007) examine a set of deals in English origin countries and find that value creating deals are associated with higher levels of ownership concentration consistent with decreasing agency costs as the dominant shareholder's wealth invested in the acquiring firm increases. They also find that greater investor protection, as

measured by the updated anti-director rights index in Djankov et al (2006), has a positive impact on operating performance from acquisitions. Ben-Amar and André (2006) examine a sample of 327 Canadian transactions over the 1998-2002 period. They find positive abnormal returns are greater for family firms and they do not support the hypothesis that separation of ownership and control has a negative impact on firm performance.

However, none of these papers has examined the interactions between family ownership and management, type of agency problem and the acquirer's announcement period abnormal returns. Adopting the Villalonga and Amit (2006) framework, we examine these issues in the context of new economy M&A.

2.2.2 Corporate governance mechanisms

Institutional Ownership

Previous research (Shleifer and Vishny 1986; Wright et al. 1996) has suggested that large external block-holders, particularly institutional investors, may have an effect on corporate strategy and firm value through their monitoring activities. Duggal and Millar (1999) discuss two competing hypotheses related to the potential impact of institutional ownership on bidder returns. According to the *efficiency-augmentation hypothesis* (Duggal and Millar 1999), institutional investors have strong incentives to effectively monitor managers because of the large ownership stake held in the firm and their large resources allowing them to perform extensive research to identify efficient firms. This active monitoring enhances managerial efficiency and the quality of corporate decision making including mergers and acquisitions (Duggal and Millar 1999; Wright et al. 2002).

On the other hand, and according to the *efficiency-abatement hypothesis* (Duggal and Millar 1999), institutional investors do not act as effective monitors due to their short term vision and passivity. It is argued that institutional investors have myopic investment objectives, which causes them to sell the stock of an underperforming company (exit strategy) rather than to have a long term perspective (buy and hold strategy) and to pressure managers to favour value-enhancing changes through active monitoring. Prior empirical studies obtain mixed evidence on the relationship between institutional ownership and acquiring firm performance. Wright et al. (2002) document a positive relation between institutional shareholding and announcement period cumulative abnormal returns whereas Duggal and Millar (1999) do not find any evidence that institutional investors enhance acquiring firm performance. Kohers and Kohers (2000) find that higher institutional ownership is associated with lower excess returns for acquirers of high tech firms. These results cast doubt on the active monitoring role of institutional investors in the context of high-tech M&A.

Board composition, size and leadership structure

-Board composition

The board of directors is central to the corporate governance system of a public corporation because of the fiduciary duty it has towards shareholders (Dalton et al. 1998). The board is generally composed of inside (related) and outside (unrelated) directors. While directors are nominated to represent and protect shareholders interests and to monitor executives, the agency literature assumes that inside (or related) directors represent management or controlling shareholders whereas outside (or unrelated) directors are independent from management and represent outside shareholders interests. Moreover since outside independent directors compete in the director labour market (Fama and Jensen 1983), they have incentives to develop

reputations as professional experts who effectively monitor managers in the shareholders' interest. Thus, academics, regulators, as well as shareholder activists suggest that outside directors should enhance firm value through effective monitoring.

Empirical studies on the monitoring role of outside directors obtain mixed results. Several authors provide evidence that outside directors enhance board effectiveness. Rosenstein and Wyatt (1990) document positive excess returns around the appointment of outside board members while Weisbach (1988) reports a positive relationship between the proportion of outside directors and the likelihood of replacement of an underperforming CEO. However, other scholars find either no relation (Morck et al. 1988; Hermalin and Weisbach 1991) or a negative relationship (Agrawal and Knoeber 1996) between board independence and firm value. Studies examining the role of independent boards on value creation in the case of mergers and acquisitions are also generally mixed. Faleye and Huson (2002)[6] find a positive relationship between the proportion of independent board members and acquiring firm's announcement CAR while Byrd and Hickman (1992) present evidence that this relation is non linear. Subrahmanyam, Rangan and Rosenstein (1997) find a negative relationship in the case of announcement date CAR of bank M&A.

In a Canadian setting, Erickson et al. (2005) and Klein et al. (2005) report that board independence has a significant negative effect on firm value, particularly for family firms. However, Ben-Amar and André (2006) find a significant positive association between the proportion of unrelated directors and acquiring firm announcement period excess returns.

-Board size

The governance literature (Jensen 1993; Yermack 1996; Eisenberg et al. 1998) has also explored the effect of board size on firm value. The increase of board size should enhance its

expertise, counterbalance the CEO's dominance of the board and enhance board effectiveness. On the other hand, larger boards may encounter communication and coordination problems that reduce their effectiveness. Jensen (1993) predicts that the added costs of a large board may surpass the added benefits resulting in a negative relation between board size and firm value. Yermack (1996) and Eisenberg et al. (1998) confirm this negative relationship between board size and firm performance. Looking at mergers and acquisitions, Faleye and Huson (2002) and Ben-Amar and André (2006) also document a negative relationship between board size and acquiring firm CAR.

-Leadership structure

Recently, shareholders activists, academics and regulators argue that boards of directors where the CEO role is combined with that of the chairperson may be less effective and independent than the ones where these positions are held by two different persons (Dalton et al. 1998; Kang and Zardkoohi 2005). Several studies have examined the effect of duality (i.e., the CEO is also the board chairman) on firm performance. From the perspective of agency theory, duality reduces firm performance because it promotes CEO entrenchment, exacerbates CEO power and reduces board effectiveness. Scholars from the organization theory field argue, however, that duality improves firm performance since it provides clear leadership (Kang and Zardkoohi 2005). The empirical evidence does not support the idea that duality is harmful to firm performance[7]. Boyd (1995) finds that duality has a positive effect on firm performance. In contrast, Baliga et al. (1996), Brickley et al. (1997) and Weir et al. (2002) find that it has no impact on firm performance. In the context of M&A, Faleye and Huson (2002) also find that duality has no effect on acquiring firm announcement period excess returns.

Managerial incentives (Equity based Compensation)

While the topic of managerial incentive pay has been the topic of much controversy over the past few years, nevertheless, the agency literature generally considers that incentive pay is a mechanism to align managers' interests with those of the shareholders (e.g., Core et al. 1999). Shleifer and Vishny (1988) predict that equity based compensation should reduce agency costs and limit the non-value-maximising behaviour of managers of acquiring companies. Prior finance research (Datta et al. 2001) documents a positive association between equity based compensation and acquirer's announcement period cumulative returns.

