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Risk, Timing and Overoptimism in Private Placements and Public Offerings

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Résumé / *Abstract*

Nous tentons de vérifier laquelle des hypothèses de risque, de timing ou d'irrationalité peut expliquer la sous performance à long terme des émetteurs de placement privés et public au Canada, où ces deux types de financement ont en commun plusieurs caractéristiques. L'ajout d'un facteur d'investissement au modèle à trois facteurs réduit, mais n'élimine pas, cette sous performance. Quatre arguments, incluant ceux des contraintes financières et de la faible performance opérationnelle contredisent l'hypothèse du timing. Nos résultats tendent à confirmer l'hypothèse de l'irrationalité. Le marché évalue correctement les projets d'investissement des sociétés de valeur, mais sur estime ceux des titres de croissance. Pour les deux types de financement, la sous performance est expliquée par le sur optimisme des investisseurs au sujet des entreprises de croissance à fort niveau d'investissement.

Mots-clés: Placements privés, placements publics subséquents, performance à long terme, fenêtre d'opportunité, sur optimisme, risque

We examine whether risk, timing or mispricing hypotheses can explain the underperformance of private and public equity issuers, in Canada, where both categories share several common characteristics. Adding an investment risk factor to the TFPM reduces, but does not eliminate, the underperformance. Four arguments, including financial constraints and poor operating performance, do not support the timing hypothesis. Our results for their part support the mispricing hypothesis. The market correctly assesses the investment projects of value firms, but tends to overestimate those of glamour firms. For both types of issues, the underperformance is explained by investors' overoptimism relative to glamour/high-investment firms.

Keywords: *Private placements, seasoned equity offerings, long-run performance, timing, overoptimism, risk*

Codes JEL : G12, G14, G34

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According to Eckbo, Masulis and Norli (2007 EMN) "the stylized facts concerning the stock price dynamics around SEOs is a price run-up prior to the issue (..) and long-run returns that appear low compared to similar firms". A study of the private placements literature, conducted by Hertzel, Lemmon, Link and Rees (2002), reaches similar conclusions. The literature proposes either a risk or a behavioral hypothesis to solve these apparently puzzling results, but the EMN survey indicates that we do not have a fully satisfactory explanation for this phenomenon. The various behavioral explanations provided hinge either on information asymmetry between managers and investors; on the ability of managers to time the market in order to exploit windows of opportunity; or on a given level of investor irrationality. While these characteristics should be different for private and public equity issues, a simultaneous analysis of both categories of issues should be seriously contemplated in order to confront the implications of different hypotheses. The general thrust of this paper is to test the implications of the different hypotheses proposed by the literature in a context where information asymmetry, timing ability, and rationality are likely to strongly differ. Such an approach has previously been adopted by Cornett, Mehran and Tehranian (1998), who contrast voluntary issuances of common stocks by banks and involuntary issuances to satisfy capital requirements.

The characteristics of the Canadian securities markets present a unique opportunity to analyze both private and public seasoned equity issues. Issuers of private and public equity present similar characteristics in terms of profitability, size and sector. This is clearly not the case in the U.S., where public and private seasoned equity issuers differ in several respects. Public equity offerings are issued mainly by mature and financially sound firms, while private equity placements are generally issued by small technological firms, which are often in the development stage (Chaplinsky and Haushalter (2006)). According to Brophy, Ouimet and Sialm (2006), these are frequently structured to incorporate downside protection and subscribed by hedge funds. In Canada, both private placements (PPs)[1] and public seasoned equity offerings (SEOs) consist in common shares, or in units, without significant resale restriction, and do not involve hedge funds.

The comparison of PPs and SEOs is of particular interest because the hypotheses advanced to explain their long-run underperformance are generally specific to each type of issue. These different hypotheses can only be reconciled under the assumptions that private and public investors formulate their anticipations on different grounds, as stipulated by Marciukaityte, Szewczyk and Varma (2005), and that private placements and public offerings are totally different

events conducted by distinct entities. As an example, under the overreaction scenario, investors overweight the recent good performance of SEOs, while in PPs, they do not put sufficient weight on the recent, and generally poor operating performance of issuers, and, as underscored by Hertzel, Lemmon, Link and Rees (2002), essentially overweight growth opportunities.

In this paper, our global objective is to analyze the pre- and post-issue stock price and operating performances of two comparable samples of PPs and SEOs using the same methodologies. We then confront our results against the different hypotheses relative to long-run stock price and operating performances. Our contribution to the debate on the long-run performance of private and public issuers is fourfold.

First, we provide a direct comparison between the performances posted by private and public equity issuers over the 1992-2005 period.[2] We scrutinize the pre- and post-issue stock price and operating performance of Canadian private and public equity issuers, using similar methodologies in both cases. We determine that both groups post a positive and significant abnormal return one year before the issue, and a negative and significant abnormal performance three years after the issue. The price run-up one year before the issue is significantly higher for PPs than for SEOs: the calendar-time annualized alphas from regressions with Fama and French risk factors purged, as in Loughran and Ritter (2000), are +20.04% and +9.60%, respectively. By contrast, the long-run post-issue performance is very similar and significantly negative for both types of issues – -29.88% and -26.38% respectively, three years after the announcement. For both categories of issuers, we find negative operating performances before the issue, and a significant decrease thereafter. However, the pre-issue poor performance is generally better than those of comparable non-issuer firms.

Secondly, we estimate the investment risk factor, recently proposed by Lyandres, Sun and Zhang (2005 LSZ), and provide an out-of-sample evidence of the impact of the investment risk factor on the long-run stock price performance. Our findings partially support the results of LSZ. The investment risk factor premium is positive (0.33% per month): it accounts for almost 30% of the underperformance of PP issuers, but does not explain the underperformance of SEOs. The underperformance is still significant when controlling for the investment factor, and is robust to different methods. We then conclude that the risk-adjustment hypothesis does not provide a satisfactory explanation for the long-run underperformance of PPs and SEOs.

Third, we reject the timing hypothesis, which holds that managers are able to time the market

and benefit from windows of opportunity. Consistently with U.S. studies, we observe a pre-run-up and a post-underperformance for both PPs and SEOs. However, each of the four propositions following from the timing hypothesis can be rejected: 1) the managers are financially constrained and have no timing capacity; 2) the pre-announcement operating performance is poor, and cannot justify investors' optimism; 3) the bulk of the pre-issue outperformance of private and public issuers occurs during the [-3, 0] month window, at a time when the issuing decision is very likely to be have already been taken, and 4) private and public issuers exhibit similar returns patterns, in spite of the proposed differences between the asymmetry of information levels between both groups.

Finally, we examine whether the underperformance of PPs and SEOs differs along firm characteristics. For both groups, only glamour firms underperform, while value firms do not. This result is robust to two measures used to discriminate between glamour and value firms. Further, when we distinguish between low investment and high investment within each group of glamour and value firms, we show that for both categories of issuers, the underperformance is concentrated in the high-investment/glamour firms' portfolios. High-investment/value firms do not perform worse than low-investment/value firms or low-investment/glamour firms. This result gives credence to an overreaction or mispricing hypothesis, which is confirmed by a decrease in post-issue operating performance.

The paper proceeds as follows: Section I presents the literature and the three hypotheses we explore. Section II discusses data sources and stylized facts relative to PPs and SEOs in Canada. Section III is devoted to the research methodology we retain to estimate the stock price abnormal performance. Section IV presents results relative to the risk-adjustment hypothesis, that is, the post-announcement abnormal performance of calendar-time portfolios of private and public equity issuers, using the Fama and French risk factors augmented by the LSZ investment factor. Section V presents results relative to the timing or windows of opportunity hypothesis: we examine the pre-announcement stock price and operating abnormal performance of issuers. Section VI presents results relative to the over-optimism hypothesis: we scrutinize the post-announcement operating performance, and cross-sectional patterns of long-run stock price performance. Section VII concludes.

I. Background Information and Hypothesis Development

Three main streams of explanations are offered for the long-run stock price underperformance of equity issues. The first is risk-based: once one controls appropriately for the risk associated with equity issuers, their post-announcement long-run underperformance almost vanishes. The second stream of explanation is based on the ability of managers to time equity issues: informed managers take advantage of windows of opportunity and issue equity when operating performance is good and the stock price has experienced a run-up. The third stream of explanation is more behavior-oriented: investors tend to be unduly overoptimistic around new issues. We summarize each of these hypotheses and derive testable propositions[3].

