Management Quality and Operating Performance: Evidence for Canadian IPOs

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ABSTRACT

This study investigates the impact of management quality on the operating performance of Canadian IPO's. Several dimensions of management quality are explored, including: the average tenure of management team members, the heterogeneity of tenures of team members, the size of the top management team, the number of outside directors, the educational and professional credentials of managers, the CEO dominance of the team, the past industry-specific experience of team members, and the presence of the founder in the management team. Operating performance is positively associated with the management team's tenure, size, and the team's inclusion of chartered accountants. Heterogeneous membership tenure, as well as the presence of dominant CEO's and MBAs on the top management team are negatively related to performance. Some evidence of earnings management by managers in the sample is also observed. Finally, equity retention of directors and officers following the IPO has a nonlinear relationship with firm value.

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1. Introduction

The performance of initial public offerings (IPO's) has been the subject of extensive scrutiny in the past two decades in the United States and in Canada. (see, e.g., Ritter(1991), Jain and Kini(1994), Loughran and Ritter (1995), Kooli and Suret (2004), and Carpentier and Suret (2006)). Several studies conclude that IPO firms underperform in the long-run. Indeed, Kooli and Suret, (2004) find that 5-year cumulative abnormal returns (CAR) for Canadian IPOs issued during the period 1991-1998 range from -11.02% to -20.65%. Various hypotheses have been advanced by researchers to explain this phenomenon including: a) Investor exuberance: over-optimism regarding future earnings for newly listed firms leads to irrationally high stock prices; b) Market timing: stock offerings are set to coincide with superior (though unsustainable) performance (see, e.g., Loughran and Ritter (1995); c) Earnings Management: firms use accruals to artificially enhance short-term earnings in order to boost stock prices, (see, e.g., Teoh et al., (1998)).[1]

This paper focuses on the internal governance of the firm, reflected by the quality of the top management team, as a determinant of post-IPO performance. With the exception of Chemmanur and Paeglis (2005) (henceforth CP) the role of the management team in explaining IPO underperformance has not received much attention in the literature to date. They also demonstrate that level of underpricing, underwriting fees, the size of the offerings and the number of institutional investors involved in new issues are

[1] Teoh, S.H., et al. (1998) find that new issuers with unusually high accruals in the IPO year exhibit poor stock return performances in the three years following the IPO. Furthermore, stock returns of issuers using accruals aggressively were around 20% less than more conservative issuers.

all related to management quality.[2] Whether these results are robust for IPO's in other countries remains an open question.

The purpose of this study is to provide new evidence on this score for a sample of Canadian IPOs. Extending Chemmanur and Paeglis (2005), management quality is defined and measured according to two dimensions; management team resources and management team structure. Four proxies are used to measure management team structure. First, we employ the average tenure of the team. Intuitively, longer average tenure should result in better cohesion between team members, which would be performance enhancing. Second, we look at dispersion of tenure amongst team members. Profitable new ideas from diverse points of view and more entrepreneurial flexibility may be fostered in management teams characterized by diverse levels of experience amongst members. An alternative view is that tenure heterogeneity may be associated with less cohesive management teams, which could adversely affect performance. The third measure of team structure is the CEO dominance over other team members. A CEO who bears the responsibilities for the firm's performance and who dominates the decision making process may reduce stress for the other team members. However, a dominant CEO may stifle the initiatives of other senior managers, to the detriment of firm value. A final measure of the management team structure is the presence of the founder(s) on the management team. The presumption is that founders behave as stewards who identify closely with the organization, which will mitigate conflicts of interests between managers and shareholders (e.g. Kor (2003) and Wasserman (2006)).

[2] More recently, Chemmanur et al (2007) show that a high management quality team was able to select projects with superior net present values (NPV).

Our results show that several proxies for management quality significantly affect operating performance of IPOs in Canada. Operating performance is positively associated with the management team's tenure, size, and the team's inclusion of chartered accountants. Heterogeneous membership tenure, as well as the presence of dominant CEO's and MBA's on the top management team are negatively related to performance. Some evidence of earnings management from managers in the sample is also observed. Finally, equity retention of directors and officers following the issue has a nonlinear relationship with firm value.

The remainder of the paper is organized as follows. Section 2 presents the hypotheses to be tested. Section 3 describes the performance measures used in the analyses. Section 4 provides a description of the data. Results follow in Section 5. The study concludes with a summary in Section 6.

2. Theory and Hypotheses

Firm performance is hypothesized to be related to the quality of the management team as well as the quality of the firm.

Management Quality and Firm Performance

We use several proxies for management quality in this study, as reflected in the management team structure and the management team resources. Four elements are considered as proxies for the team resources. First, we look at the presence of the founder in the top management team. The presumption is that the founder's experience should provide the basis of the management team competency. In addition, the founder should be attuned to identifying the opportunity set of the firm in its deployment of

resources to their most efficient uses.[3] The idea that founders have the capacity to allocate efficiently all resources within the company is critical. An alternative perspective is that old time founders may become entrenched and less efficient. Morck et al (1988) posit that the business quality of the founder is less valuable for older firms due to entrenchment effects. Firms conducting IPOs are usually young and small; 10.72 years on average in this sample. Hence, a positive relationship between the founders' presence on the management team is postulated.

A second measure of the resource capacity of the management team is the size of the management team. The base of expertise could be enhanced with a larger team, which would improve the quality of decision making (see, e.g., Cooper et al. (1994) and Feeser and Willard (1990)) .[4] A larger team could provide a broad source of ideas, and relevant areas of expertise. Risk sharing among members could also enable the team to behave in a more entrepreneurial fashion to enhance shareholder value. Teams that are too large, however, may be faced with communication and coordination problems. Haleblian and Finkelstein (1993) find that large groups were more profitable in turbulent environments (computer industry) than in stable environments (natural gas distribution).

Another dimension of management team resource quality is the industry-specific experience of team members. Industry-specific experience enhances the team's knowledge of competitive conditions and specific technologies (see, e.g., Kor (2003) Cooper et al. (1994)). Experienced managers are likely to have developed useful

[3] Kor (2003) finds that the percentage of founders in the management team was positively related to sales growth.

[4] Cooper et Al (1994) find that companies who started their operations as a team did better than firms with a single founder and that when examining the numbers of partners; larger did better than smaller teams. Feeser and Willard (1990) find that high growth firms had team sizes that were significantly larger than low growth firms.

networks of relationships with suppliers, distributors and customers. Industry experience may facilitate access to credit markets (see, e.g., Bruderl et al.(1992)[5] and Lamont et al. (2001)). In our study, the number of past senior managerial positions in the industry of the IPO is used as a proxy for experience.[6]

A fourth measure of management resource quality is the educational background of team members (see, e.g., Cooper et al. (1994)). One proxy for educational qualification is the possession of an MBA degree. The few studies written on the topic use surveys and are often subjective. For instance, Baruch and Leeming (2001) find that MBAs have strong personal esteem and judge themselves as being highly competent. However, graduates attribute only a moderate contribution from the MBA program to their high level of skills and knowledge. Moreover, the provenance of the degree is likely to mitigate its value. Intuitively, the quality of the manager will depend on the quality of the program and the more prestigious business schools should produce the best managers.[7]

Following Chemmanur et al (2004),[8] we also test for the contribution of chartered accountants in the intellectual capital of the firm. In this research, the percentage of MBA

[5] Bruderl et al (1992) find that the previous and industry-specific experience of the founder has a strong influence on the survival chances of new organizations and that starting a business without previous experience in the industry significantly increases the mortality rates of new firms.