US Cross-listing

Charitou et al. (2007, p. 1282) points out that 'Canadian firms make up the single largest group of foreign firms listed on a US stock exchange'. Furthermore, and unlike firms from other countries, Canadian companies are required to cross-list ordinary shares (not ADRs) and submit to the all filing and disclosure requirements of US companies. Prior research (Coffee 1999; Reese and Weisbach 2002; Doidge 2004; Karolyi and Stulz 2004) suggests that cross-listing in the US is a signal used by these firms to indicate their willingness to accept tougher governance rules and further regulatory oversight. Charitou et al. (2007) document an improvement in the governance practices of Canadian firms in the years following their cross-listing in the US.

3. DATA AND METHODOLOGY

3.1 Data

We obtain our data set of Canadian high tech acquisitions from the Thomson Financial Securities Data's SDC Platinum™ *Worldwide Mergers & Acquisitions Database (SDC database)*. We rely on SDC classification for high tech industries which include biotechnology &

health, communications, computers hardware and software, electronics, among others industries[8]. The merger announcement dates and others merger-related information are obtained from the SDC database, corporate governance data are taken from company proxies from the SEDAR web site and stock return and other financial data come from the CFMRC database and Stock-Guide database, respectively. For companies with more than one merger within a one-year period, we consider only the first merger in order to circumvent the contamination effect that results from multiple mergers announcement in the estimation period. After eliminating observations with missing data and outliers, we end up with a sample of 215 mergers undertaken between January 1997 and 2006[9].

3.2 Variables definition

3.2.1 Dependent variable

We use the well established event study methodology (Brown and Warner 1985) to evaluate the change in wealth of acquiring firm's shareholders around the announcement of the transactions. We define the abnormal return for a stock i on day j, AR_{it}, to be the actual returns, R_{it}, minus a stock's expected return which is computed using the market model:

$$AR_{it} = R_{it} - \left(\hat{\alpha}_i + \hat{\beta}_i R_{mt}\right),$$

where $\hat{\alpha}_i$ and $\hat{\beta}_i$ were obtained from the ordinary least-squares (OLS) regression of stock returns with market returns during an estimation period between -240 and -40 days from the announcement date, a typical estimation period in these studies (see Bruner 2002)[10]. We use daily returns of TSX/S&P composite index as a proxy for market returns, R_{mt}. Abnormal returns are cumulated over three days (-1, 0, +1) around the announcement date, a typical window for these types of studies which also allows easy comparison with prior work (Andrade et al. 2001).

3.2.2 Independent variables

Ownership, agency problems, and governance

Independent variables include inside ownership, institutional ownership, board size, independence and leadership structure.

-*Family Ownership*

We define family firms as those in which the founder or a member of his or her family by either blood or marriage is a blockholder of the firm either individually or as a group. The minimum threshold for family control is 10% and above, the imposed TSE reporting requirement. This information is obtained from proxy circulars available on the web site SEDAR (all documents filed by Canadian listed companies are available on this web site since 1997). We code a dummy variable for the presence of a family blockholder and a continuous variable capturing the level of voting rights of the family.

-*Control enhancing mechanisms and Family Excess Voteholding*

We further code a dummy variable for voting structures that enable the family's voting rights to exceed its cashflow rights via multiple share classes with differential voting rights and pyramids where the family holds shares in the firm through one or more intermediate entities of which the family owns less than 100%. Québecor World is an example of a family firm with the presence of both control enhancing mechanisms (see appendix). The family excess vote holding is the difference between the voting rights and the cash flow rights.

-*Institutional Ownership*

Institutional investors include mutual funds managers and pension funds, like the *Ontario Teachers' Pension Plan* (OTPP), the *Ontario Municipal Employees Retirement System* (OMERS) and the *Caisse de Dépôt et de Placements du Québec (CDP)*. Institutional ownership

is measured as the level of voting rights held by all institutional investors in the acquiring firm. This information is also obtained from proxy circulars available on SEDAR.

-*Board independence, Board size, and Leadership structure (CEOCOB)*

Board independence has been measured through different proxies in the literature. In this study, we rely on the TSE guidelines definition (TSE 1994) of unrelated board members which considers a director unrelated if he-she is not a manager of the firm or of its subsidiaries; is not related to the controlling shareholder and does not have business dealings with the firm which could create a conflict of interests. This information is collected from the proxy circulars on SEDAR. Board independence is measured as the ratio of the number of unrelated directors to board size. Board size is measured as the total number of directors seating on the board. This information is obtained from proxy circulars prior to the transaction. Similar to prior studies (Dalton et al. 1998; Faleye and Huson 2002), CEO duality (board leadership structure) is measured through a dichotomous variable that takes the value of 1 when the acquiring firm CEO is also the chairman of the board and zero otherwise. This information is also obtained from proxy statements prior to the merger announcement.

-*Incentive Compensation (equity based compensation)*

Consistent with the study by Bushman et al. (1996), the relative importance of the CEO's performance-contingent compensation is measured by the ratio of cash bonus plus stock options granted to the total compensation earned by the CEO in the same period. The CEO's total compensation includes salary, cash bonuses, other compensations and stock options. Stock options are valued at 25% of their exercise price at the time of the grant[11].

-*US Listing*

US listing is measured using a dichotomous variable that is equal to one if the acquiring firm is listed on a US exchange (NYSE, NASDAQ or AMEX) and zero otherwise. This information has been gathered from the Toronto Stock Exchange monthly review.

Deal characteristics

In the context of our multivariate analysis, we control for numerous variables identified in the finance literature as affecting acquirer shareholders wealth around the announcement date.

-*Listed target (PUBLIC TARGET)*

Kohers and Kohers (2000, p. 42) argue that 'the market may perceive that the growth opportunities of privately held high-tech companies are more valuable than those of publicly traded high-tech companies'. Benou and Madura (2005) and Kohers and Kohers (2000) find the acquirers of privately held high-tech targets obtain higher returns than the acquirers of public high-tech targets. Looking at Canadian acquirers, Yuce and Ng (2005) as well as Ben-Amar and André (2006) document that the acquisition of private targets is associated with higher announcement period abnormal returns. *PUBLIC* is a dummy variable that equals one if the target is listed on a stock exchange and zero if it is privately held.

-*Payment method (CASHONLY)*

Prior research finds that the mode of payment is one of the consistent factors that influence the level of value creation in M&A (Andrade et al. 2001). Travlos (1987) and Huang and Walking (1987) are among numerous studies documenting a positive relationship between payment in cash and the market reaction to the announcement of M&A. In the context of high tech acquisitions, Benou and Madura (2005) find that acquirer returns are higher in cash offers than in stock or mixed offers. In contrast, Kohers and Kohers (2000) find that both stock and

cash financing are associated with significant positive excess returns. *CASHONLY* is a dummy variable that equals one if the transaction is entirely paid with cash and zero otherwise.