A. The Risk-Adjustment Hypothesis

Tests of long-run abnormal returns inevitably constitute joint tests of stock market efficiency and a model assumed to generate expected returns (Fama, (1998)). If the model only partially explains the expected returns, then any measure of abnormal return will combine the abnormal return due to the event with the unexplained part of the return due to the misspecification of the model. A large proportion of the literature addresses methodological concerns with tests of long-run abnormal returns. Brav, Geczy and Gompers (2000) and Barber and Lyon (1996) argue that the choice of a performance measurement methodology directly determines both the size and the power of statistical tests.

We lay great emphasis on our research methodology in order to be able to correctly assess the long-run performance of equity issuers. In a first step, we focus on alpha coefficients from the calendar-time portfolios of issuers, based on the Fama and French (1993) three-factor pricing model (TFPM). However, as EMN warn, matching based on size and book-to-market ratio alone may be insufficient as a control for the lower risk posed by the issuer's investment activity. Carlson, Fisher and Giammarino (2006) propose a model based on a real option approach. They explain that SEOs are associated with real investment, optimally timed to occur after growth options "move into the money" and stock prices increase. Apparently, long-run underperformance occurs because exercising (or deleveraging) a growth option causes an immediate reduction in asset risk. In the same vein, LSZ show that equity issuers invest much more than matching non-issuers of comparable size and book-to-market levels, and that capital investment is negatively related to future average returns. These two elements explain why long-run underperformance

following SEOs ceases to be statistically significant following the addition of a return factor based on investment in the TFPM. Then, in a second step, we add such an investment risk factor in the model. The testable proposition which derives from the risk adjustment hypothesis is that when the risk-investment factor is correctly accounted for together with the other risk factors in a well-specified model, the long-run abnormal return following PP and SEO announcements disappears.

B. Timing or Window of Opportunity Hypothesis

Loughran and Ritter (1995) and Spiess and Affleck-Graves (1995), among others, suggest that managers can take advantage of the informational asymmetry that exists between investors and themselves to issue overvalued equity. According to this "timing or windows of opportunity" hypothesis, managers can forgo profitable projects until market conditions become favorable. The CFO survey conducted by Graham and Harvey (2001) indicates that recent stock price appreciation and the perceived overvaluation of stocks are two of the main determinants of equity issuance decisions. EMN offer an extensive survey of the various formulations of this hypothesis. Generally, researchers conclude that the timing hypothesis is justified if they observe negative operating performances and negative adjusted returns subsequent to the issue (see Clarke, Dunbar and Kahle (2004), among others). In this paper, we focus on the four implications of this hypothesis.

First, the timing hypothesis relies on the implicit assumption that managers have enough financial slack to finance their projects, or are able to delay such projects without opportunity loss. Then, as mentioned by EMN, researchers should be concerned whether firms are financially constrained. If a long-run underperformance is observed for financially constrained firms, the timing hypothesis is probably not a valid explanation then. In this vein, Cornett, Mehran and Tehranian (1998) compare voluntary against involuntary equity issuances by banks, and observe a significant drop in performance only for voluntary equity offerings; this result is fully in line with the timing hypothesis.

Secondly, the timing hypothesis rests on the assumption that investors are overly optimistic about the prospects of issuing firms. Consequently, prices do not fully incorporate managerial incentives to time equity issues. Behavioral theories have been advanced to explain investors' overoptimism at the time of the issue announcement, and their underreaction to the information conveyed by the announcement. Researchers assert that investors overweight recent (positive) experience. Loughran and Ritter (1997), among others, show that operating performance peaks at

the time of the equity issue, and suggest that the post-announcement stock-price decline reflects an over-extrapolation by investors of the pre-issue trend in operating performance. Daniel, Hirshleifer and Subrahmanyam (1998) formalize the underreaction hypothesis (investors are overconfident and have self-attribution biases).The authors show that the valuation effects of new public events are not fully incorporated at the time of the announcement, because investors are overconfident, and continue to anticipate past upward trends in stock prices. Consequently, a second implication of the timing hypothesis is that the operational performance of seasoned equity issuers is strong enough before the issue to ground overoptimistic anticipations.

The timing hypothesis has a third implication that received little attention from researchers: if managers are able to time the market and issue stocks when they believe their stock price to be relatively high, we should observe a price run-up before the issue decision, which occurs several months before the announcement date. All issues require a preparation time frame. Hall (2004) estimates a three-month delay for closing a private placement, and this time frame does not include the decision and preparation steps of the issue. For public issues, the pre-issue time frame should be longer. Lang and Lundholm (2000) show that public equity issuers significantly increase their disclosure in the six months preceding an offering. This provides evidence that the decision was made several months before the filing date. The entire SEO process is therefore likely to take over four to seven months to complete[4]. We estimate the average processing time for the receipt of an application for a prospectus, from a sampling of 795 prospectuses of corporations provided by the Securities Exchange Commission in Quebec. The average review time is around thirty working days for a long form prospectus. The review process is initiated after the company has completed the preparation of a prospectus, which is a process that can take anywhere from three to six months, as noted by Derrien and Kecskes (2007). Accordingly, the third implication of the timing hypothesis is that a significant increase in prices should be observed before the date of the decision to initiate the issue process, which is, based on previous evidence, estimated to be four to six months before the announcement date.

Lastly, following the timing hypothesis, we should observe significant post-announcement differences between PPs and SEOs. As mentioned by Meidan (2006), since investors in a particular PP have ample opportunity to meet with company management and to perform due diligence, it is reasonable to assume that investors participating in the offer are better informed than investors not participating in the offer. The asymmetry of information is likely to be lower in

private than in public offerings, and the timing argument can hardly be invoked in this context.

The timing hypothesis comprises four testable implications which we examine in the section of our paper devoted to this explanation for the long-run underperformance of PP and SEO issuers: first, equity issuers are not financially constrained; secondly, the good operating performance of equity issuers is sufficient to justify investors' overoptimism; third, the likely issue decision date follows a significant increase in stock prices; and fourth, PP and SEO issuers differ in their long-run underperformance.

C. The Overoptimism Hypothesis

A growing number of researchers acknowledge that the return pattern surrounding equity issues cannot be explained in a context of rational pricing. As an example, Purnanandam and Swaminathan (2006) wrote that both risk and mispricing theories are needed in order to fully understand the evolution of SEO fundamentals and stock prices over time. For Chaplinsky and Haushalter (2006), the long-run underperformance of PP issuers is consistent with the explanations that have been attributed to overoptimistic investors.

Managers are generally unduly optimistic. This is put forward by Hayward, Shepherd and Griffin (2006) as an explanation for why so many ventures are created in the shadow of high venture failure rates. Heaton (2002) formalizes a model of overoptimism in corporate finance, while Roll (1986), Aktas, de Bodt and Roll (2005) and Dong, Hirshleifer, Richardson and Teoh (2006) attribute M&A to managerial overoptimism. Malmendier and Tate (2005) associate overoptimism with investment decisions.

While overoptimism has been well documented among entrepreneurs, Zacharakis and Shepherd (2001) show that overconfidence also prevails among sophisticated and trained investors. This overconfidence can be particularly prevalent in an investment/issuing context. Barberis and Huang (2004) attribute the long-run underperformance of initial public offerings to the irrationality of agents facing asymmetrical distributions of returns. According to the cumulative prospect theory (CPT) developed by Tversky and Kahneman (1992), agents overweight the extreme tails of the distribution of potential incomes. Using initial public offering returns from Ritter, Barberis and Huang (2004) demonstrate that the skewness in this distribution of returns implies that investors with CPT would require an average return on initial public offerings that is several percentage points below the market return. Moreover, Dittmar and Thakor (2007) propose that managers use equity to finance projects when they believe that investors' views about the project payoffs are

most likely to be aligned with theirs, thus maximizing the likelihood of agreement with investors. If managers are overoptimistic, and if they issue equity when investors share their optimistic forecasts, then mispricing is likely to occur. Purnanandam and Swaminathan (2006), and Marciukaityte, Szewczyk and Varma (2005), among others, invoke mispricing to explain the long-run underperformance of PPs and SEOs, respectively. It should be noted that the mispricing hypothesis does not rely solely on the premise that all investors are irrational when facing an equity issue. As mentioned by Ljungqvist, Nanda and Singh (2006), if some investors may, on occasion, be "irrationally exuberant" about the prospects of an issue, this is consistent with the presence of long-run underperformance, assuming constraints on short sales.