[6] See e.g. Kor (2003). This of course may be an imperfect proxy when a manager's turnover experience is high. For example, 10 years of experience in the same company at the same position is considered less experience than 5 years in the industry but at 2 different positions. Hence, this methodology may unduly valorize opportunistic managers who move from firm to firm in order to increase their personal benefits. Consequently, these managers might not be as loyal and committed to their business as other managers with longer tenures.

[7] Gottesman and Morey (2007) find that managers holding MBAs from high-GMAT programs exhibit better performance than managers without MBA degrees and managers with MBA degrees from low-GMAT programs in the mutual fund industry.

[8] Chemmamur et al (2004) study the percentage of PCPA holders in companies and find a positive relationship with the level of investments. Indeed, the percentage of PCPA holders is positively associated

and accounting title holders is used to measure the contribution on operating performance.

We use four proxies to capture management team structure. First we look at the tenure of the management team, which is hypothesized to be positively related to performance. Managers with a history of working may be more adept in collaborating and may focus on solving problems rather than on managing unproductive group issues. Moreover, past shared work experiences can save valuable time in building coordination and trust amongst team members, which should be value enhancing,[9] as resources are better aligned with opportunities(see, e.g., Kor and Mahoney (2000)). On the other hand, value creating tenure effects may have limitsd. Indeed, Eisenhardt and Schoonhoven (1990) find that older team are more likely to promote and maintain the status quo. Hence, in high changing environment industries, the adaptability of younger teams might benefit the company and increase performance.

A second variable used to capture team structure effects is the tenure heterogeneity of the management team, which is postulated to be positively related to performance. In industries where changes are fundamental for growth and survival, high team heterogeneity can serve to deter entrenchment effects for senior managers, and can be a source of competitive advantage (see e.g. Einhardt and Schoonhoven (1990) and

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with the level of investments and since better projects should be characterized by large net present values (NPV), high management quality firms should have high levels of capital expenditures and other investments.

[9] Eisenhardt and Schoonhoven (1990) find that specific experience characteristics of managers are positively related to sales growth for new firms and that the past-shared work experience of founders was positively related to revenues.

Sorescu and Spanjol (2008)).[10] Alternatively, lower costs of conflicts in teams with a longer history of working together could partially offset the benefits of heterogeneity. Wiersema and Bantel (1992)).

Our third measure of management team structure is the CEO dominance over the team members, which is hypthesized to be negatively related to operating performance. Fama and Jensen (1983) assert that corporations with boards that are dominated by the CEO are likely to suffer in terms of competition for survival given an absence of a separation between decision-making management and decision control. A primordial duty of the board of directors is to monitor the individuals in charge of making the key decisions of the firm. In boards with dominant CEOs shareholders have little protection against opportunistic behaviour of management. Furthermore, a strong dominant CEO may severely diminish potential contributions from other members (see, e.g., Chemmanur and Paeglis (2005)). disappear. On the other hand, strong CEOs may enhance the cohesion of management which can be much more valuable for young firms in the early stages of their formation.

Firm Quality and Performance

We also introduce a number of proxies for firm quality that are distinct and presumed independent from management quality that may affect firm performance. Included in this set are: firm age, size and the composition of the board of directors. New firms face various difficulties in their early years. According to the phenomenon called

[10] Sorescu and Spanjol, (2008) find that innovation is associated with above-normal stock returns, normal profits and economic rents and that, on average, each breakthrough innovation in the sample is associated with an increase in firm value of $4.2 million.

the "liabilities of the newness", elaborated by Stinchcombe (1965), the lack of a track record with buyers and suppliers and the inefficiency to quickly adjust to new roles and working relationships are the primary reasons for the high propensity of new organizations to fail (see, e.g., Cooper et al. (1994)). Moreover, lenders and investors learn about the firm and its management with the passage of time. Hence, the terms of contracts can be adjusted dynamically to mitigate moral hazard.[11] It is advanced that growth rates increase with age and that financial market imperfections, such as asymmetric information, are partially responsible for the negative economic growth of newly founded organizations. Firms having long-term relationships with lenders can get funds more easily while financially constrained companies may be forced to pass up profitable projects. Finally, Kim et al (2004) find that older firms seem to enjoy higher levels of operating performance than younger firms after going public. Consequently, since age is likely to be a significant determinant in the success of firms conducting an IPO, it is a good indicator of firm quality and should have a significant impact on operating performance.

Aside from age, previous research has also identified size to be positively related to pre and post-IPO performances (see, e.g., Mikkelson et al. (1997)). Large firms enjoy economies to scale in accessing capital markets which contributes to higher growth and survival rates (see, e.g., Cooper et al. (1994)). Small, young and unknown firms also face greater liquidity and higher costs of capital than mature firms. Since banks and other capital providers cannot observe the true quality of small and young firms at the

[11] Brito and Mello (1995) find that smaller and younger firms which are relatively unknown by capital providers face greater liquidity restrictions, financial constraints and higher costs of capital than more mature and established companies in the market.

beginning of their lives, greater capital constraints will be imposed on them restraining their capacity to invest in profitable projects and to grow (see, e.g., Brito and Mello(1995)).

Our final control variable used to measure firm quality is the board structure, as reflected in the number of independent directors on the board. Board independence has been widely used in the literature as an important governance mechanism to insure that managers will promote shareholders' interests.[12] The responsibilities of the board are to hire, fire, establish top managers' compensation and monitor important decisions. Fama and Jensen (1983) suggest that the composition of the board, in terms of the size of the cohort of independent directors has been viewed as a good indicator of firm quality (see, e.g., Fama and Jensen (1983)).[13]

Measures of performance

Two measures of performance are used. The first measure is the firm's return on assets (ROA) one year after the IPO year at December 31st . Jain and Kini (1994) use ROA as their proxy for post-IPO performance, noting its advantages in measuring the efficiency of asset utilization. We also control for possible effects of earnings manipulation. Earnings management is likely to occur whenever companies are looking for additional funding since, by taking aggressive positive accruals, firms can instantly report earnings in excess of cash flows. For example, revenues could be recorded for goods shipped on credit even though substantial risk of default remains. This type of

[12] Rosenstein et al (1990) find that the appointment of outside directors has a positive impact on the stock price.

[13] Mikkelson et al (1997) however find no relationship between the composition of the board of directors and the performance of IPO firms. Eisenberg et al. (1997) observe a negative correlation between board size and profitability for small firms, which they attribute to coordination and communication problems in large boards of directors.

manipulation is legal since it is usually aimed at better representing the financial situation of the company. However, it must be seriously considered by investors since it can impact results and lead to biased estimations of actual performance.[14]

Teoh et al (1998) find that issuers that manage pre-IPO earnings are also likely to manipulate post-IPO earnings in order to avoid suspicion and potential lawsuits from investors. Lock-up rules also constrain managers from selling shares for a period of 180 days or more after the issue. Consequently, managers may have the incentive to boost earnings after the IPO to maintain a high stock price until the lock up period ends. Accounting reversals are therefore likely to occur during the period after the first financial year following the issue; when managers are free of their shares and less susceptible to face potential lawsuits.