-*Related acquisition (RELATED INDUSTRIES)*

Datta et al. (1992) note that the relatedness of the activities of the acquiring and target firms is a key determinant of the level of value creation in M&A since synergies are easier to achieve when firms have related business than when creating conglomerates. Looking at acquisitions of high tech targets in the US, Kohers and Kohers (2000) find that high tech acquirers obtain significantly higher returns than non high-tech acquiring firms. *RELATED* is a dummy variable equal to 1 if the acquirer and the target share the same 4-digit SIC code and zero otherwise.

-*Cross-Border Transactions (CROSSBORDER)*

Cross-border transactions should benefit shareholders of two firms when the merged firm can exploit market imperfections in outside markets (Eun et al. 1996). However, integration costs and cultural problems often undermine these gains. Empirical results have been somewhat mixed. Eun et al. (1996) and Cakici et al. (1991) find that shareholders of foreign firms acquiring US targets obtain significant positive excess returns. Looking at a sample of Canadian acquirers, Ben-Amar and André (2006) document that bidders involved in cross-border transactions obtain higher returns than domestic acquisitions. But, André et al. (2004) find that cross-border transactions undertaken by Canadian acquirers under perform over the long term. *CROSSBORDER* is a dummy variable that equals 1 if the target nation is not Canada and zero otherwise.

-*Deal size (LOGDEALVALUE)*

Asquith, Bruner and Mullins (1983) argue that bidder returns increase with relative size of the target to the acquirer. Kohers and Kohers (2000) as well as Benou and Madura (2005) report a positive relation between the relative size of the target to the acquirer and acquirer abnormal returns in high-tech acquisitions. In this study, we control for the transaction size and we measure the deal size as the log of the ratio of the deal value.

-*Time period*

We control for the new economy wave with a dummy variable equal to one if the deal if the deal occurs in the period from 1997 to 2000.

Acquiring firm characteristics

-*Free Cash Flows (FCF)*

Jensen (1986, p.324) says: "free cash flow theory implies that managers of firms with unused borrowing power and large free cash flows are more likely to undertake low-benefit or even value destroying mergers". In the tradition of Lang et al. (1991) and more recent papers such as Freund et al. (2003) and Gregory (2005), we control for the level the acquirer's free cash flows. Free cash flows are measured as cash flows from operations divided by book value of assets.

-*Market-to-Book Ratio*

Jensen (2005) suggests that firms with high valuations have greater managerial discretion which allows these firms to make poor deals once they have run out of good ones. Dong et al. (2006) and Moeller et al. (2004) document that high valuation firms make poor deals. We measure firm valuation as the ratio of market value of equity plus the book value of debt to the book value of assets.

-Acquiring firm industry

We also control for the acquiring firm's industry using the SDC database macro industry identifier.

Insert table 1 here

4. RESULTS

4.1 Descriptive Statistics

Table 2 summarizes the annual average deal values and the number of transactions examined in our study corresponding to the period January 1997-2006. As shown in Table 2, our sample consists of 215 transactions with an annual average value of CDN $ 352.2 million and total value of over CDN $ 75.7 billion. These figures are much smaller than those reported in US studies. For example, the average transaction value in Benou and Madura (2005) is US $ 433.2 million. The largest numbers of deals occurs in the year 2000, the peak of the new economy bubble, with 53 deals worth some 27.6 billion dollars**,** an average deal size of 520 million. Most acquirers are High-tech firms, followed by telecoms and health industry firms. The larger deals where initiated by telecoms.

Insert table 2 here

Table 3 provides descriptive statistics of variables examined in this study. Panel A illustrates the ownership and governance variables while Panel B and C presents descriptive statistics related to deal and acquiring firm variables, respectively. As shown in Panel A, the average family in the acquirer prior to merger announcement is 11.5%, however, this level increases to 25.2% when considering the 98 family firms only (45.6% of total sample). These

figures confirm significant corporate ownership concentration in Canada as reported in Morck et al. (2000), Ben-Amar and André (2006) and Yen and André (2007). Control enhancing mechanisms (multiple class shares, pyramids) are present in 20% of the sample (43 cases) but represent 43.9% of family firms (43 out of 98 family firms). The excess vote-holding (difference between voting rights and cash flow rights) is 10.2% overall but in fact 51.0% when considering only the firms with these mechanisms. Looking at management, 73.9% of firms are run by professional CEOs, or conversely, 26.1% of all the sample firms (56 firms) are managed by a family member or some 57% (56 out of 98 family firms) of family firms are run by a family member.

Institutional ownership in the acquirer prior to merger announcement is 4.5%, however, this climbs to 20.7% when considering the 47 non zero cases (21.8% of sample). Moreover, the average board size is 9.69 members where a majority are unrelated directors (70 %). The roles of CEO and chairman of the board are cumulated in 23.7% of the firms of our sample (51 of 215 deals). CEO incentive compensation is on average 29.0% of total compensation. Canadian acquirers are listed in the US in 53.5% percent of cases (115 out of 215 deals).

From Panel (ii), we can see that 108 deals (50.2%) are paid exclusively with cash or cash equivalent. Furthermore, most transactions in our sample involve private targets; only 31.6% of the acquired firms in our sample are publicly held firms (68 out of 215). In addition, close to 60% of our observations (127 out of 215) involve cross-border transactions. We denote 33.5% of deals are between firms in related industries (i.e., high tech acquirers with same 4-digit SIC code as the target). Panel B also reports that the average log of deal value is 4.205 and 47% of deals occur prior to 2001 during what some have called the new economy bubble. Panel C indicates that the average level of free cash flows is 0.06 and the average market to book is 2.143.

Insert table 3 here

4.2 Event-Study Results

We begin by analysing the average impact of mergers and acquisitions on the wealth of acquiring shareholders for our sample of Canadian high tech M&A over the January 1997 to 2006 period. As shown in Table 4, there is positive and statistically significant abnormal return around the transaction announcement. Yuce and Ng (2005) report similar return.

Insert table 4 here

Cumulative abnormal returns (CAR) obtained by acquiring firms' shareholders around the announcement day are positive and significant at 0.98% within days -1 and +1 (1.52% for raw returns and 1.36% for market adjusted returns). Also, 53.02% of deals have positive CARs (58.14% of raw returns and 57.67% of market adjusted returns). The positive short term CARs around announcement day are consistent with prior Canadian studies (Eckbo and Thornburn 2000; Yuce and Ng 2005; Ben-Amar and André 2006). These results are also consistent with the prior US studies (Kohers and Kohers 2000; Benou and Madura 2005) investigating investors' initial reaction to the announcement of high-tech M&A. Our results suggest that stock market participants had a positive perception of the potential synergies of high tech M&A undertaken by Canadian acquirers over the period January 1997-2006.