Several previous studies of SEOs have concluded that underperformance is restricted to a sub-sample of issuers. Chou, Gombola and Liu (2005) indicate that over-optimism relative to the prospects of issuing firms prevails only for high growth firms. Eckbo, Masulis and Norli (2000) observe (p. 253) that the SEO issuer underperformance (generated from a matched-firm technique) is by and large driven by relatively small-sized stocks – NASDAQ issuers. Brav and Gompers (1997) argue that the underperformance is not an initial public offering effect, but rather, a characteristic of small, low book-to-market firms. Gombola and Lee (1999) examine the trading by insiders prior to SEO announcements. They document that abnormal net selling is significantly greater for growth firms than for mature firms. They also show that growth firms experience poorer post-issue long-term price performance, which suggests that such firms are subject to greater overpricing. Gombola and Lee (1999) and Chou, Gombola and Liu (2005) conclude that overall, investors may be overly optimistic about the future prospects of growth firms. This proposition is supported by the observations that, in the U.S., investors tend to be overoptimistic relative to the operating performance of future issuers. According to Hertzel, Lemmon, Link and Rees (2002), PP issuers fail to improve their operating performance after the issue, and Loughran and Ritter (1997) document a similar pattern for SEOs. McLaughlin, Safieddine and Vasudevan (1996) observe a sharp, statistically significant decrease in profitability following SEOs, which is a situation also evidenced by Clarke, Dunbar and Kahle (2004).

The mispricing hypothesis differs from the timing hypothesis along several dimensions. In the timing hypothesis, investors fail to adjust stock prices at the announcement date based on strong operating performance. Mispricing for its part is based on expectations, and does not rely on fundamentals. Secondly, mispricing cannot be a generalized phenomenon, unless we agree that the

market is totally inefficient. Mispricing is likely to occur when valuation is a real challenge: this is the case for young, growth-oriented and investment-intensive firms. As mentioned by Marciukaityte and Szewczyk (2001), if abnormal post-issue performance is due to systematic investor mistakes, we should expect such mistakes to be more prevalent when there is greater uncertainty.

The following are the testable implications of the overoptimism explanation for the returns patterns around equity issues: first, the operating performances following the issues should be deceptive; secondly, we should observe that the long-run underperformance is stronger for the sub-sample of issuers with stronger valuation challenges: smaller growth firms with more intangible assets; and third, we should observe stronger underperformance for investment-intensive firms, because valuation errors are more likely to be associated with expansion projects than with the refinancing of current activities.

In the following sections, we examine the data and the research methodology used to assess the long-run stock price performance of equity issuers; we then analyze the results associated with the propositions derived from the three aforementioned hypotheses.

II. Data and Characteristics of Canadian Private Placements and Public Offerings

A. Data Sources, Population and Sample

Through the Financial Post database, we identify 4,592 PPs and 2,862 SEOs of primary shares, issued by 2,117 and 1,625 different TSX- and TSXV-listed companies,5 respectively, that are neither funds nor trusts. Our data span the 1993-2003 period. Panel A of Table I summarizes the population, while Panel B presents the final sample. Canadian companies use PPs more frequently than they do public ones, except for the 1999-2001 period, which is generally associated with the technological bubble. The total proceeds obtained via PPs come up to $35.7 billion[6], representing 21.66 percent of total offerings.

We observe that on several occasions, the Financial Post database reports several references for a given placement; for example, when a company sells two categories of stocks simultaneously or when it sells stocks simultaneously in several countries. We carefully analyze each of the issues reported by the Financial Post within a 90-day time span, and particularly those separated by one or two days. We consider each of the following placements, reported as distinct in the database, as single issues: two sets of securities, issued within 5 transactions days, with one of them being a

flow-through; two sets of different units placed within a few days; an SEO sold simultaneously in several countries; and securities placed under the same conditions and at the same price with several investors, within five transactions days. This operation reduces the sample by 396 issues.

To obtain the accounting and stock price measures of equity issuers, we match our sample of issues with the DataStream (market data) and Thomson's Cancorp financial databases (accounting data), using CUSIP and names. We analyze each case of missing data to track the various changes in name, ticker or exchange that might explain the non-availability of data around the issue date. This research was extended to include the case where market data became unavailable several months following an issue. The reasons for the delisting were determined using stock exchange and securities exchange commission bulletins, SEDAR (the Canadian equivalent of the U.S. EDGAR), and several news services. The last reported returns have been adjusted based on the delisting reasons and data, by using 0 as the terminal price when the company delisted due to financial problems, and the acquisition price, in the case of continuation after a merger or an acquisition[7]. For a company to be included in the analysis, we required that it be able to provide market data for the 3 months before and after the placement date.

Panel B of Table I indicates the size and characteristics of the final sample. We lost 28.33% of the PP and 27.36% of the SEO population, mainly because several placements were made by small and very young companies not having sufficient market data. Missing data effectively increase the median size of SEOs, from 8.9 to 10 million dollars, but do not influence the median gross proceeds of PPs.

Insert Table I about here

B. Characteristics of Issues

Table II presents the main characteristics of PPs and SEOs according to several significant dimensions. In Panel A, we observe that the median private placement of equity is $3 million, while the median public offering is $10 million. The value of the median total assets of private issuers ($15 million) is approximately one-third that of public equity issuers' total assets, and the same observation holds for shareholders' equity.[8] The ratio between the two types of issuers is 3 (10 in the U.S. according Krishnamurthy, Spindt, Subramaniam and Woidtke (2005)). Both types of issues represent 27% of the pre-money market equity value. This figure is significantly higher than in the U.S., where the proceeds-to-size of the issue is about 10% for private placements, and

15% for public offerings (Gomes and Phillips (2005)). Private and public equity issues are thus very significant for Canadian issuers. Finally, our calculations show that the debt ratio (total debt-to-assets) is slightly lower for private issuers. This probably reflects the higher proportion of resource companies existing among private issuers.

The median book-to-market ratios (before the issue) are 0.22 and 0.29 for private and public issues, respectively. This difference is statistically significant, but the book-to-market reported for SEOs is much lower than the corresponding value in the U.S. (0.46, Loughran and Ritter (1997)). This implies that private and public issuers are closer, in terms of growth opportunities, in Canada than they are in the U.S. In Panel B, we split both samples of issues according to the classic indicators used to explain the performance of new issues: hot and cold periods[9] and the prestige level of investment bankers (IB)[10] and auditors[11]. As expected, PPs are rarely subscribed by prestigious IBs (8.84% of issues), but these issues represent 22.98% of total gross proceeds: the prestigious IBs are involved in the larger PPs. We can draw the same conclusion for public issues: the prestigious IBs subscribe 37.28% of the issues and 86.49% of the proceeds. A significant proportion of PPs (38.35%) are sold directly, which is never the case for public offerings. The public and private issues also differ with respect to the auditor choice. The proportion of issues with a prestigious auditor is 45.37% (55.60%) for private (public) placements. Both categories of issues differ along the dimensions generally associated with the certification and signal effects. The association between the IB prestige and the long-run performance of IPOs is demonstrated by Carter et al. (1998), but the results of the sole study (to our knowledge) of this relation in the SEO context are inconclusive (McLaughlin, Safieddfrie and Vasudevan (2000)).

In Panel C, we provide the distribution of issues and proceeds by industrial sector. 68.07% of the PPs (60.29% of the total gross proceeds) are issued by natural resource (notably, mining) companies. The technology sector represents 17.32% of the issues and 18.09% of the proceeds. The corresponding numbers are 53.01% of total issues and 33.73% of proceeds in the natural resources sector for SEOs, and 28.33% and 29.29% respectively, in the technology sector. Conventional sectors represent less than 22% (37%) of the proceeds of PPs (SEOs). The picture here is very different from that in the U.S., where researchers generally associate PPs with the technology sector. Contrary to their U.S. counterparts, Canadian private issuers are strongly concentrated in the primary sector, and are less high tech-oriented than their public counterparts. The differences existing between the industrial structures in both countries partly explain this

difference. Boritz (2006 p.15) reports that the TSX and TSXV host 60% of the world's listed mining companies and almost half of the world's public oil & gas companies. Sample characteristics are thus in line with the specificities of the Canadian market.