If firms time the market and use accruals to boost the price of issuing shares, a negative correlation between IPO offer prices and operating performance after new issues is expected.[15] An unusually high price relative to its size, age and the industry in which a company operates may be an indicator of the presence of earnings manipulation by management.

Aside from operating performance based on the accounting measures, we also look at market performance measured by Tobin's Q as proxy for firm value as it relates to ownership levels of directors and officers and firm value.[16]

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[14] Teoh, Wong and Roa (1998) find that on average, IPO firms have high earnings and abnormally high accruals in the pre-IPO year followed by poor long-run earnings and stock performance.

[15] Since the offer price is likely to be correlated with the size of the assets, the age and the industry, the residuals from the regression of the offer price on a set of instruments, including size, age, and industry dummies in the correlaton tests.

[16] We use the Chung and Pruitt (1994) approximation. Specifically, Tobin's Q ratio is computed at December 31 of the offering year as:
Common Stock Market Capitalization + Preferred shares liquidating value + Book value of total debt / Book value of total assets

Stock Ownership and Firm Value

Agency problems are more likely to occur in enterprises where managers are not the principal claimants to the cash flows generated by the firms and do not directly benefit financially from their decisions (see, e.g., Jensen and Meckling (1976) and Fama and Jensen (1983))[17]. The impact of managerial ownership on performance for IPO firms has been tested in a number of previous studies (see, e.g., Chen et al (1993), Jain and Kini (1994), Mikkelson et al (1997), and Kim et al. (2004)). Brush et al (1999) find that owner-managed firms use free cash flow to grow faster than firms without free cash flow and exhibit faster sales growth and better performance. Mehran (1995) finds that ownership of shares by top management is been found to be particularly beneficial.[18]. Morck et al. (1988) find evidence of a non-monotonic relationship between management ownership and market valuation.

Jain and Kini (1994) and Kim et al(2004) report a significant decline of operating performance in the period following the IPO. Interestingly, firms with management that own high levels of equity exhibit superior ROA and sales growth relative to other firms with low levels. Alternatively, Jain and Kini (1994) suggest that the subsequent decline in performance might be explained by the dilution of ownership interests following the issue of new shares. Principal/agent problems increase which result in higher agency costs (see, e.g., Jensen and Meckling (1976)).

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[17] Jensen and Meckling (1976) argue that non-optimal decisions, such as promoting sales growth in unprofitable projects or in other types of non-value-maximizing activities, are likely to diminish with the level of stock ownership held by insiders.

[18]Mehran (1995) relates to both level of equity owned by top executives and the percentage of the salary of top executives that is based on equity.

Kim et al (2004) report a decline in performance following new issues in the Thai IPO market. Moreover, a non-linear relationship between management ownership and the change in performance in the post-IPO year is observed. The relationship is positive for firms with low and high levels of ownership owned by the management and negative at intermediate levels; between 31% and 71%. The presence of a non-linear relationship between management ownership levels and performance is in line with Morck et al. (1988). Our study herein also examines the relationship between the percentage of equity owned by officers and directors as a function of various levels of ownership.

Since the information on R&D and advertising expenses are unavailable for these firms, age, firm size and 1-digit industry dummies are used as control variables in the models. The industry dummy is important because high growth firms tend to have high Tobin's Q ratios. Eisenhardt and Schoonhoven (1990) find that founding a business in a growth-stage market is positively associated with growth among new firms. Hence, it is essential to control for the industry effect in order to isolate the management ownership influence on firm value. Indeed, the development of market shares is particularly difficult for young firms in more mature markets where established competitors already operate, (see, e.g., Cooper et al. (1994))[19] Low start-up barriers in these sectors may cause important competitive pressures on new firms and considerably affect their ability to grow. Finally, tough competition that pushes firms to cut prices and the resulting low profit margins hurt new and small size firms with low financial capacities. Indeed, small firms have more difficulty to resist and to survive from price wars since they do not have

[19] Cooper et al (1994) find that the probability of growth is higher for companies that are not operating in the retail and personal services sectors.

the same sufficient financial resources to compete in such aggressive environments (see, e.g., Brito and Mello (1995)).

Finally, we also include a dummy variable to account for possible effects of Sarbanes-Oxley (SOX) (see, e.g., Switzer, 2007). The dummy variable is set equal to one for observations subsequent to 2002 and to zero otherwise.

3. Data Characteristics

Data on Canadian IPOs are from SDC/ Platinum New Issue database, and consist of all IPOs over the period 1996-2006. We exclude IPOs from foreign companies, firms sold before the performance appraisal date, financials (all firms with SIC codes between 6000 and 6999), price offerings below $2, [20] flow-through shares

[20] When firms were sold before the performance appraisal date, they were automatically removed from the study. The reason is simple; when some firms may have been acquired when approaching failure, other could have been prospering. Since the required information to distinguish such feature is not available, these firms are excluded for the study. First, firms with offer prices below $2 are excluded from the study given that the market capitalization used in the Tobin's Q formula is affected by the high volatility commonly characterizing low-price stocks. Furthermore, several IPO firms during the 1997 to 2006 period went public through the capital pool company program (CPC). Firms participating in the CPC program must be treated with great caution. Unlike standard IPOs, CPCs are created to form shell companies; meaning that they don't need any previous business activity and no assets other than cash to issue shares on the stock market. The only requirement is that the officers provide $100,000 of their own in seed capital to start the business. Then, the amount raised from the offering is used for the identification and evaluation of potential investments and acquisitions. The identification of a potential acquisition and the beginning of an agreement in principal with the target firm, depending of the type, must occur within the first 24 months after the IPO. Moreover, after the acquisition, the management is likely to change (see http://www.tsx.com/en/pdf/CPCBrochure.pdf). The Venture Pool Program (Vancouver stock exchange), Keystone companies (Alberta stock exchange), and the Junior Pool Program (TSX venture) are all types of capital pool companies seeking to raise capital on the IPO market in Canada. These IPOs are usually very small issuers, with prices often below $1, and constitute highly speculative investments (see, e.g., Carpentier and Suret (2006)). Although, the program was initially established by Canadian regulators to enable small firms to directly access the stock market, it turns out that they provide poor investments to investors. Carpentier and Suret (2006) find that these firms exhibit poor operating performances, have strong negative stock returns and are usually low-quality firms. They conclude that the CPC program mostly permits poor companies to enter into the stock market. Therefore, for reasons of non previous business activities, strong likelihood of management changes and abnormal poor operating performances, these firms are excluded from the study.

issues, income funds,[21] limited partnerships, income security deposits, equity carve-outs[22] and IPOs lacking prospectus and financial information.

Our final sample consists of 95 firms as indicated in Table 1.