Table 5 the partial correlation matrix between CAR and the independent variables. The announcement abnormal returns are positively and significantly correlated with the presence and level of institutional ownership but negatively and significantly correlated with the presence of professional (non-family) CEO and with the size of the board. The CARs are also negatively

correlated with the deals involving publicly listed targets and with the size of the deal. These results are consistent with recent findings by Moeller et al. (2004). Table 6 presents the announcement period abnormal returns, cumulated over the three-day window (-1, +1), by dichotomous governance and transaction characteristics. Our results confirms those in table 5, that is, acquirer shareholders enjoy significant positive excess returns in the presence of institutional ownership and when purchasing private firms rather public ones. On a univariate dimension, there is no significant difference in the CARs of US and non-US listed acquirers, between all cash deals and those with some stock payment, between cross-border and national deals, between deals involving firms in related or non-related industries, or across time period or acquirer industry type. We do notice that family owned firms obtain announcement period abnormal returns of 1.53% compared to 0.53% for widely-held firms. Table 5 also indicate positive correlation between the presence and the level of family ownership, albeit not significant at conventional levels.

Insert table 5 and 6 here

4.3 Agency problems and acquiring firm's shareholders wealth

Table 7 offers a first examination of the link between various agency problems and M&A success using the Villalonga and Amit (2006) framework. The average CARs for the 28 family firms with family CEOs and without control enhancing mechanisms (Type I firms: no potential agency conflicts) are 3.73% (median 2.71%). This contrast with the average CARs for the 28 family firms with family CEOs but having control enhancing mechanisms (Type II firms: potential conflict between large and small shareholders or agency problem 2) of 2.05% (med. 0.98%). The differences become much sharper when comparing with the 144 firms having professional CEOs without control enhancing mechanisms (Type III firms: potential shareholder-

manager conflict or agency problem 1) which have average announcement period abnormal returns of 0.45% (med. 0.21%) and with the 15 firms with professional CEOs and control enhancing mechanism (type IV firms: potential of both conflicts, i.e., agency problem 1 and 2) having average CARs of -0.46% (med. -1.67%). Further, tests show that firms with professional CEOs have significantly lower CARs both in the absence of control enhancing mechanisms and overall. Type IV firms (presence of both agency problems) have significantly lower abnormal returns than all other firms. These univariate results suggest that the conflict between shareholders and professional managers (Agency problem 1) has a detrimental impact on announcement period abnormal returns whereas the conflict between large and small investors via control enhancing mechanisms (Agency problem 2) does not. However, the presence of both agency problems has a negative impact on shareholder wealth.

Insert table 7

4.4 Ownership, agency problems, corporate governance, deal and acquiring firm characteristics and acquiring firm's shareholders wealth

We use a linear regression model to examine the multivariate relationship between ownership structure, corporate governance mechanisms and acquiring-firm shareholders wealth in Canadian high-tech acquisitions between January 1997 and 2006 (table 8) and between agency problems, corporate governance mechanisms and acquiring-firm shareholders wealth (table 9). Model 1 in each table presents levels while model introduces levels. Further, both tables use Huber/White/Sandwich estimators of variance allowing for observations that are not independent within clusters to compute t-statistics in order to control for the significant presence of multiple

acquirers (104 unique acquirers for the 215 deals). All our regressions include dummies for acquirer's industry.

We first investigate the relationship between family ownership and value creation in mergers and acquisitions. Table 8, model 1 shows that the presence family ownership has a positive impact on announcement CAR (β=0.0156, t=1.95). The level of family ownership is also positive but not significant at conventional levels. These results are similar to those of Ben-Amar and André (2006) that find a positive role of Canadian family ownership in M&A performance.

Models 1 and 2 in Table 8 also show that the presence and level of institutional ownership positively affects announcement period abnormal returns within days -1 to +1. Consistent with the efficiency augmentation hypothesis of institutional ownership benefits, our results are consistent with Wright et al. (2002) but contrasts with Kohers and Kohers (2000) who report a negative relation between institutional shareholdings and high-tech acquirers' excess returns. These results confirm the effective monitoring role of institutional investors. Given their ownership stake and their large resources, institutional investors can impact corporate strategy and enhance corporate decision making including M&A. We further find a negative relationship between announcement date CAR and board size (-0.004, p.value <0.05) consistent with results by Yermack (1996), Eisenberg et al. (1998) and Conyon and Peck (1998).

When we control for variables related to transactions and acquiring firm characteristics, consistent with prior literature, we find that acquisitions of public targets is negatively associated to announcement period abnormal returns (-0.027, p.value<0.01). Deals prior to 2001, i.e., during the new economy bubble, generate higher returns to acquiring firm shareholders than subsequent deals (0.025, p.value<0.01). We also document a negative association between

market-to-book and excess returns earned by acquirer shareholders (-0.006, p.value<0.05). This is consistent with Jensen's (2005) conjecture that firms with high valuations make poorer acquirers and confirmed by Moeller et al. (2004) and Dong et al. (2006). The payment method, relatedness, location or deal size have no significant effect on acquiring firm performance nor does the level of free-cash-flows.

Insert table 8 here

Turning more specifically to the potential agency problems, multivariate results in table 9 support those found in table 7. The coefficient on the presence of a professional CEO (non-family CEO, i.e., agency problem 1) is negative and significant in both models 1 and 2. The coefficient on either the presence of control-enhancing mechanisms or the level of family excess voteholding (agency problem 2) are both non significant. The presence of both agency issues, the interaction term, is negative and significant in model 2. Again, results suggest that the potential agency conflict between shareholders and professional managers (Agency problem 1) has a detrimental impact on announcement period abnormal returns whereas the potential agency conflict between large and small investors via control enhancing mechanisms (Agency problem 2) does not. However, the presence of both agency problems has a further negative impact on shareholder wealth. Similar to table 8 and univariate tests, results again confirm the positive role of both the presence and level of institutional ownership but the negative effect of board size, public status of the target and acquirer's market-to-book level.

Overall, results are consistent with arguments made by James (1999) and Anderson and Reeb (2003) who suggest that the sheer amount of wealth families have invested in the firm is a sufficient incentive to maximise firm value and restrain from extracting private benefits which

would make it difficult to establish a long term relationship with the investment community, raise additional capital to grow the firm and would increase the cost of capital. We can suggest that countries with well-developed markets and offering good minority shareholder protection can reduce the agency problems between dominant and small shareholders, to a certain extent, as long as the family shareholder continues to play an active role in the management of the firm.

Insert table 9 here

4.5 Sensitivity analysis

As additional sensitivity tests (un-tabulated results), we run regressions using market adjusted returns and find similar results. We also use alternative definitions for related industry (same SDC macro industry code, same 1 digit SIC codes) and replace the all cash dummy by the level of cash paid and results remain the same.