Finally, we analyze the use of proceeds for both categories of placements, in Panel D12. In Canada, the proportion of the proceeds devoted to new investment projects is close to 30% for both private and public issuers. The bulk of the funds in this case are for "corporate" use, which is the common term for the following references: working capital, general corporate, financing and marketing. Less than a third of the proceeds of issues are devoted to conventional investment projects. More than one in two PPs are devoted to finance exploration projects, and up to 39.17% of proceeds are used for exploration purposes. This is consistent with the large proportion of resource firms existing among private issuers. The corresponding proportions are 33.24% and 9.70% respectively, for public issuers.

Insert Table II about here

III. Research Methodology Used to Estimate Abnormal Performance

We favor calendar-time over event-time approaches for analyzing the performances of issuing firms during the pre-issue and post-issue periods. Event-time approaches (CARs, BHARs) indeed suffer from various problems associated with both the measurement of abnormal returns and the specification of tests for non-zero abnormal returns – see Kothari and Warner (2006) for an in-depth discussion. They suffer specifically from a cross-sectional dependence problem inherent in events that occur in waves and within a wave, or that cluster by industry (Andrade, Mitchell, and Stafford, 2001). This is the case with our samples of Canadian private and public issuers that are characterized by periods of hot and cold issue markets and by industry clustering.

Since the OLS procedure has a low ability to detect abnormal performance as it averages over months of low and heavy event activity, we use a WLS procedure instead. The weights are proportional to the square root of the number of firms present on each calendar month t (Boehme and Sorescu, 2002; Bayless and Jay, 2003), such that months with more issues are weighted more heavily. The WLS procedure also deals with potential heteroskedastic residuals induced by calendar clustering (see private and public equity issue waves in Table 1). We focus on alpha from factor regressions obtained with value-weighted portfolios and WLS estimations. We examine the performance of private and public equity issuer portfolios using two benchmarks: the Fama and

French TFPM and the TFPM augmented with the LSZ investment factor.

A. Construction of The Fama-French Risk Factors

We estimate abnormal returns through the alphas obtained from the TFPM. We estimate the following regression for both groups of issuers, and for each period analyzed (preceding year, one-, two- and three-year periods):

$$R_{p,t} - R_{f,t} = \alpha_p + \beta_p(R_{m,t} - R_{f,t}) + s_p SMB_t + h_p HML_t + e_{p,t} \quad (1)$$

The dependent variable of the regression is the monthly excess return of the portfolios ($R_{p,t}$ - $R_{f,t}$), which corresponds for a given month, t, to the returns of the portfolio of private and public issuers ($R_{p,t}$) less the risk-free rate (the monthly rate of 91-day Canadian Government Treasury bills, $R_{f,t}$).

The independent variables are the excess market return and two zero-investment portfolios which we construct to mimic the risk factors common to all securities. We constructed the SMB and HML in keeping with Fama and French (1993). βp, sp, hp represent the loadings of the portfolio on each risk factor: the market, SMB (size) and HML (book-to-market ratio). The parameter (α) in equation (1) indicates the monthly average abnormal return of our private and public issuer samples. Market as well as all risk factors and portfolio returns are value-weighted and capped[13]. Finally, to examine whether there is a difference in performance and in risk exposure between private and public issuers, we construct the following zero-investment portfolio: we take a long position into the public issuer portfolio and a short position into the private issuer portfolio. We then regress the returns of the long/short portfolio (public-private issuers) on the Fama-French TFPM.

Following Loughran and Ritter (2000), we also scrutinize the performance of private and public issuer portfolios using purged risk factors. We estimate purged factors (pSMB, pHML) in order to improve the power of long-run performance tests. We eliminate returns from issuing firms over the 36-month post-issue period in order to reduce benchmark contamination.[14] The monthly premiums on the pSMB and pHML purged factors are very similar to those on the SMB and HML factors.

B. Construction of the Investment Factor

Lyandres, Sun and Zhang (2005 LSZ) show that the TFPM augmented by a risk factor based on investment accounts for more than 40% of the underperformance of SEOs. In this section, we examine whether the calendar-time results obtained for Canadian issuers with the TFPM differ

when we add an investment risk factor, as in LSZ. The investment factor is the zero-cost portfolio long stocks with the lowest 30% investment-to-asset ratios and short stocks with the highest 30% investment-to-asset ratios, controlling for size and book-to-market. We use the LSZ measure for the investment-to-asset ratio. However, due to data unavailability, we could not estimate this ratio, *Invt*, for a large proportion of our observations. We thus compute a second measure of the investment-to-asset ratio, *Invt**, available for most observations[15], and taking into account intangibles. We compute *Invt** as follows, $[(\text{Total assets} - \text{Current assets})_t - (\text{Total assets} - \text{Current assets})_{t-1} + \text{Depreciation}_t + \text{Writeups/Writedowns}_t] / \text{Total assets}_{t-1}$.

We proceed as LSZ to construct the investment factor, which we do from three independent sorts on size, book-to-market, and investment. Within each sort, we partition firms into three groups: the top 30%, the medium 40%, and the bottom 30%. Combining the resulting nine portfolios, we form 27 value-weighted portfolios. The investment factors, denoted by INV and INV*, are defined as the equally-weighted low-investment portfolios minus the equally-weighted high-investment portfolios.

We report, in Table III, the average returns of the risk premiums. For the 1992-2005 period, the average monthly market, SMB and HML premiums are 0.65%, 0.55% and 0.76%, respectively.[16] The average returns on the investment factors, INV and INV*, over the period going from January 1992 to December 2005, are 0.33% and 0.43% per month (3.96% and 5.16% per annum), respectively, but are not statistically significant with heteroscedasticity-consistent t-statistics of 1.25 and 1.82, respectively. These average returns are however very similar to those obtained by LSZ over the period going from January 1970 to December 2005: 0.37% per month, or 4.40% per annum[17]. This out-of-sample Canadian evidence suggests, as in LSZ, that the investment factor captures sources of cross-sectional variation of stock returns that are largely independent of those captured by standard factor models. Consistently with LSZ, we also purged the investment factor from issuing firms. In line with them, the investment factor is not significantly affected, and only goes from 0.33% to 0.30% per month (Panel B of Table 3).

Insert Table III about here

IV. Tests of the Risk-Adjustment Hypothesis

First, we examine the aftermarket performance of private and public issuers, using the Fama and French TFPM. Secondly, we scrutinize the sensitivity of our results to the inclusion of the

LSZ investment risk factor. Third, we examine the robustness of our results when we use OLS estimation, equally-weighted schemes or a sample of non-overlapping events. Finally, we discuss our results relative to the risk-adjustment hypothesis.

A. Calendar-Time Results with The Fama-French Three-Factor Model

Table IV reports the abnormal performances of the portfolios of private (Panel A) and public issuers (Panel B), using the raw Fama and French TFPM factors and purged risk factors. Panel C reports the results on the differences in performance and in risk exposure between PP and SEO issuers. The factor loadings of the private and public issuer portfolios are only reported for calendar-time regressions using purged risk factors[18].

Consistently with U.S. results, the magnitude of the underperformance is more significant when measured with purged factors than with raw risk factors. Panels A and B of Table 4 show that the monthly underperformance of private and public issuers over the three-year period following the issue is -0.75% and -0.67% respectively, with Fama and French risk factors, and -0.83% and -0.76% respectively, with purged risk factors. The rest of the discussion focuses on calendar-time results using purged risk factors. The aftermarket performance of private issuers over a three-year horizon is significantly negative, at -29.88%, while in the case of public issuers, over the same horizon, it is also significantly negative, but to a lesser extent, at -26.28%. The aftermarket performance of private (public) issuers tends to be worse three years after the issue, than it is one or two years after the issue. For private issuers, the one-year post-issue abnormal performance is -0.68% per month versus -0.63% per month for the two-year performance, and -0.83% per month for the three-year performance. For public issuers, the one-year post-issue abnormal performance is -0.54% per month versus -0.47% per month for the two-year performance, and -0.73% for the three-year performance. Our results are consistent with the three-year aftermarket performance observed for U.S. private equity placements in private equity (Hertzel, Lemmon, Link and Rees (2002), Marciukaite (2005) and Brophy, Ouimet and Sialm (2006)), and with the results of a large set of studies of public SEO issuers' aftermarket performance summarized by EMN. Panel C of Table 4 shows that the difference in post-issue performance between Canadian public and private issuing firms is not significant.