[Please insert Table 1 about here]

The overall sample size is consistent with other similar studies of the Canadian IPO market.[23] The information on the management team and on other aspects of the firm is taken from the IPO prospectus available on the Canadian financial website SEDAR[24]. financial data are taken from Bloomberg and Compustat Research Insight.

Table 2 shows the industry distribution for the sample.

[Please insert Table 2 about here]

[21] The popularity of income trusts in Canada increased considerably in the late 1990s and in the early years of 2000. In 2003, they represented around 7% of the entire market capitalization in Canada (see, e.g., Aggarwal and Mintz, (2004). Shareholders of income trusts are fiscally advantaged. Indeed, taxes are not paid by companies at the corporate level if profits are entirely distributed to shareholders; an advantage which has been removed in November 2006 by the Canadian minister of finance to re-establish the fairness in the corporate tax system . Income trusts are usually mature companies with stable earnings and even though their conversions are listed as IPOs, they cannot be compared to smaller and younger firms which usually constitute the IPO market in Canada. Several studies show that income trusts and real estate income trusts (REIT) exhibit positive abnormal performance (see, e.g., Jog and Wang (2004) and Kryzanowski and Tcherednitchenko (2007)). Jog and Wang (2004) find that income trusts stock overperform the TSE 300 index and Kryzanowski and Tcherednitchenko (2007) find positive excess returns for REITs when compared to the S&P TSX composite index. While income trusts were advantaged by the legislation in Canada, companies issuing flow-though shares renounce certain deductions or credits that would otherwise only be available for the company at the benefit of shareholders. These deductions are "flowed through" to investors as if they had been directly involved in the company's operations. Although no study has specifically studied the abnormal performances of flow-through share offerings yet, by the fact that these companies renounce potential deductions, operating performances are likely to be lower. Hence, these firms cannot be tested in the same way as IPO firms with full access to available deductions and credits.

[22] Carve-out IPOs are excluded from this study to prevent any potential influence of the parent firm's management in the business activities of the company. In the case of a carve-out, the parent usually sells a minority share of the "child" company while retaining the rest of the ownership. However, the partially sold enterprise may still benefit from the parent company's resources and strategic support after the IPO. Thus, the parent's management quality would not be captured in this study while its potential influence on the IPO firm would appear in the data.

[23] For example, Jog, and Riding (1987) and Kryzanowski and Liang (2008) use samples of 100 and 97 Canadian IPOs respectively.

[24] www.sedar.com

4. Empirical measures of management quality

In this section we discuss the construction of the various proxies used to measure management and firm quality, as well as the control variables used in the different models. The founder's presence (FOUND) in the management team is calculated as the percentage of members qualified as founders and the information is available in the IPO prospectus. The manager is considered as a founder when he is described as such or as the promoter in the sense that he took personal responsibility to create the organisation.

Managers specific-industry past experiences (EXP) on operating performance is defined as the average number of past managerial employment in companies with the same 2-digit SIC code of the firm studied.

The tenure (TENURE) of the managers in the company is defined as the average tenure of the management team from the beginning of the employment date in the company to the IPO issue. To control for the effects of correlation between firm age and tenure, residuals from the regression of TENURE on the natural logarithm of firm age are used also (XTENURE) as instruments.

Heterogeneity of tenure (TENHET) is measured as the coefficient of variation of managers' tenure. The size of the top management team (TSIZE) is defined as the number of managers with the rank of vice-president or higher in the management team. In order to avoid any correlation between firm size and top management size, (TSIZE) is regressed against the book value of assets (BVA), the logarithm of the book value of assets (LNBVA) and the squared book value of assets (BVA2) and industry dummies. Then, residuals are used to proxy for the size of the top-management team (XTSIZE). Industry dummies are necessary to control for variations of management teams across

industries. Indeed, some industries tend to require larger teams than others (see, e.g., Chemmanur and Paeglis (2005)).

To capture the educational attainments of the management team, (PMBA) and (PCA) are measured as the percentage of the firm management holding an MBA degree and the percentage holding and accounting title (CA, CPA, CMA or CGA) respectively.

The last measure of management quality is the dominance of the CEO over the other team members (FCEO). It is calculated as the ratio of salary of the CEO (consisting of base salary, bonuses and other forms of annual compensation), to that of the other members of the management team. When the information concerning the salary of the management team is not given for every member, $100 000 is assumed to be earned since it is the maximum salary allowed to be received by an executive without any requirement of disclosure in the prospectus. Therefore, the degree of CEO dominance is possibly stronger if undisclosed executive salaries are lower than $100 000. Having a substantial influence over their own and team's salary, the CEO assessment of his value compared to others is a good measure of CEO dominance (see, e.g., Chemmanur and Paeglis (2005)). Here, stocks or options compensation are not taken into account because this type of information and especially the value of such forms of compensation are not always available.

Supplementary measures of firm quality include age and is measured as the natural logarithm of 1 plus firm age (FAGE). Age is defined as the period from the incorporation to the IPO issue date.

The number of outside directors on the board (ODIR) is defined as the number of independent directors that are not employed by the company and are not executive managers. The natural logarithm of ODIR is used in regressions (LNODIR).

Firm size is defined as the size of the its total assets. Three measures are used: the book value of assets (BVA), the logarithm of the book value of assets (LNBVA) and the squared book value of assets (BVA2)

As indicated in the previous section, to capture the potential impact of earnings management on post-IPO performance, the offer price (PRICE) is included in the models. However, since PRICE is likely to be correlated with the size of the assets, the age and the industry, we also use an instrument for this variable, XPRICE, which is computed as residual from the regression of the offer price on LNBVA, AGE and industry dummies.

Finally, stock ownership (OWN) is measured as the percentage of the equity held or controlled by all directors and officers after the issue on a fully-diluted basis.

Following Morck (1988) we estimate piecewise linear regressions for the relationship between board ownership and performance based on the following ownership groupings:

BDR.0to5	= Board ownership if Board ownership < 0.05
	= 0.05 if Board ownership ≥ 0.05
BDR.5to25	= 0 if Board ownership < 0.05
	= Board ownership minus 0.05 if $0.05 \leq$ Board ownership < 0.25
	= 0.20 if Board ownership ≥ 0.25
BDR.OVER25	= 0 if Board ownership < 0.25
	= Board ownership minus 0.25 if Board ownership ≥ 0.25

Table 4 summarizes measures of management quality and includes dependent and control variables in the regressions. The mean offer price is $9.42, with the smallest offer priced at $2 and the highest at $37.31. On average, 15% of the managers have an MBA and 16% an accounting title. The mean (median) size of the top management team (TSIZE) is 6.14 (6). Management teams range in size from 2 to 16 members. The average tenure of the management team is 3.46 years and range from 0.32 to 21.06 years. The number of past employment positions in the specific-industry ranges from 0 to 4.2; founders are present in the management team 15% of the time. Finally, CEOs earn on average 46% more than the rest of their teams. Pairwise correlations between the independent variables are shown in panel B of Table 3.