5. SUMMARY AND CONCLUSION

This study investigates the relationship between ownership structure, agency problems, and corporate governance mechanisms and short term performance of Canadian acquirers of high-tech firms during and after the recent high tech merger boom. Given the high growth potential and the uncertainty associated with these companies, we expect effective governance to reduce the risk of overpayment in these particular transactions. We contribute to the extent literature by examining both potential agency problems (the conflict between shareholders and professional managers and the conflict between large and small investors introduced by the use

of control enhancing mechanisms) and examining the possible interrelations and substitution between multiple governance mechanisms.

Using a sample of 215 high-tech M&A between January 1997 and 2006, we find that acquiring firm shareholders enjoy significant positive excess returns around the announcement date. These findings suggest that acquirer shareholders exhibit optimism about of the future benefits of the acquisition of high-tech targets. They perceive that the acquisition of these valuable growth opportunities will create potential synergies that will enhance acquirer's competitiveness and post-acquisition performance.

Our multivariate analysis document a positive relationship between both family and institutional ownership and acquiring firm performance. We also show that the conflict between shareholders and professional managers (Agency problem 1) has a detrimental impact on announcement period abnormal returns whereas the conflict between large and small investors via control enhancing mechanisms (Agency problem 2) does not. However, the presence of both agency problems has a negative impact on shareholder wealth. These results are consistent with arguments made by James (1999) and Anderson and Reeb (2003) who suggest that the sheer amount of wealth families have invested in the firm is a sufficient incentive to maximise firm value and restrain from extracting private benefits which would make it difficult to establish a long term relationship with the investment community, raise additional capital to grow the firm and would increase the cost of capital. We can suggest that countries with well-developed markets and offering good minority shareholder protection can reduce the agency problems between dominant and small shareholders, to a certain extent, as long as the family shareholder continues to play an active role in the management of the firm.

Further, abnormal returns are higher during the boom years of 1997-2000 but lower for deals involving acquiring firms with large boards, deals involving publicly listed targets and deals involving acquirers with higher market to book ratios.

Given the high growth of technology M&A during the last decade, future research should further investigate their wealth implications for shareholders. Our study has examined the market's initial reaction at the announcement of these acquisitions. An area for future research would be to examine the long term performance of high-tech acquirers in Canada. André et al. (2004) find evidence of long term underperformance of Canadian acquirers. Given the specific features of high-tech M&A, it would be interesting to examine if high-tech acquirers tend also to under perform over the long run and to identify the factors explaining long term performance.

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Appendix

Calculation of the voting rights and participation rights of Quebecor World
Source: Information Circular Quebecor World 2006 (www.sedar.com)

Share Class	Number of Shares	Voting Rights	Number of votes	% of participation	% of votes
Multiple	46,987,120	10	469,871,200	35.8 %	84.8 %
Subordinate	84,099,174	1	84,099,174	64.2 %	15.2 %
Total	131,086,294		553,970,374	100 %	100 %

Shareholder		Multiple Votes	Subordinate Votes	% of participation	% of votes
Quebecor, Inc.		46,911,277	-	35.8 %	84.8 %

Since Quebecor World is controlled by another listed company, we must analyse the ownership structure of this listed company, Quebecor Inc.

Calculation of the voting rights and participation rights of Quebecor Inc.
Source: Information Circular Quebecor Inc. 2006 (www.sedar.com)

Share Class	Number of Shares	Voting Rights	Number of votes	% of participation	% of votes
Class A	21,855,371	10	218,553,710	34.0 %	83.7 %
Class B	42,461,651	1	42,461,651	66.0 %	16.3 %
Total	64,314,022		261,015,361	100 %	100 %

Shareholder		Multiple Votes	Subordinate Votes	% of participation	% of votes
Fiducie Spéciale Pierre-Péladeau (FSPP)*		17,508,964	-	27.2 %	67.1 %

* FSPP is a trust constituted for the benefit of Erik Péladeau (Executive vice-president and vice-chairman of the board of Quebecor Inc.) and Pierre-Karl Péladeau (President and CEO of Quebecor Inc.).

We see from the example that the Péladeau brothers have voting control over Quebecor World. They have 67.1% of voting rights of Quebecor World (the weakest link being the brothers' 67.1% voting rights of Québecor Inc. that controls Québecor World) while having only (35.8%*27.2%) = 9.7% right on the cash flows. The Péladeau brothers' excess voteholding is 57.4% (67.1% - 9.7%).

Table 1
Variable Description

Governance information is collected from Information Circulars available on SEDAR (sedar.com). Transaction characteristics are obtained from the Thomson Financial Securities Data's SDC Platinum™ *Worldwide Mergers & Acquisitions Database*. Financial information is from Compustat or StockGuide.

Variable	Description
(i) Ownership and Corporate Governance	
FAMILY OWNERSHIP DUMMY	Dummy equals 1 if one or more family members own 10% or more of the acquiring firm's voting rights either individually or as a group prior to the transaction, and 0 otherwise
FAMILY OWNERSHIP STAKE	Percentage of cash flow rights of all classes of the acquiring firm's shares held by the family as a group prior to the transaction
CONTROL-ENHANCING MECANISMS DUMMY	Dummy variable equals 1 if there are multiple voting share classes, pyramids or cross-holdings in the acquiring firm, and 0 otherwise
FAMILY EXCESS VOTE-HOLDING	Difference between the percentage of voting rights of the family and cash flow rights held by the family in the acquiring firm prior to the transaction
PROFESSIONAL CEO DUMMY	Dummy variable equals 1 if the acquiring firm prior to the transaction is managed by a professional CEO, i.e., someone who is not a family member, and 0 otherwise
INSTITUTIONAL OWNERSHIP DUMMY	Dummy variable equal 1 if one or more institutional investors own 10% or more of the acquiring firm's cash flow rights prior to the transaction, and 0 otherwise
INSTITUTIONAL OWNERSHIP STAKE	Percentage of cash flow rights held by institutional investors in the acquiring firm prior to the transaction.
BOARD INDEPENDENCE	Ratio of unrelated directors to number of board members in the acquiring firm prior to the transaction
BOARDSIZE	Number of board members in the acquiring firm prior to the transaction
CEOCOB	Dummy variable equals 1 if the acquiring firm CEO is also board chairman prior to the transaction, and 0 otherwise
INCENTIVE COMPENSATION	The ratio of the market value of options granted to the acquiring firm CEO divided by his/her total compensation in the year prior to the deal.
US LISTING	Dummy variable equals 1 if the acquiring firm is listed on a US exchange (NYSE, NASDAQ, AMEX) prior to the transaction, and 0 otherwise

Table 1 (cont'd)
Variable Description

Governance information is collected from Information Circulars available on SEDAR (sedar.com). Transaction characteristics are obtained from the Thomson Financial Securities Data's SDC Platinum™ *Worldwide Mergers & Acquisitions Database*. Financial information is from Compustat or StockGuide.