The evidence in Table IV is consistent with the observation by Eckbo, Masulis and Norli (2000) that the systematic risk of SEO firms falls following the issue. The beta for the year preceding the issue is 1.35, (Table IX), while it is slightly lower over the three-year period

following the issue, at 1.20. We do not observe a similar pattern for PP issuers. Rather, we observe a decline in SMB loadings for SEO issuers. While the SMB loadings are 0.31 during the year prior to the issue (Table IX), they keep going down over the next three years, to 0.25, 0.19, and 0.15. This finding is consistent with Brav, Geczy and Gompers (2000), who argue that a poor issue period performance cannot be attributed solely to a size effect. By contrast, SMB loadings for the private issuers are quite steady, at around 0.50. The HML loadings for private and public issuers are more stable. These findings are consistent with significant variations in the covariances of issuing firm portfolio returns with the risk factor returns over the pre-issue and post-issue periods. The magnitude of the changes suggests that the changes in covariances are more significant for public than for private issuers.

Insert Table IV about here

B. Calendar-Time Results With The Fama-French Three-Factor Model Augmented by an Investment Factor

In Table V, we p**r**esent the results of the regressions of the private and public issuer portfolio returns on the TFPM augmented by the LSZ investment factor. Contrary to LSZ, adding the investment factor does not significantly reduce the magnitude of the SEO underperformance – the reduction is only 4.11% for the 3-year post-performance. However, adding the investment factor significantly reduces the magnitude of the private issuer underperformance, and the reduction is 24.10% for the 3-year post-performance. The three-year underperformance of the public issuer portfolio is still significant at -25.20% (-0.70% per month), while that of the private issuer portfolio is only significant at the 10% level: it is -22.68% over three years (-0.63% per month)[19].

Table V also shows that, for the public issuer portfolio, the loadings on the investment factor are only negative over the two- and three-year periods following the issue. However, these coefficients are not statistically significant, while they are significant in LSZ. By contrast, the coefficients are all negative for the private issuer portfolio. The coefficient relative to the two- and three-year periods following the issue is statistically significant. For the three-year post-performance, the loading of the private issuer portfolio is -0.30. Given the average return of 0.39% per month for the purged investment factor, this loading can explain 1.17% per annum of the private issuer underperformance. Public issuer results are not in line with LSZ's results, while the private issuer results are in line with the conclusion obtained for public issuers by these authors

Insert Table V about here

C. Robustness of Results

In this section, we investigate the sensitivity of our results when we use an OLS specification, equally-weighted schemes, and non-overlapped events.

C.1. WLS vs. OLS

Our analysis of the long-run abnormal returns of Canadian private and public equity issuers focuses on alpha coefficients estimated through WLS. Panel A of Table VI investigates whether our results are sensitive to this estimation method, and presents results obtained through OLS. Alpha coefficients are very similar in absolute value. The abnormal performance after the issue is -0.62% per month versus -0.63% for PPs; there is no change in the case of SEOs, in which case the performance remains at -0.70%. While the underperformance is significant at the 5% level for SEOs, it is only significant at the 10% level for PPs.

C.2. Value-Weighted vs. Equally-Weighted Returns

Using an equally-weighted scheme, the underperformance observed over the three-year period following the issue of private and public offerings is -29.16% and -25.20%, respectively. These results are in line with the U.S. literature, which reports higher magnitude alpha coefficients when equally-weighted schemes are analyzed rather than value-weighted ones.

C.3. Overlapping Events

Kothari and Warner (2006), among others, document that overlapping events induce cross-sectional dependence that leads to biased test statistics in random samples. To address this problem we proceed as do Loughran and Vijh (1997). If an issue occurs within the three years of a previously included offering by the same firm, we remove the latter observation from our samples[20]. Panel C of Table VI reports that the correction for overlapping events reduces the post-issue underperformance from -0.63 to -0.48% per month for PPs, and from -0.70 to -0.49% for SEOs; for the private issuers, the underperformance is only significant at the 10% level, while for the public issuers, the aftermarket underperformance is still significant at the 5% level, with -17.34% over three years.

Insert Table VI about here

D. Discussion

To examine the risk-adjustment hypothesis, we estimate CTARs, purged risk factors, value-weighted schemes and WLS estimations. Our results partially corroborate the risk-adjustment hypothesis. First, risk factors from the Fama and French TFPM explain a significant percentage of raw returns from private and public issuers – they tend to have betas significantly higher than one, and are small and growth-oriented firms. However, we document the persistence of a significant underperformance for both private and public issuers, even after controlling for these three risk factors. Abnormal returns are economically significant: relative to non-issuers, private and public issuers incur an abnormal return of about -30% and -26% respectively over the three following years.

Secondly, like LSZ, we observe a positive investment premium. The inclusion of the investment factor in the calendar-time regression model reduces the long-run underperformance of private issuers by 24%, but unlike LSZ, has no significant impact on the underperformance of public issuers.

Finally, our results are robust whether we use equally-weighted schemes, OLS estimations or a non-overlapped issuer samples. The underperformance of PPs and SEOs still persists when using the TFPM augmented by the LSZ investment risk factor. The risk-adjustment hypothesis by itself can thus not account for the underperformance of private and public issuers. In the next sections, we examine whether the timing and the mispricing hypothesis can complement the risk-adjustment explanation.

V. The Timing Hypothesis

We successively test four propositions that derive from the timing hypothesis. First, managers should have enough financial slack to delay issues up to the point when high values can be obtained for new stocks. Secondly, operating performances before the issues should be strong enough to ground a relative investor optimism. Third, a pre–issue run-up should be observed before the time when the issuing decision is taken. Finally, as PPs and SEOs are likely to differ in terms of timing ability, operating performance and levels of information asymmetry, their post-issue performances should differ.

A. Financial Slack

In a first step, we define 5 levels of constraints, and then report, in Table VII (Panel A) the main statistics for each group. In a second step, we estimate the long-run underperformance of each of these groups. If the timing hypothesis is a valid explanation for the abnormal performance of equity issuers, then the long-run underperformance should only be significant for non-constrained firms. In Group 5, firms have no sales, negative cash flows, no cash, and negative equity. These characteristics describe distressed companies or technology-driven developing companies. These firms can only rely on external financing, but face very strong financing constraints. In Group 4, firms have no sales, negative cash-flows, but a positive equity. The situation is similar to that observed in Group 5, but the risk is lower for potential investors. Firms in this group are financially constrained and almost distressed. In Group 3, firms report sales, but negative or close-to-zero cash flows, and generally cash. They rely essentially on external equity, but have reached the developmental stage, where sales can provide investors with a degree of insurance of positive returns in the medium term. The level of financial constraints is lower than for levels 4 or 5, but constraints are still present. In Group 2, firms face slight financial constraints, essentially linked with their small size. They report sales lower than $10 million, positive cash flows, but generally low earnings. Group 1 firms can be considered as non-financially constrained. They report sales of over $10 million, total assets higher than $35 million, and positive cash flows and earnings.

For each group, we report (see Table VII, Panel A and B) the number of companies present and the main characteristics of their operating performances. When the operating income is negative, we estimate how much time is left before cash is depleted. For both groups of issuers, we observe the low proportion of non-financially constrained firms: 13.4% for private and 36.8% for public equity issuers. Distressed firms represent 22.5% of private and 16.7% of public equity issuers, and in both cases, the cash in hand represents less than one month of current expenses. In approximately 3 out of 4 cases, private issuers can be considered to be financially constrained. This is also the case for 52.8% of public issuers. We conclude that only a very limited proportion of private issuers are able to time the market, because they exhibit positive earnings and a decent return on equity. The proportion of public issuers capable of delaying the financing to time the market is probably higher. However, the median ROE of the better performers in this category of issuers (Group 1) is only 7.4%, which is too low a level of return to attract outside investors.