[Please insert Table 3 about here]

5. Results and discussion

Table 4 displays the principal results from the regressions of firm and management quality on operating performance. First of all, the proxy for earnings management is statistically significant at 1% for all three regressions. In addition, the XPRICE coefficients are negatively related to operating performance in the two regressions. These results suggest that some IPO firms do manipulate earnings in order to boost the offer price above the industry level.

As predicted, FAGE is positively related to firm performance in all regressions and is significant at the 1% level. Older firms perform better than their younger counterparts, consistent with Kim et al (2004). This may be attributed to learning by doing effects (abilities acquired through the years to operate in the industry), as well as

time dependent network, customer/supplier development effects. It also may be due to advantages in access to financial credit for older firms. The size variable is also significant in all regressions and suggests that larger firms exhibit better performance than smaller firms. This may be due to economies of scale effects, as well as capital access advantages for larger firms, which also permit them to better withstand difficult periods than their smaller counterparts.

Outsider director presence, LNODIR is significantly negatively related to performance in two of the regressions. This is consistent with Mikkelson et al (1997) who state that outside directors lack sufficient information to do proper surveillance and that their lack of knowledge of the firm relative to inside directors makes it difficult for them to exercise effective control over strategic decisions. An alternative explanation is that large boards consisting of many outsiders could produce unproductive conflicts that are likely to slow down the decision process instead of accelerate it.

The first measure of management quality, XTENURE, is positive in all regressions and indicates that firms with top managers with a past history of working together performed better than their counterparts.

Surprisingly, the average number of past managerial employment of managers in the same industry (EXP) is negatively related to operating performance. The experience of the industry should bring special knowledge and valuable networks for enterprises. However, if a manager has held many previous employment positions, it may be a signal of adverse performance on average.

As expected, the size of the top management team (XTSIZE) is positively related to operating performance. Also, consistent Fama and Jensen (1983), dominant CEOs

appear to adversely affect performance: the FCEO coefficient is found to be negatively related to the operating performance in two regressions at the 5% level of significance.

The percentage of MBAs holders in the management team does not seem to enhance operating performance. This result is consistent with Baruch and Peiperl (2000) and Switzer and Huang (2007) who find that portfolio managers with MBA designations actually underperformed other managers on a fund risk-adjusted returns basis.

The coefficient of variation of the percentage of chartered accountants in the firm is also statistically significant at the 10% level. As opposed to MBAs, the coefficient is positive and shows that having more chartered accountants in the management team improves the operating performance of IPO companies. These findings could potentially interest enterprises in their future hiring process. In the sample, executives with an MBA degree earn on average $239,346 per year while executive without an MBA earn $225,652. Although the difference is not very large, if managers with an MBA degree do not perform better than the others, it is not clear that they merit higher compensation levels.

Finally, the presence of the founder on the management team (FOUND), is insignificant in all regressions. One possible explanation for this result is provided by Kor (2003): when founders operate in an environment where managers have high levels of past industry experience, the team becomes less effective in creating new opportunities because it over-emphasizes actual industry practices. In order to control for possible differences in operating performance between industries, management quality variables are tested against industry adjusted-ROAs. The results are found to be robust.[25] We also test the relationship between management quality and firm's value. As expected, small

[25] Adjusted-ROA is defined as the firm's ROA minus the median ROA of its industry.

and younger firms have higher Tobin's Q values. However, none of the other variables are significant. It seems that when management quality has predictive power on operating performance, it is not reflected in firm's value.

As a final robustness check, we also perform Hausman (1978) tests for potential endogeneity of variables in the model that could bias the regression results. As is shown in Table 6 endogeneity between the management quality variables and operating performance is not observed.

Table 6 shows the distribution of firms according to the ownership stake of directors and officers and Tobin's Q.

[Please insert Table 6 about here]

As noted therein, the highest values are shown for ownership stakes of 0-5% and for stakes in the 70-80% region.

Table 7 shows the results of the piecewise regressions relating stock ownership held by directors and officers and firm value, measured by Tobin's Q.

[Please insert Table 7 about here]

The relationship is statistically significant at low levels of ownership (between 0% and 5%) and is in line with the alignment of interests hypothesis. Therefore, when managers own only a small fraction of the equity, market discipline forces them toward value maximization. For intermediate levels, between 5% and 25%, the relationship is negative: the entrenchment hypothesis appears to dominate the alignment of interests hypothesis. Hence, when managers control a substantial fraction of the equity, they may have enough voting power or influence to guarantee their jobs in the company and feel protected against market discipline. Consequently, management will act for its own benefit rather

than in the best interests of shareholders. Our results are consistent with Morck et al (1988) although for ownership levels exceeding 25% the positive relationship between ownership and value is not significant. . This may be attributable to differences in the sample distribution: in Morck et al (1988), only 3.77% of the firms have over 50% of their equity held by directors and officers. In our study, 23.15% of the firms in the sample have 50% or more of the ownership held by directors or officers. The differences may also be attributed to size and firm riskiness factors. Morck et al look at Fortune 500 companies that are larger and less risky than their Canadian counterparts.[26] Finally, the different control variables used to proxy for intangible assets and the simplified equation for the Tobin's Q ratio can also explain the lack of significance at levels above 25%.

Both control variables, AGE and LNBVA are statistically significant at 10% and 1% respectively and have negative coefficients. Younger and smaller firms exhibit higher Tobin's Q ratios. Intuitively, these firms would have a larger portion of their market capitalizations reflected in expectations of future profits rather than in actual assets. Younger firms may also have a larger portion of their values in intangible assets such R&D and human capital. As a result, assets are undervalued which produces high Tobin's Q ratios. Finally, the Sarbanes-Oxley dummy variable is found to lack significance.

6. Conclusion

The quality of management is essential to the development and financial health of every business. While financial information is broadly available for publicly-traded

[26] When different cut-off points are employed, the relationship between ownership and Tobin's Q remains insignificant at high levels of ownership.

companies, the data on IPO firms are sometimes limited. This study examines the relationship between several aspects of the management team and firm performance for Canadian IPO companies that went public during the period from 1997 to 2006. The results suggest that some differences in performance may be attributed to differences in the characteristics of the management team. Tenure of the management team, size of the top management team and the presence of chartered accountants increase the operating performance of firms. On the other hand, heterogeneity of tenure, CEO dominance and MBAs have a detrimental effects. As expected, larger and older firms exhibit a better operating performance than their smaller and younger counterparts. Moreover, evidence of earnings management is observed in the sample. Indeed, some firms seem to use accruals in order to boost the IPO price and exhibit poor operating performances in the year after the issue. In this study, the effect of common stock ownership held by directors and officers on firm value is also investigated. Consistent with Morck et al (1988) a non monotonic relationship is found between ownership levels of directors and officers and firm value.

References

Aggarwal, L., and J. Mintz (2004). Income Trusts and Shareholder Taxation: Getting It Right. *Canadian Tax Journal, 52*, 792-818.

Agrawal, A., and S. Chadha. (2005). Corporate Governance and Accounting Scandals. *Journal of Law and Economics, 48*, 371-406.

Baruch, Y., and A. Leeming. (2001). The added value of MBA studies--graduates' perceptions. *Personnel Review, 30*(5/6), 589-602.