(ii) Deal Characteristics	
PUBLIC TARGET	Dummy variable equals 1 if target firm is listed on a stock exchange, and 0 otherwise
CASH ONLY	Dummy variable equals 1 if transaction is entirely financed with cash, and 0 otherwise
RELATED INDUSTRIES	Dummy variable equals 1 if acquirer and target share the same 4-digit SIC code, and 0 otherwise
CROSSBORDER	Dummy variable equals 1 if target nation is not Canada, and 0 otherwise
LOGDEALVALUE	Logarithm of the deal total value
PRE 2001 TIME PERIOD	Dummy variable equals 1 if the transaction is announced between January 1997 and December 2000, and 0 otherwise.
(iii) Acquiring Firm Characteristics	
FCF	Acquiring firm cash-flow from operations divided by the book value of assets at end of year prior to the transaction.
MARKETTOBOOK	The ratio of the market value of equity plus the book value of debt to the book value of assets at end of year prior to the transaction.

Table 2
Sample Characteristics

Sample of 215 mergers and acquisitions by Canadian acquiring firms between January 1997 and 2006 for completed transactions over US$ 10 million obtained from the Thomson Financial Securities Data's SDC Platinum™ *Worldwide Mergers & Acquisitions Database*.

Panel A: Number and Value of Transactions

Year	Number of Transactions	Average Value (US $ millions)	Total Value (US $ millions)
1997	9	114.475	1 030.274
1998	22	968.075	21 297.660
1999	17	398.520	6 774.837
2000	53	520.334	27 577.690
1997-2000	**101**	**561.193**	**56 680.46**
2001	29	241.595	7 006.244
2002	23	83.550	1 921.634
2003	15	96.852	1 452.777
2004	27	287.186	7 754.020
2005	17	51.338	872.754
2006	3	14.227	42.682
2001-2006	**114**	**167.106**	**19 050.11**
Overall Total	**215**	**352.235**	**75 730.570**

Panel B Sample by Acquirer Industry

Industry	Number of Transactions	Average value (US $ millions)	Total Value (US $ millions)
High-Tech	82	119.847	9 827.619
Health	33	94.574	3 120.954
Telecommunications	57	959.528	54 693.078
Media	20	320.541	6 410.820
Other	23	72.961	1 678.104
Overall Total	**215**	**352.235**	**75 730.570**

Table 3
Descriptive Statistics

Sample of 215 mergers and acquisitions by Canadian acquiring firms between January 1997 and 2006 for completed transactions over US$ 10 million obtained from the Thomson Financial Securities Data's SDC Platinum™ *Worldwide Mergers & Acquisitions Database*. See Table 1 for variable description.

Variables	Mean	Median	Std. Dev	Min.	Max.
(i) Ownership, Agency Problems, and Governance Variables					
Family Ownership Dummy	0.456	0.000	0.499	0.000	1.000
Family Ownership Stake	0.115	0.000	0.187	0.000	0.879
-Non Zero Cases (98)	0.252	0.187	0.206	0.013	0.879
Control Enhancing Mechanisms	0.200	0.000	0.401	0.000	1.000
Family Excess Vote-Holding	0.102	0.000	0.218	0.000	0.756
-Non Zero Cases (43)	0.510	0.536	0.171	0.130	0.756
Professional CEO	0.739	1.000	0.439	0.000	1.000
Institutional Ownership Dummy	0.218	0.000	0.414	0.000	1.000
Institutional Ownership Stake	0.045	0.000	0.105	0.000	0.703
-Non Zero Cases (47)	0.207	0.142	0.132	0.102	0.703
Board Independence	0.706	0.750	0.154	0.182	0.938
BoardSize	9.690	9.000	3.584	4.000	19.000
CEOCOB	0.237	0.000	0.426	0.000	1.000
Incentive Compensation	0.290	0.220	0.296	0.000	1.000
US Listing	0.535	1.000	0.500	0.000	1.000
(ii) Deal Characteristics					
Public Target	0.316	0.000	0.466	0.000	1.000
Cash Only	0.502	0.000	0.501	0.000	1.000
Related Industries	0.335	0.000	0.473	0.000	1.000
Cross-Border	0.591	1.000	0.493	0.000	1.000
Log Deal Value	4.205	3.834	1.621	2.302	9.134
Pre 2001 Time Period	0.470	0.000	0.500	0.000	1.000
(iii) Acquiring Firm Characteristics					
FCF	0.064	0.081	0.133	-0.633	0.442
MarkettoBook	2.143	1.680	1.694	0.172	11.778

Table 4
Abnormal Returns and Cumulative Abnormal Returns around High-Tech M&A Announcement

Sample of 215 mergers and acquisitions by Canadian acquiring firms between January 1997 and 2006 for completed transactions over US$ 10 million obtained from the Thomson Financial Securities Data's SDC Platinum™ *Worldwide Mergers & Acquisitions Database*. AR stands for abnormal return and CAR for cumulative abnormal returns. We define the abnormal return for a stock *i* on day *t* to be the actual returns, R_{jt}, minus a stock's expected return which is computed using either the market return or the market model: $AR_{it} = R_{it} - \left(\hat{\alpha}_i + \hat{\beta}_i R_{mt}\right)$, where $\hat{\alpha}_i$ and $\hat{\beta}_i$ were obtained from the ordinary least-squares (OLS) regression of stock returns with market returns during an estimation period spanning day -240 to day -40, where day 0 (the event day) indicates the day on which the merger was first announced. Abnormal returns are cumulated (CAR) over the 3 day (-1, +1) windows. *, **, *** indicate statistical significance at 10%, 5% and 1% levels, respectively.

Cumulative Abnormal Returns				
Period	***Mean***	***Median***	***t-stat***	***% of Positive CAR***
Raw Returns				
-1 to +1	0.0152	0.0122	2.451 **	58.14%
Market Adjusted Abnormal Returns				
-1 to +1	0.0136	0.0100	3.198 ***	57.67%
Market Model Abnormal Returns				
-1 to +1	0.0098	0.0037	3.351 ***	53.02%

Table 5
Partial Correlation Matrix: Announcement Period Abnormal Returns on Ownership, Agency Problems, Deal and Acquiring Firm Characteristics

This table reports Spearman correlations between announcement period abnormal returns and independent variables. Announcement period abnormal returns are cumulated over the 3 day window (-1, +1), where day 0 (the event day) indicates the day on which the merger was first announced, using the market model parameters estimated between -240 and -40 days. Sample of 215 mergers and acquisitions by Canadian acquiring firms between January 1997 and 2006 for completed transactions over US$ 10 million obtained from the Thomson Financial Securities Data's SDC Platinum™ *Worldwide Mergers & Acquisitions Database***.** See Table 1 for variable description. * indicate statistical significance at 10% or more.