Insert Table VII about here

We also report, in Table VIII, the estimated alphas obtained through the TFPM augmented by the LSZ investment factor for each group of issuers formed on the basis of their respective levels of financial constraint. The timing hypothesis assumes that managers have enough financial slack to be able to time the market. If managers do not have this flexibility, then they are not capable of timing the market. Private issuers who are not constrained post a positive abnormal performance after the three-year period following the issue announcement, while public issuers who are not constrained post a negative, but non-significant performance. These results invalidate the timing hypothesis. By contrast, constrained private issuers and constrained public issuers post a significant underperformance, -1.61% and -1.91% per month, respectively. While we do observe a significant underperformance for the constrained issuers, we cannot advocate a timing argument in this case. Finally, under the timing hypothesis, we should observe a more significant underperformance for issuers having more financial slack. By contrast, we observe that issuers having more financial slack post a better performance than issuers with less financial slack. Accordingly, the global picture of the Canadian private and public issuers hardly fits into the timing hypothesis.

B. Operating Pre-Announcement Performance

Table VIII presents the main characteristics of the operating performance of both sub-samples of issuers, as well as statistical tests of the differences between both groups[21]. For sales and operating income, we present the median of the distribution with the proportion of firms reporting negative values, for the four years preceding and going up until the time of issue. Both samples differ according to each indicator. Public issuers have higher levels of sales than private issuers, and the difference between both groups is in the vicinity of 1 to 100 at year -2. This change tends to prove that private issuers are much more growth-oriented firms than SEO issuers. The proportion of firms which report no revenues decreases from 42.12% to 39.36% for private issuers, and from 26.02% to 22.98% at year 0 (the issue year) for public issuers. More than four out of every 10 private issuers report no revenues at time -1, while for public issuers, the proportion is 2.6 out of 10. These issuers generally are in the resources or technology sectors. The median operating income before depreciation (OIBD) is largely negative for PP issuers, and the proportion of negative OIBD fluctuates around 66% for PPs, and around 49% for SEOs. Reported

values illustrate that a large proportion of Canadian issuers are in the early stages of development. The proportion of negative OIBD ranges around 66% for PPs, and is close to 50% for SEOs.

We report the median raw ROA ratios estimated after depreciation for both categories of issuers. The median is strongly negative for both groups, albeit more so for PP issuers[22]. The latter results are in line with the observation of Hertzel, Lemmon, Link and Rees (2002), that PIPEs tend to follow periods of relatively poor operating performances. The poor operating performance of SEO issuers is in contrast with the situation observed in the U.S. We also provide the industry-adjusted performance ratios,[23] which indicate that while clearly negative, the operating performance of issuers is generally better (for private issuers) than, or equivalent to (for public issuers), those of comparable non-issuer firms.

Insert Table VIII about here

Both private and public Canadian issuers exhibit a negative median ROA, a large proportion of negative operating income, and a high level of financial constraint. This situation does not fit into the timing hypothesis.

C. Stock Price Pre-Announcement Performance

We report, in Table IX, the results of the analysis of the pre announcement run-up. We note a significant over-performance for private and public issuers over the year preceding the announcement of private and public offerings: 20.04% for PPs and 9.60% for SEOs, respectively. Our results are consistent with the price run-up observed during the year preceding the issue of U.S. private placements (Hertzel, Lemmon, Link and Rees (2002) or Marciukaityte, Szewczyk and Varma (2005)) and SEOs (Loughran and Ritter (1995)). We attempt to determine whether the abnormal performance of private and public issuers is uniformly distributed over the months preceding the issue, or is concentrated on certain particular months. In the first case, it can be extrapolated that the market became optimistic about the firm, for certain given reasons (to be determined) and that the managers used this optimism to "time" the issue. If the latter situation prevails, and if the rally is concentrated in the few months preceding the announcement, then the timing hypothesis becomes less plausible. We use the purged four-factor risk model and examine four mutually exclusive windows: [-12;-10], [-9;-7] [-6;-4] and [-3;0]. The alpha coefficients corresponding to the [-12;-10] and [-9;-7] windows are not statistically significant for both types of issues, while that for the [-6;-4] window is only positive and statistically significant, coming in at 1.47% for the PP issuer portfolio. For both private and public equity issuers, the alpha

coefficients of the [-3; 0] window are highly significant, at 3.11% and 2.77% per month for this three-month window. Most of the price run-up is concentrated on these last three months. The concentration of the price run-up in the months immediately preceding the issue and the time necessary to decide on and organize an issue constitute a challenging evidence against the timing hypothesis.

LSZ hold the idea that investment helps explain SEO underperformance, because public issuers invest much more than matching non-issuers both before and after issuance. Because low-investment firms earn higher average returns than high-investment firms, the investment factor helps explain the SEO underperformance. The loadings on the investment factor one year before the issue are positive for both private and public issuers, and are even significant for public issuers. Contrary to LSZ's, our results tend to prove that Canadian private, and especially public, issuers tend to invest less than matching non-issuers, not more. This result is consistent with the observations in Table II (Panel D) that private and public issuers devote a large part of their gross proceeds to corporate needs, and not to investment. The proportion of proceeds which is not devoted to investment reaches 59.7% for SEOs.

Insert Table IX about here

To complete the evidence relative to pre-issue run-ups, we examine the trading volumes. We observe strong evidence of abnormal trading volume before the announcement date, and this sharp increase in trading volume coincides exactly with stock prices increases. In Figure 1, we illustrate the evolution of the median relative trading volume. For each sample, the average trading volume across the [-48; -37] period is estimated and used as a benchmark. For a given month t, the relative volume is given by the observed total trading volume divided by the benchmark[24]. During month -1, before any official announcement of the placement has been made, the median (average) relative trading volume is 2.65 (8.7) for PPs and 1.9 (6.9) for SEOs. Corresponding values for month -3 are 2.11 (7.87) for PPs and 1.45 (7.07) for SEOs. To rule out the possibility of simultaneous events, we study the 70 PPs which exhibit the strongest increase in market value before the announcement, in 2003. We analyze all the official releases around the event date, as available in SEDAR and in articles reference systems, without detecting any public announcement capable of explaining the excitement seen over the stocks. For this sub-sample, we also estimate the level of insider activity, according to the trades summarized in SEDI[25]. We observe a strong increase in trading by insiders before the announcement. This result is consistent with the findings

concerning insider trades before the announcement of placements aimed at limiting the dilution effect (Hauser, Kraizberg and Dahan (2003)). However, insider trading alone cannot explain the excess trading volume: first, the insider trading activity significantly increases at month -4, after several months of price increase. Secondly, the ratio if insiders sell to buy is around 3. Insiders seem to use the temporary overvaluation around the announcements to realize significant gains[26]. Our observations are consistent with the lack of fundamentals explaining the price increases in the year before the announcement, and with an opportunistic behavior of insiders after an unexpected increase in prices. Our evidence is more in line with the hypothesis that the placement is a cause, and not a consequence, of stock prices increases.[27]

Insert Figure 1 about here

D. Private Placements vs. Public Offerings

The long-run performances after PPs and SEOs are likely to differ under the timing hypothesis. First, public issuers should be better able to time the market, because of lighter financial constraints. Secondly, PP investors are likely to have a better knowledge of the firms, and they generally obtain a discount relative to the market prices. This discount should be a clear signal relative to the true value of the stocks, and it is likely to justify a downward price adjustment. Such an effect does not exist in public placements. Our results, which are summarized in Table VI and V (Panels C), clearly indicate that the return of a portfolio which is long SEOs and short PP does not differ significantly from 0. This is the fourth evidence against the windows of opportunity hypothesis.

E. Discussion

Several elements of our results hardly fit into the timing hypothesis: 1) Both categories of issuers appear to be essentially composed of financially constrained firms, with very limited capacity to delay the equity issuance; 2) The poor pre-announcement operating performance of both categories of issuers cannot explain an increase in stock prices and the lack of negative reaction on the announcement date, as expected under the windows of opportunity hypothesis; 3) The pre-issue run-up is observed during the few months preceding the announcement, at a time when the equity issuance decision is likely to be effective; and 4) private and public issuers exhibit similar long-run returns patterns. Then, in our sample, the timing hypothesis cannot provide a satisfactory explanation for the price run-up and the long-run underperformance of equity issuers.

Following Chou, Gombola and Liu (2006), we examine whether the long-run underperformance of PP and SEO issuers can be explained by the overoptimism hypothesis.

VI. Tests of the Overoptimism Hypothesis

In this section, we test the three implications of the overoptimism hypothesis. The first one is that, on average, post-issue operating performance should decrease. The second and third ones stipulate that the long-run stock price underperformance phenomenon should be limited to a sub-sample of issuers, which presents stronger valuation challenges. On the one hand, glamour equity issuers should underperform value equity issuers, but on the other hand, under the overoptimism hypothesis, high-investment equity issuers should underperform low-investment equity issuers.