Baruch, Y. and M. Peiperl (2000). The impact of an MBA on graduate careers. *Human Resource Management Journal, 10*(2), 69-90.

Brito, P., and A. S. Mello (1995). Financial constraints and firm post-entry performance. *International Journal of Industrial Organization, 13*(4), 543-565.

Bruderl, J., Preisendorfer, P., and R. Ziegler (1992). Survival chances of newly founded business organizations. *American Sociological Review, 57*(2), 227.

Brush, T. H., Bromiley, P., and M. Hendrickx (1999). The relative influence of industry and corporation on business segment performance: An alternative estimate. *Strategic Management Journal, 20*(6), 519-547.

Carpentier, C., and J. Suret (2006). Bypassing the financial growth cycle: Evidence from capital pool companies. *Journal of Business Venturing, 21*(1), 45-73.

Chemmanur, T. J., and I. Paeglis (2005). Management quality, certification, and initial public offerings. *Journal of Financial Economics, 76*(2), 331-368.

Chemmanur, T. J., Paeglis, I., and K. Simonyan (2004). Management quality, financial policies, and performance of seasoned equity issuers. *Social Science Research Network Working Paper.*

Chen, H., J, L. H., and M. Y. Hu (1993). Management ownership and corporate value. *Managerial and Decision Economics (1986-1998), 14*(4), 335-346.

Chung, K. H., and S.W. Pruitt (1994). A simple approximation of Tobin's q. *Financial Management, 23*(3), 70-74.

Cooper, A. C., Gimeno-Gascon, F. J., and C. Y. Woo (1994). Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing, 9*(5), 371-395.

Eisenhardt, K. M., and C.B. Schoonhoven (1990). Organizational growth: Linking founding team, strategy, environment, and growth among U.S. semiconductor ventures, 1978-1988. *Administrative Science Quarterly, 35*(3), 504-529.

Fama, E. F., and M.C. Jensen. (1983). Separation of ownership and control. *Journal of Law and Economics, 26*(2), 301-325.

Feeser, H. R., and G.E. Willard (1990). Founding strategy and performance: A comparison of high and low growth high tech firms. *Strategic Management Journal (1986-1998), 11*(2), 87-98.

Gottesman, A., and M. Morey (2006). Manager Education and Mutual Fund Performance. *Journal of Empirical Finance,* 13 (2), 145-182.

Haleblian, J., and S. Finkelstein (1993). Top management team size, CEO dominance, and firm performance: The moderating roles of environmental turbulence and discretion. *Academy of Management Journal, 36*(4), 844-863.

Jain, B. A., & Kini, O. (1994). The post-issue operating performance of IPO firms. *Journal of Finance, 49*(5), 1699-1726.

Jensen, M. C., and W.H. Meckling (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305-360.

Jog, V., and A. Riding,(1987). Underpricing in Canadian IPOs. *Financial Analyst Journal, 43,* 48-55.

Jog, V. and L. Wang (2004). The Growth of Income Trusts in Canada and the Economic Consequences. *Canadian Tax Journal, 52.* 853-862.

Kim, K. A., Kitsabunnarat, P., and J.R. Nofsinger(2004). Ownership and operating performance in an emerging market: Evidence from thai IPO firms. *Journal of Corporate Finance, 10*, 355-381.

Kooli, M., and J. Suret (2004). The aftermarket performance of initial public offerings in Canada. *Journal of Multinational Financial Management, 14*, 47-66.

Kor, Y. Y. (2003). Experience-based top management team competence and sustained growth. *Organization Science, 14*(6), 707-719.

Kor, Y. Y., and J.T. Mahoney(2000). Penrose's resource-based approach: The process and product of research creativity. *Journal of Management Studies, 37*(1), 109-139.

Kryzanowski, L., & Liang, S. (2008). Canadian IPOs share releases. *Journal of Private Equity, 11*, 73-89.

Kryzanowski, L., and M. Tcherednitchenko (2007). Performance of Canadian E-REITs. *International Real Estate Review, 10*(2), 1-22.

Lamont, O., Polk, C., and J. Saa-Requejo (2001). Financial constraints and stock returns. *Review of Financial Studies, 14*(2), 529-554.

Lindenberg, E. B., and S. A. Ross (1981). Tobin's q ratio and industrial organization. *Journal of Business, 54*(1), 1-32.

Loughran, T., and J.R. Ritter (1995). The new issues puzzle. *Journal of Finance, 50*(1), 23-51.

Mehran, H. (1995). Executive compensation structure, ownership, and firm performance. *Journal of Financial Economics, 38*(2), 163-184.

Mikkelson, W. H., Partch, M. M., and K. Shah (1997). Ownership and operating performance of companies that go public. *Journal of Financial Economics, 44*(3), 279-307.

Morck, R., Shleifer, A., and R.W. Vishny (1988). Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics, 20*(1,2), 293-315.

Murray, A. I. (1989). Top management group heterogeneity and firm performance. *Strategic Management Journal, 10*, 125-141.

Ritter, R. (1991). The long-run performance of initial public offerings. *Journal of Finance, 46,* 3-27.

Rosenstein, S., and J.G. Wyatt (1990). Outside directors, board independence, and shareholder wealth. *Journal of Financial Economics, 26*(2), 175-191.

Sorescu, B., and J. Spanjol (2008). Innovation's Effect on Firm Value and Risk: Insights from Consumer Packaged Goods. *Journal of Marketing, 72,* 114-132.

Switzer, L. N. (2007). Corporate governance, Sarbanes-Oxley, and small-cap firm performance. *Quarterly Review of Economics and Finance, 47*(5), 651.

Switzer, L. N., & Huang, Y. (2007). How does human capital affect the performance of small and mid-cap mutual funds? *Journal of Intellectual Capital, 8*(4), 666-681.

Teoh, S. H., Wong, T. J., Rao, and G. R. Rao (1998). Are accruals during initial public offerings opportunistic? *Review of Accounting Studies, 3*, 175-208.

Teoh, S. H., Welch, I., and T.J. Wong (1998). Earnings management and the long--run market performance of initial public offerings. *Journal of Finance, 53*(6), 1935-1974.

Wasserman, N. (2006) Stewards, agents, and the founder discount: executive compensation in new ventures. *Academy of Management Journal, 49*(1), 960-976.

Wiersema, M. F., and K.A. Bantel (1992). Top management team demography and corporate strategic change. *Academy of Management Journal, 35*(1), 91-107.