	CAR(-1,+1)
(i) Ownership, Agency Problems and Governance	
Family Ownership Dummy	0.0805
Family Ownership Stake	0.0662
Control Enhancing Mechanisms	-0.0390
Family Excess Vote-Holding	-0.0437
Professional CEO	*-0.1639
Institutional Ownership Dummy	*0.1708
Institutional Ownership Stake	*0.1718
Board Size	*-0.1667
Board Independence	-0.0028
CEOCOB	0.0153
Incentive Compensation	-0.0918
US Listing	0.0188
(ii) Deal characteristics	
Public Target	*-0.2113
Cash Only	0.0516
Related Industries	0.0176
Cross-Border	0.0829
Log Deal Value	*-0.1241
Pre 2001 Time Period	0.0640
(iii) Acquiring firm characteristics	
FCF	-0.0138
MarkettoBook	-0.0498
Acquirer Industry:	
-High-tech	-0.0054
-Health	0.0665
-Telecomm	-0.0022
-Media	-0.0384
-Other	-0.0298

Table 6
Announcement Period Abnormal Returns by Ownership, Governance, Deal and Acquiring Firm Characteristics (Categorical Variables)

Announcement period abnormal returns are cumulated over (-1,+1), where day 0 (the event day) indicates the day on which the merger was first announced, using the market model parameters estimated between -240 and -40 days.Sample of 215 mergers and acquisitions by Canadian acquiring firms between January 1997 and 2006 for completed transactions over US$ 10 million obtained from the Thomson Financial Securities Data's SDC Platinum™ *Worldwide Mergers & Acquisitions Database***.** Announcement period abnormal returns are cumulated over (-1, +1) using the market model parameters estimated between -240 and -40 days. See Table 1 for variable description. *,**, *** indicate statistical significance at 10%, 5% and 1% levels, respectively.

	CAR (-1,+1) Mean	SD	N	Parametric F-test	Non-Parametric Z-test
(i) Ownership and Corporate Governance					
Family Ownership					
Yes	0.0153	0.0604	98	1.54	-1.178
No	0.0053	0.0576	117		
Institutional Ownership					
Yes	0.0265	0.0597	47	4.91**	-2.499**
No	0.0052	0.0581	168		
CEOCOB					
Yes	0.0140	0.0699	51	0.32	-0.224
No	0.0086	0.0553	164		
US Listing					
US Listed	0.0078	0.0565	115	0.29	0.000
Canadian Listed	0.0122	0.0618	100		
(ii) Deal characteristics					
Target Firm Listing Status					
Listed	-0.0092	0.0560	68	10.84***	
Private	0.0187	0.0584	147		3.091 ***
Cross-Border Transaction					
Cross-Border	0.0115	0.0605	127	0.23	
Domestic	0.0075	0.0569	88		-1.213
Payment Method					
All Cash	0.0131	0.0605	108	0.67	
Stock & Mixed	0.0075	0.0569	107		-0.754
Related Industries					
Related	0.0122	0.0698	72	0.17	
Non Related	0.0087	0.0529	143		-0.258
Pre 2001 Time Period					
Jan 1997- Dec 2000	0.0141	0.0557	101	1.00	
Jan 2001-Jan 2006	0.0061	0.0617	114		-0.936

Table 6 (cont'd)
Announcement Period Abnormal Returns by Ownership, Governance, Deal and Acquiring Firm Characteristics (Categorical variables)

Announcement period abnormal returns are cumulated over (-1,+1), where day 0 (the event day) indicates the day on which the merger was first announced, using the market model parameters estimated between -240 and -40 days.Sample of 215 mergers and acquisitions by Canadian acquiring firms between January 1997 and 2006 for completed transactions over US$ 10 million obtained from the Thomson Financial Securities Data's SDC Platinum™ *Worldwide Mergers & Acquisitions Database***.** Announcement period abnormal returns are cumulated over (-1, +1) using the market model parameters estimated between -240 and -40 days. See Table 1 for variable description. *, **, *** indicate statistical significance at 10%, 5% and 1% levels, respectively.

	CAR (-1, +1) Mean	SD	N	Parametric F-test	Non-Parametric χ^2
Years					
1997	0.0299	0.0487	9	0.74	9.081
1998	0.0210	0.0556	22		
1999	-0.0060	0.0472	17		
2000	0.0150	0.0588	53		
2001	-0.0081	0.0654	29		
2002	0.0126	0.0679	23		
2003	0.0077	0.0567	15		
2004	0.0060	0.0636	27		
2005	0.0167	0.0548	17		
2006	0.0254	0.0234	3		
Industry					
High-tech	0.0069	0.0602	82	0.41	1.263
Health	0.0199	0.0699	33		
Telecommunications	0.0114	0.0575	57		
Media	0.0104	0.0567	20		
Other	0.0016	0.0437	23		

Table 7
Impact of Agency Problems on Announcement Period Abnormal Returns

Top number is number of firms of each type, the middles number is the mean announcement abnormal returns and the bottom number is the median announcement period abnormal returns. Announcement period abnormal returns are cumulated over (-1,+1), where day 0 (the event day) indicates the day on which the merger was first announced, using the market model parameters estimated between -240 and -40 days. See Table 1 for variable description. *, **, *** indicate statistical significance at 10%, 5% and 1% levels, respectively.

Conflict of interest between large and minority shareholder (Agency problem 2)	**Conflict of interest between owners and managers (Agency problem 1)**		**Total**	**Test of differences (F test & Wilcoxon Ranksum z test)**
	No [Family CEO]	**Yes [Professional CEO]**		
No [One share, one vote]	28 0.0373 0.0271 (Type I firms)	144 0.0045 0.0021 (Type III firms)	172 0.0098 0.0056	7.67*** 2.505**
Yes [Control-enhancing mecanisms]	28 0.0205 0.0091 (Type II firms)	15 -0.0046 -0.0167 (Type IV firms)	43 0.0100 -0.0031	2.44 1.605
Total	56 0.0289 0.0217	159 0.0031 -0.0012	215 0.0098 0.0037	8.18*** 2.398**
Test of differences (F test & Wilcoxon Ranksum z test)	1.11 1.327	0.81 1.273	0.00 0.570	5.26*** 2.150**

Table 8
OLS Regression of Announcement Period Abnormal Returns on Ownership Structure, Corporate Governance, Deal and Acquiring Firm Characteristics

Sample of 215 mergers and acquisitions by Canadian acquiring firms between January 1997 and 2006 for completed transactions over US$ 10 million obtained from the Thomson Financial Securities Data's SDC Platinum™ *Worldwide Mergers & Acquisitions Database***.** Announcement period abnormal returns are cumulated over (-1, +1), where day 0 (the event day) indicates the day on which the merger was first announced, using the market model parameters estimated between -240 and -40 days. Huber/White/Sandwich estimators of variance allowing for observations that are not independent within clusters (104 unique acquirers) are used to compute t-statistics.All our regressions include dummies for acquirer's industry. However, their coefficients are not reported for brevity. *, **, *** indicate statistical significance at 10%, 5% and 1% levels, respectively.