A. Post-Announcement Operating Performance of Equity Issuers

If the long-run underperformance is explained by mispricing and irrational optimism, we should observe a decrease in operating performance following the issues. Panel A of Table X reports the main statistics relative to sales, and Panel B reports statistics on the OIBD, including the numbers for the year -1, in order to facilitate the comparisons. Both sales and OIBD decrease after PPs. The proportion of no sales (negative OIBD) is 38.82% (66.60%) after the issue, but increases to 42.5% (66.94%) at the end of the third year following a PP. Public issuers exhibit a similar pattern. The issuers we analyze fail to improve both their activity and their operating income in spite of a significant injection of equity.

Panel C presents our analysis of the size- and industry-adjusted ROAs after the issue. These ratios decrease after PPs and SEOs, and become negative for both categories of issuers. The abnormal performance is different from 0 for each post-issue year for public SEOs, and for year 2, only for PPs. Panel D examines the significance of changes in the abnormal performance measure from the year preceding or on the actual year of the offering, to several years following the offering. For PPs, there is a significant decrease in relative performance from the offering year to each of the following years. For SEOs, the difference is significant from the preceding year to years 2 and 3 thereafter, and from the issuing year to each of the following years. In line with several studies on issues in the U.S., we observe a significant decrease in operating performance following PPs and SEOs. We therefore conclude that the strong rally observed before the announcement cannot be driven by rational expectations of an increase in operating performances of issuers.

Insert Table X about here

B. Cross-Sectional Patterns of the Post-Announcement Stock Price Performance of Equity Issuers

Several studies hold that long-run underperformance following long-run financing decisions is driven by a small sub-sample of firms which present certain common growth opportunities (Gombola and Lee (1999), Loughran and Ritter (2000), Chou, Gombola and Liu (2005)), and investment characteristics (Richardson and Sloan (2003)). These two factors are largely correlated. For example, Chirinko and Schaller (2006) find that glamour firms invest more than twice as much as value firms (p.2). We examine whether there are certain cross-sectional patterns of long-run stock price performance of private and public equity issuers.

B.1. Glamour/value profile

We investigate whether the glamour/value profile of issuing firms explains cross-sectional differences in long-run performance. First, we use the book-to-market ratio as a criterion to discriminate between glamour and value firms. Then, to check the robustness of our results, we examine a score based on different criteria used to distinguish glamour from value issuing firms. We use the measures largely documented by Lakonishok, Shleifer and Vishny (1994): book-to-market, earnings-to-price, cash-flow-to-price. We rank private and public issuers according to each criterion, and partition firms into two groups – we use their respective medians as a breakpoint. For each individual ranking, we assign a 0 to the glamour issuing firms and a 1 to the value issuing firms. We then compute the average rank of each issuing firm according to the three criteria considered, rank issuing firms on the score, and then partition the firms into two groups: glamour and value issuers. We report the alpha coefficient from each sub-sample.

Table XI shows that the difference in performance between glamour and value issuers is always very significant, irrespective of whether we are considering PPs or SEOs. When we use the book-to-market ratio to discriminate between value and glamour stocks, glamour issuers statistically underperform value issuers (Panel A). The underperformance of private and public issuers disappears for value issuers. The underperformance is still negative (-6.84%), but not significant over the three-year horizon following the issue for both PPs and SEOs. By contrast, the underperformance is negative and very significant for glamour issuers: -29.88% and -43.92% over three years for the private and public issuers, respectively. The difference in abnormal performance is even more striking when we separate our samples of private and public issuers into

two groups according to our average score. Panel B of Table XI shows that the underperformance of the glamour issuers is very significant in both cases: -48.2% and -54.4% over the three-year post-issue period for private and public issuers, respectively. By contrast, the value issuers identified through the average score do not experience any significant underperformance: their abnormal return over the three-year post-issue period is -12.24% and -13.68%, respectively. Consequently, the glamour/value score is most accountable for the cross-sectional difference in performance between issuing firms. The similarity between the results of private and public issuers is striking, leading us to conclude that the glamour/value dimension is a common explanation for the post-issue performance of both types of issues. In spite of the expected differences in market performance of PP and SEO issuers, they are strikingly similar. The partition into glamour and value issuing firms helps us discriminate between a non-significant post-issue underperformance for value issuing firms, and a very significant underperformance for glamour issuers.

B.2. Glamour/value and investment profile

We then examine whether the LSZ hypothesis on the investment characteristics of issuing firms enables us to discriminate between the performances of glamour vs. value portfolios. We divide each portfolio (for private and public equity issuers) into two sub-groups based on the *invt** variable, using the median as a breakpoint. Panel C shows that with the book-to-market ratio, value/high-investment issuers do not significantly underperform value/low-investment issuers. Private and public value issuers do not experience a significant underperformance after the issue, irrespective of whether they are low or high-investment issuers: the underperformance over the three-year period following the issue ranges from -13.68% to 2.16%. By contrast, for private and public glamour issuers who underperform after the issue, low-investment issuers post a non-significant underperformance after the issue (except at the 10% level for private issuers), while high-investment issuers post a very significant underperformance after the issue. High-investment glamour private issuers underperform by -41.76%, while high-investment glamour public issuers underperform by -47.88%. When we use our average score to discriminate between glamour and value firms, results are similar (Panel D of Table XI). The average underperformance for value issuers, irrespective of whether their investment level is low or high, is not statistically significant. For glamour firms, the investment level has a strong impact on performance. High-investment issuers, irrespective of whether they issue PPs or SEOs, post a significantly underperformance

over the three-year horizon: -46.44% and -63.00%, respectively.

In conclusion, for value firms, the level of investment by the firm does not enable us to discriminate between underperforming and outperforming firms. The market is able to correctly estimate the NPV of projects financed via the issue. However, for glamour issuing firms (private or public issuers), low-investment issuers significantly outperform high-investment issuers. The level of investment of glamour issuing firms allows us to discriminate between future underperforming and outperforming firms. Investors tend to overestimate the NPV of projects financed through the proceeds of issues of glamour/high-investment firms.

In order to test whether our results are driven by the burst of the high-tech bubble, we report in Panel E of Table XI, the alphas obtained after controlling for this specific period, which was detrimental to glamour stocks. In order to test the robustness of the results outside the market downturn of 2001, we have removed the observations in the calendar time analysis during the period between April 2000 and October 2001. We then apply the same method to this reduced sample, but do not observe any significant change after this adjustment.

Insert Table XI about here

C. Discussion

In line with the overoptimism hypothesis, we document a significant decrease in operating performance following PPs and SEOs. Sales and OIBD decrease after PP and SEO announcements. Size- and industry-adjusted ROAs also decrease after the issue. Finally, in spite of equity injections, the relative operating performance is worse three years after the issue than in the year of the issue. These results corroborate the overoptimism hypothesis: the price run-up observed before the announcement cannot be driven by rational expectations of an increase in operating performances of issuers.

The clustering of long-run underperformance in glamour/high-investment firms makes it impossible to rule out the overoptimism hypothesis. Investors tend to overreact to the announcement of private and public glamour issuers while they tend to react normally to the announcement of PPs and SEOs by value firms. Further, investors tend to mainly overreact to the announcement of PP and SEO by glamour/high-investment issuers. The valuation of investment projects launched by young firms with no earnings, and often with no revenues, in such areas as mining, oil and gas exploration or technologies presents a considerable challenge in terms of valuation. Our findings are consistent with the results of Marciukaityte, Szewczyk and Varma

(2005), who find stronger evidence of abnormal performance for small, young, and high-information-asymmetry firms which are difficult for investors to appraise.

VII. Concluding Remarks

We use the particular context of the Canadian market to challenge the various hypotheses relative to the return patterns observed around equity issues by listed firms. Securities regulation and issuing practices in Canada create a situation which though different from U.S. private placements and public offerings, present several similarities. Further, by contrast with the U.S., probably due to the resources-oriented industrial structure of the Canadian stock market, the small size of many Canadian firms which limits the possibilities of short selling, does not allow hedge funds in private placements, especially structured ones. We are left with two large samples of issues, proposed by similar firms, which differ essentially through the nature of the offering process. The asymmetry of information and the timing capacity of managers in both groups are likely to differ. We take advantage of this sample to empirically test the implications of three explanations proposed to the underperformance of equity issuers: a risk, a timing and a mispricing hypothesis. Our results can be summarized as follows.