Table 1

Number of IPOs by year											
	1997	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Total**
Total	371	243	189	225	180	151	146	248	278	279	2310
Foreign Firms	13	15	8	11	9	6	3	3	11	9	88
Financials	111	83	83	100	110	81	89	154	160	151	1122
Price below $2	189	109	80	83	51	33	29	57	58	78	767
Income Fund	8	8	0	0	3	19	11	14	25	15	103
Limited Partnerships	3	4	2	0	1	2	3	1	1	2	19
Income Security Deposit	0	1	0	0	0	0	0	1	2	0	4
Carve-outs	2	4	1	5	2	1	0	1	2	4	22
Flow Through Shares	4	0	0	0	1	4	6	2	5	9	31
Prospectus not available	17	3	2	4	0	1	2	0	0	0	29
Incomplete data	3	1	0	0	0	1	0	0	1	0	6
Bloomberg/Compustat not available	11	5	0	3	1	0	1	1	1	1	24
Final sample	10	10	13	19	2	3	2	14	12	10	95

Table 2
Distribution of Sample by Industry

Industry	**Number of firms**
Mining	20
Construction	1
Manufacturing	36
Transportation	3
Communication	6
Retail Trade	1
Services	28
Total	**95**

Table 3
Sample Characteristics

The sample consists of 95 initial public offerings between 1997 and 2006. PRICE is the firm's offer price. XPRICE is the residuals from the regression of the offer price on firm's age, LNBVA and industry dummies, where LNBVA is the natural log of the book value of firm's assets. BVA is the book value of assets (in $million) and BVA2 is BVA squared. FAGE is the natural log of one plus firm age, where firm age is the number of years between the incorporation date or the start of operations (which ever is earlier) and the IPO issue. TENURE is the average number of years managers have been working for the issuing company. XTENURE is the residuals from the regression of TENURE on firm's age. TEHNET is the coefficient of variation of the team members' tenures. ODIR is the number of outside directors that are not executive officiers or employed by the company. LNODIR is the natural log of ODIR. TSIZE is the size of the management team which is defined as the number of managers with the rank of vice-president or higher. XTSIZE are residuals from a regression of TSIZE on LNBVA, BVA, BVA2 and industry dummies. PMBA is the percentage of the firm's management team with MBA degrees. PCA is the percentage of the firm's management team with chartered accountant title; CA, CMA or CGA. EXP is the average number of previous managerial employments in the same 2-digit SIC code industry of the team's managers. FOUND is the percentage of the firm's management team who are founders of the firm. FCEO is the ratio of CEO salary, bonus and other compensations excluding stocks and options in the fiscal year preceding IPO to the average salary, bonus and other compensations of the other management team members. OWN is the percentage ownership owned by all directors and officers of the IPO firm on a fully dilituted basis and excluding over allotment options. ROA is the ROA of the year after the first fiscal year after the IPO. Tobin's is the market value of common shares plus the liquidation value of preferred shares plus the book value of total debt, divided by the book value of total assets at the december 31th of the IPO year. LNQ is the natural log of Tobin's Q.

	Min	Mean	Median	Max	Std. dev.
Panel A: Summary statistics					
PRICE	2.00	9.42	8.25	37.31	5.70
XPRICE	-9.44	0.00	-0.61	22.30	4.35
BVA	2.88	179.53	82.13	3043.32	359.51
LNBVA	1.06	4.38	4.41	8.02	1.24
BVA2	8.32	160115.60	6745.17	9261772.28	966033.86
FAGE	0.52	2.15	2.07	3.98	0.80
TENURE	0.32	4.77	3.46	21.06	4.14
XTENURE	-6.00	0.00	-0.41	11.43	2.72
TENHET	0.00	0.68	0.64	1.67	0.36
ODIR	1.00	4.75	4.00	14.00	1.95
LNODIR	0.00	1.48	1.39	2.64	0.41
TSIZE	2.00	6.14	6.00	16.00	2.50
XTSIZE	-3.66	0.00	-0.05	5.39	1.89
PMBA	0.00	0.15	0.13	0.60	0.17
PCA	0.00	0.16	0.17	0.50	0.12
EXP	0.00	1.11	0.89	4.20	0.90
FOUND	0.00	0.15	0.13	0.67	0.16
FCEO	0.58	1.52	1.46	3.56	0.53
OWN	0.00	0.30	0.24	1.00	0.26
ROA	-261.94	-0.11	-1.81	47.89	33.39
Tobin's Q	0.20	2.80	1.89	17.66	2.65
LNQ	-1.63	0.74	0.64	2.87	0.74

Table 3continued:

Panel B: Correlation table

	XPRICE	FAGE	BVA	BVA2	LNBVA	LNODIR	XTENURE	TENHET	XTSIZE	EXP	FCEO	PMBA	PCA	FOUND	YEARROA
PANEL B: Correlations between independent variables															
XPRICE	1														
FAGE	-0.0567	1													
BVA	0.0792	0.1093	1												
BVA2	0.0366	0.1800***	0.9162*	1											
LNBVA	0.0000	0.0446	0.6738*	.4057*	1										
LNODIR	0.0598	-0.0771	0.3014*	0.1992**	0.2747*	1									
XTENURE	0.2155**	0.0386	-0.1881***	-0.1505	-0.1558	-0.1581	1								
TENHET	-0.1048	0.3698*	0.1228	0.1714***	0.0617	-0.0304	-0.2800	1							
XTSIZE	0.0482	0.1350	-0.0027	-0.0028	-0.0013	0.0040	-0.1955***	0.2095**	1						
EXP	-0.0321	-0.5273***	0.0277	-0.0600	0.1258	0.0610	-0.1574	-0.1559	-0.0115	1					
FCEO	-0.0947	0.3812*	0.2887*	0.25943*	0.2144**	0.2127**	-0.1638	0.2421**	0.2579**	-0.2664***	1				
PMBA	0.2869*	-0.1061	0.0508	-0.0379	0.0510	-0.1349	-0.1219	0.1129	0.0783	0.0546	-0.0249	1			
PCA	-0.0660	0.0239	0.0861	0.0251	0.1737***	0.05284	0.0400	0.0251	-0.1149	-0.0847	0.1287	0.0249	1		
FOUND	-0.0023	-0.2638	-0.1810***	-0.1308	-0.2083**	-0.2470**	0.3319*	-0.0667	-0.2264**	0.1443	-0.3062*	-0.0438	-0.0312	1	
YEARROA	-0.1375	-0.2751*	0.0216	-0.0101	0.2253**	0.0919	-0.2117**	-0.0064	0.0004	0.3321*	-0.0735	-0.1998***	0.1365	-0.1395	1

Table 4

Ordinary least squares regression of 1997-2006 period ROA and industry-adjusted ROA on management and firm's qualities and ordinary least square regression of 1997-2006 period industry-adjusted Tobin's Q on management and firm's qualities for Canadian IPO firms