		Model 1		**Model 2**	
		Coefficient	**t-stat**	**Coefficient**	**t-stat**
(i) Ownership and Corporate Governance					
Family ownership dummy		0.0156	1.95*		
Family ownership stake				0.0003	1.60
Institutional ownership dummy		0.0194	2.41**		
Institutional ownership stake				0.0647	2.01**
Board Independence		0.0177	0.66	0.0253	0.83
Board Size		-0.0025	-2.17**	-0.0028	-2.29**
CEOCOB		0.0078	0.73	0.0115	1.12
Incentive Compensation		-0.0035	-0.21	-0.0069	-0.42
US Listing		-0.0101	-1.16	-0.0096	-1.09
(ii) Deal Characteristics					
Public Target		-0.0274	-3.05***	-0.0278	-3.15***
Cash Only		0.0084	1.01	0.0073	0.89
Related		0.0007	0.08	0.0043	0.49
Cross-border		-0.0042	-0.48	-0.0034	-0.38
Log Deal Value		0.0001	0.03	0.0001	-0.02
Pre 2001 Time Period		0.0248	2.81***	0.0258	2.92***
(iii) Acquiring Firm Characteristics					
FCF		-0.0224	-0.74	-0.0274	-0.89
MarkettoBook		-0.0059	2.39**	-0.0052	-2.03**
Acquirer Industry		√		√	
Intercept		0.0084	0.28	0.0107	0.35
R2		**0.1562**		**0.1500**	
F Statistic		**2.74*** **		**1.89****	

Table 9
OLS Regression of Announcement Period Abnormal Returns on Agency problems, Corporate Governance, Deal and Acquiring Firm Characteristics

Sample of 215 mergers and acquisitions by Canadian acquiring firms between January 1997 and 2006 for completed transactions over US$ 10 million obtained from the Thomson Financial Securities Data's SDC Platinum™ *Worldwide Mergers & Acquisitions Database***.** Announcement period abnormal returns are cumulated over (-1, +1), where day 0 (the event day) indicates the day on which the merger was first announced, using the market model parameters estimated between -240 and -40 days. Huber/White/Sandwich estimators of variance allowing for observations that are not independent within clusters (104 unique acquirers) are used to compute t-statistics. All our regressions include dummies for acquirer's industry. However, their coefficients are not reported for brevity. *, **, *** indicate statistical significance at 10%, 5% and 1% levels, respectively.

		Model 1		**Model 2**	
		Coefficient	**t-stat**	**Coefficient**	**t-stat**
(i) Agency Problems and Corporate Governance					
Control-enhancing mechanisms ($)		0.0050	0.40		
Family excess voteholding				0.0003	1.25
Professional CEO dummy(&)		-0.0307	-2.87***	-0.0261	-2.50**
Interaction $ and &		-0.0132	-0.79	-0.0006	-2.27**
Institutional ownership dummy		0.0205	2.63***		
Institutional ownership stake				0.0716	2.12**
Board Independence		0.0256	1.08	0.0228	0.91
Board Size		-0.0019	-1.67*	-0.0024	-2.05**
CEOCOB		0.0083	0.79	0.0098	0.88
Incentive Compensation		-0.0014	-0.09	-0.0021	-0.13
US Listing		-0.0058	-0.69	-0.0054	-0.61
(ii) Deal Characteristics					
Public Target		-0.0275	-3.03***	-0.0284	-3.13***
Cash Only		0.0082	1.04	0.0088	1.12
Related		-0.0002	-0.02	0.0001	0.02
Cross-border		0.0005	0.06	0.0009	0.10
Log Deal Value		0.0003	0.07	0.0006	0.14
Pre 2001 Time Period		0.0223	2.57**	0.0225	2.60**
(iii) Acquiring Firm Characteristics					
FCF		-0.0200	-0.69	-0.0241	-0.83
MarkettoBook		-0.0059	2.46**	-0.0058	-2.37**
Acquirer Industry		√		√	
Intercept		0.0206	0.76	0.0235	0.83
R2		**0.1875**		**0.1909**	
F Statistic		**3.96*** **		**5.85*** **	

Endnotes

[1] Henry (2000, p. 60) reports that, between 1998 and 2000, merger deals in the US totalled nearly $4 trillion –'more than the preceding 30 years combined'

[2] Henry (2002, p. 64) shows that eight of the 15 biggest deals announced between July 1995 and August 2001 involve high tech industries (Telecommunication services, internet software, media, pharmaceuticals, communication equipment)

[3] Examples of family owned firms in Canada include Brascan, Quebecor, Bombardier, Power Corporation and Rogers to name a few.

[4] See National Policy NP 58-201 '*Corporate Governance Guidelines*' and National Instrument NI-58-101 '*Disclosure of Corporate Governance Practices*' for a comprehensive description of the Canadian corporate governance regime. Broshko and Li (2006) discuss the main differences between corporate governance regimes in Canada and the U.S.

[5] The TSX 14 best practice guidelines (effective between 1995 and 2005) as well as the guidelines of NP 58-201 (effective since June 30 2005) address issues dealing with the board's mandate; board independence and composition; existence and independence of board committees; board approval; procedures for recruiting new directors and board performance evaluation system and the board's expectations from management.

[6] Faleye and Huson (2002) find a positive relation between a measure of board effectiveness and bidder returns. Firms receive high scores on the board effectiveness factor when they have small, independent board that meets frequently.

[7] See Dalton et al. (1998) and Kang and Zardkoohi (2005) for a review of the board leadership structure literature.

[8] See Kohers and Kohers (2000) for a list of SDC database high tech industries sectors.

[9] Following normality diagnostic test on our dependent variable CAR (-1, +1), the distribution is truncated at extreme limits. We exclude observations when CAR (-1, +1) are less than the five and greater than the ninety-five percentiles of the total distribution.

[10] Firms with less than 100 valid returns over the estimation period were excluded from the sample.

[11] Murphy (1999) raises some issues related to the evaluation of stock options granted to executives (distinguishing between the cost of options to the firm and the value to executives) and the fact that there is no recognized valuation methodology. Lambert et al. (1993) state that evaluating options at 25% of their exercise price generates values similar to those obtained with more sophisticated evaluation models. This paper follows the stock option valuation method used by Core et al. (1999).