	Dependent variable				
	ROA			Adjusted ROA	Adjusted Tobin's Q
PRICE	-4.111	-	-	-	-
	(6.75) *				
XPRICE	-	-3.6421	-3.9715	-3.9082	-
		(5.66) *	(5.94) *	(5.74)*	
FAGE	17.290	11.4069	15.2722	16.6233	-0.0218
	(4.79) *	(3.14)*	(3.37) *	(3.60)*	(1.91)***
BVA	0.058	-	0.0645	0.0492	-
	(1.62)		(1.73)***	(1.30)	
BVA2	0.00001	-	-0.00002	-0.00001	-
	(1.54)		(1.53)	(1.14)	
LNBVA	11.106	5.7137	-0.4379	0.4375	-0.2526
	(2.39) **	(2.40) **	(0.09)	(0.09)	(3.16)*
LNODIR	-11.136	-13.4623	-11.4034	-10.4015	-0.0734
	(1.67)***	(1.91)***	(1.64)	(1.47)	(0.38)
XTENURE	2.018	-	2.1283	2.1019	0.0224
	(1.86) ***		(1.84) ***	(1.79)***	(0.66)
TENHET	-16.409	-	-14.3290	-16.5955	0.0610
	(2.06) **		(1.70)***	(1.94)***	(0.24)
EXP	-7.2237	-	-4.9725	-4.0352	-0.0364
	(2.10) **		(1.39)	(1.11)	(0.35)
XTSIZE	2.677	-	3.2460	3.3061	-0.0007
	(1.86) ***		(2.18) **	(2.18)**	(0.02)
FCEO	-13.1702	-	-14.4091	-13.5295	-0.1439
	(2.36) **		(2.45) **	(2.26)**	(0.88)
PMBA	-21.0812	-	-31.7007	-32.8251	0.6543
	(1.26)		(1.86)***	(1.88)***	(1.51)
PCA	30.3468	-	39.5866	43.5637	0.2391
	(1.37)		(1.74)***	(1.88)***	(0.39)
FOUND	-3.5353	-	2.6531	9.5703	-0.5929
	(0.19)		(0.14)	(0.49)	(1.14)
YEAR	1.9593	0.7547	2.5449	2.6734	0.0024
	(1.88)***	(0.77)	(2.38)**	(2.45)**	(0.08)
R^2	0.5824	0.3963	0.5447	0.5399	0.3320
Industry dummies 1-digit SIC Codes	No	No	No	No	Yes
N	95				

[a] Numbers in parentheses are T values according to SAS regression results.

[b] *, **, *** indicate significance at the 1%, 5%, 10% levels, respectively.

[c] Adjusted ROA is defined as the firm's ROA minus the median ROA of its industry.

[d] Adjusted Tobin's Q is defined as the firm's Tobin's Q minus the median Tobin's Q of its industry

Table 5 provides Ordinary least squares estimates of the quality of the management and performance of the

ROA_1 = B1 + B2*Price + B3*FAGE + B4*BVA + B5*BVA2 + B6*LNBVA + B7*LNODIR + B8*XTENURE + B9*TENHET + B10*EXP+ B11*XTSIZE + B12*FCEO + B13*PMBA + B14*PCA + B15*FOUND + B12*YEAR + ε_1

ROA_2 = B1 + B2*XPrice + B3*FAGE + B4*LNBVA + B5*LNODIR + B6*YEAR + ε_2

ROA_3 = B1 + B2*XPrice + B3*FAGE + B4*BVA + B5*BVA2 + B6*LNBVA + B7*LNODIR + B8*XTENURE + B9*TENHET + B10*EXP+ B11*XTSIZE + B12*FCEO + B13*PMBA + B14*PCA + B15*FOUND + B12*YEAR + ε_3

ADROA = B1 + B2*XPrice + B3*FAGE + B4*BVA + B5*BVA2 + B6*LNBVA + B7*LNODIR + B8*XTENURE + B9*TENHET + B10*EXP+ B11*XTSIZE + B12*FCEO + B13*PMBA + B14*PCA + B15*FOUND + B12*YEAR + ε_4

ADTOBINQ = B1 + B2*FAGE + B3LNBVA + B4*LNODIR + B5*XTENURE + B6*TENHET + B7*EXP+ B8*XTSIZE + B9*FCEO + B10*PMBA + B11*PCA + B12*FOUND + B13*YEAR + ε_5

Table 5

Hausman tests for endogeneity of the management quality variables and operating performance

	Residual Coefficient	Std Error	T-Statistic	Significance
XPRICE	-0.0067	0.0330	(0.20)	0.8389
FAGE	-0.0063	0.0066	(0.96)	0.3394
LNODIR	-0.0010	0.0036	(0.28)	0.7834
XTENURE	-0.0099	0.0239	(0.42)	0.6787
TENHET	0.0029	0.0031	(0.92)	0.3625
EXP	0.0071	0.0074	(0.96)	0.3399
XTSIZE	-0.0011	0.0166	(0.07)	0.9469
FCEO	-0.0046	0.0047	(0.99)	0.3246
PMBA	-0.0007	0.0014	(0.47)	0.6371
PCA	0.0013	0.0010	(1.22)	0.2254
FOUND	0.0005	0.0014	(0.37)	0.7139

Table 6

Mean values of Tobin's Q for 95 Canadian IPO firms during the period 1997-2006 grouped by level of equity ownership of all officers and directors

Board's stake	Number of firms	Mean Tobin's Q	Standard error of mean Q
Negligible	4	1.814	0.874
0-5%	14	4.306	4.883
5-10%	6	3.238	2.351
10-15%	9	2.185	1.123
15-20%	10	2.352	1.663
20-25%	6	2.548	0.860
25-30%	4	1.654	0.542
30-35%	6	2.597	1.599
35-40%	7	2.015	1.492
40-50%	7	3.376	4.214
50-60%	8	2.130	1.430
60-70%	6	3.437	3.019
70-80%	4	4.050	2.205
80-100%	4	1.655	0.790

[a] negligible board stake : no more than 0.2% of the firm's common stock is owned by board members

Table 7

Piecewise linear ordinary least squares regressions of 1997-2006 period Tobin's Q on board ownership for Canadian IPO firms

	Dependent variable Tobin's Q	
Age	-0.0178	-0.0179
	(1.99) ***	(2.01) **
LNBVA	-0.2670	-0.2672
	(3.84) *	(3.93) *
BDR0to5	11.7349	11.7497
	(1.76) ***	(1.78) ***
BDR5to25	-2.9031	-2.9019
	(2.22) **	(2.24) **
BDRover25	0.4876	0.4872
	(1.08)	(1.09)
Year	0.0083	0.0072
	(0.13)	(0.15)
Sarbanes-Oxley dummy	- 0.0078	-
	(0.02)	
Industry dummies 1-digit SIC Codes	Yes	Yes
R^2	0.3386	0.3386
N	95	

[a] Numbers in parentheses are T values according to SAS regression results.

[b] BDR.0to5 = Board ownership if Board ownership < 0.05
= if 0.05 if Board ownership ≥ 0.05

BDR.5to25 = 0 if Board ownership < 0.05
= if Board ownership minus 0.05 if $0.05 \leq$ Board ownership < 0.25
= 0.20 if Board ownership ≥ 0.25

BDR.OVER25 = 0 if Board ownership < 0.25
= Board ownership minus 0.25 if Board ownership ≥ 0.25

[c] *, **, *** indicate significance at the 1%, 5%, 10% levels, respectively.

Table 6 provides ordinary least squares estimates of the board ownership and firm value equations of the following models.

TOBINQ = B1 + B2*AGE + B3*LNBVA + B4*BDR0to5 + B5*BDR5to25 + B6*BDRover25 + B7*YEAR + B8*SOXLEY + B9*INDUSTRY + ε_1

$TOBINQ_2$ = B1 + B2*AGE + B3*LNBVA + B4*BDR0to5 + B5*BDR5to25 + B6*BDRover25 + B7*YEAR + B8*INDUSTRY + ε_2