To examine the risk-adjustment hypothesis, we focus on calendar-time regressions using the Fama and French risk factors augmented by the investment factor of Lyandres, Sun and Zhang (2005). We concentrate mainly on value-weighted portfolios, purged risk factors, and WLS estimation results, but also test the robustness of our results. We document that on average, Canadian private and public equity issuers post a significant outperformance of 20.04% and 9.60%, respectively, during the year preceding the issue announcement, and a significant -22.68% and -25.20% underperformance, respectively, over the three-year post-issue period. The abnormal performance of private and public equity issues resists to the introduction of the investment risk factor, as in Lyandres, Sun and Zhang (2005), for which we provide out-of-sample evidence. Adding this risk factor, which earns a positive 0.39% per month on average, into the Fama and French calendar-time regressions, reduces the underperformance of private issuers by around 24.10, but that of public issuers by 4.11%. For both categories of issues, the underperformance remains significantly negative. As the underperformance of private and public equity issuers holds after controlling for four risk factors, and is robust to different portfolio constructions and estimation methods, the risk-adjustment hypothesis can probably be ruled out.

We test four propositions that derive from the timing hypothesis. First, we show that private and public Canadian equity issuers are generally financially constrained firms, with very limited capacity to time the market. Secondly, we find that the poor pre-announcement operating performance of private and public equity issuers cannot explain the price run-up observed before the issue. Third, this price rally is accompanied by a sharp increase in trading volumes during the very few months preceding the announcement, which is a period too short for managers to take equity issuance decisions and to prepare issue files. Finally, while private and public equity issuers differ with regard to the levels of information asymmetry between managers and investors, managers' timing ability, operating performance and levels of information asymmetry, they exhibit similar long-run returns patterns. The timing hypothesis can thus not provide a satisfactory explanation for the stock price and operating performance posted by Canadian private and public equity issuers.

Finally, we examine the overoptimism hypothesis. The stock price rally observed before the announcement cannot be driven by rational expectations of an increase in the operating performances of issuers, for we document a significant decrease in operating performance following PP and SEO announcements. These results give credence to the overoptimism hypothesis. When we distinguish glamour from value firms using the book-to-market equity or a composite score metric, we find that whatever the type of issues examined, only glamour firms underperform in the long-run, not value firms. This finding is consistent with that of Chou, Gombola and Liu (2005). We scrutinize whether the performance differs between high-investment issuers and low-investment issuers when we control for relative value (glamour vs. value issuers). We find that high-investment/value firms post a similar performance as low-investment/value firms, and do not significantly underperform their benchmarks. However, when we make a distinction between high-investment issuers and low-investment issuers among glamour firms, only the high-investment/glamour issuers significantly underperform. The underperformance of PP and SEO issuers is mainly driven by high-investment/glamour issuers, supporting the hypothesis that investors – public or private – correctly evaluate the investment projects of value firms, while they tend to systematically overestimate those of glamour firms. Our results partially support the risk-adjustment hypothesis. They rule out the timing hypothesis, and support the overoptimism hypothesis.

Table I

Annual Statistics on Canadian Private Placements and Public Offerings by Issuers Listed on the Canadian Stock Exchanges from 1993 to 2003

Panel A reports the population of 4,592 Canadian private placements by 2,117 firms and the population of 2,862 public offerings by 1,625 firms that occurred between January 1993 and December 2003. We obtained our data from the Financial Post database. All issues are equity issues, which comprise the following categories: Common and Unit (Equity and Warrant). Panel B reports the final sample restricted to observations, with market data from DataStream, and with accounting data from Thomson's Cancorp financial database. We consider each of the following placements, reported as distinct in the database, as single issues: two sets of securities, issued within 5 transactions days, with one of them being a flow-through; two sets of different units placed within a few days; an SEO sold simultaneously in several countries; and securities placed under the same conditions and at the same price with several investors, within five transactions days. This operation reduces the sample by 396 issues. To be included in the analysis, we required that a company be able to provide market data for the 3 months before and after the placement date. Gross proceeds are expressed in millions of Canadian dollars.

	Private Placements			Public Offerings		
	Number	Gross Proceeds		Number	Gross Proceeds	
Year	of issues	Median	Total	of Issues	Median	Total
Panel A: Population						
1993	668	1.73	3,372.12	331	7.00	15,334.16
1994	775	1.30	3,589.73	237	4.35	8,485.64
1995	317	3.45	2,403.82	174	5.23	6,618.11
1996	685	4.07	5,909.06	291	11.00	10,649.63
1997	530	4.12	5,021.83	228	25.85	16,367.74
1998	260	4.42	4,217.61	141	23.14	7,729.88
1999	149	3.20	1,394.27	333	8.00	16,360.33
2000	241	2.93	1,499.92	364	7.69	12,351.14
2001	164	2.96	1,394.67	274	5.34	8,274.48
2002	280	3.08	1,781.88	248	8.34	14,691.96
2003	523	4.08	5,096.42	241	15.00	12,209.08
Total	4,592	3.00	35,681.31	2,862	8.87	129,072.15
Panel B: Final Sample						
1993	509	1.58	2,407.12	255	7.20	11,153.43
1994	501	1.50	2,247.03	156	3.71	5,176.60
1995	220	3.50	1,402.85	113	9.10	5,122.21
1996	477	4.00	4,023.10	196	13.25	7,840.73
1997	314	4.55	2,693.72	136	24.83	8,074.39
1998	172	4.00	1,669.54	103	30.80	6,622.31
1999	115	3.00	970.32	241	8.10	13,494.47
2000	182	2.94	1,130.64	262	8.25	10,308.41
2001	138	2.87	911.91	209	7.50	6,902.21
2002	245	3.46	1,777.97	213	10.92	13,776.51
2003	418	4.75	3,454.25	195	19.07	9,713.15
Total	3,291	3.00	22,688.44	2,079	10.04	98,184.42

Table II

Sample Characteristics and Distributions of the Final Sample of Private Placements and Public Offerings According to Issue Characteristics, Industry and Use of Proceeds

Panel A reports the sample characteristics. Gross proceeds, total assets and shareholders' equity are expressed in millions of Canadian dollars. Proceeds-to-size is the gross proceeds divided by the pre-money market value of equity. BTM stands for book to market, T_0 for the end of the issuing year, and T_{-1} for the end of the preceding year. Total assets, shareholders equity and debt ratios are estimated on a post-money basis. Panel B reports the distribution of issues according to various characteristics. Total gross proceeds (TGP) are expressed in millions of Canadian dollars. Panel C reports the industrial distribution. Res., Oil, HT and Other is the percentage of the total gross proceeds of private (public) issues respectively by resources, oil and gas, high tech-biotech and other companies. # stands for the number of issues.

	Private Placements				Public Offerings			
Panel A: Sample Characteristics								
	#	Mean	Median	Total	#	Mean	Median	Total
Gross proceeds	3,291	6.89	3.00	22,688.44	2,079	47.23	10.04	98,184.42
Proceeds-to-size	3,234	0.55	0.27	-	2,046	0.54	0.27	-
BTM >0 T_{-1}	2,337	0.49	0.22	-	1,600	0.52	0.29	-
Total assets T_0	2,352	74.23	15.17	-	1,694	586.24	50.34	-
Shareholders' equity T_0	2,352	34.53	10.69	-	1,694	218.40	30.14	-
Debt to asset T_0	2,352	0.39	0.22	-	1,694	0.35	0.32	-
Panel B: Distributions According to Various Issues Characteristics								
	#	#,%	TGP $	TGP,%	#	#,%	TGP, $	TGP,%
Issuing period								
Cold	306	9.30%	1,968.32	8.68%	336	16.16%	14,929.31	15.21%
Neutral	1,491	45.31%	12,065.30	53.18%	1,145	55.07%	58,824.85	59.91%
Hot	1,494	45.40%	8,654.82	38.15%	598	28.76%	24,430.26	24.88%
Investment Banker								
Prestigious	291	8.84%	5,212.73	22.98%	775	37.28%	84,916.17	86.49%
Non-prestigious	1,738	52.81%	11,656.08	51.37%	1,304	62.72%	13,268.25	13.51%
No Invest Banker	1,262	38.35%	5,819.63	25.65%	-	-	-	-
Auditor								
Prestigious	1,493	45.37%	12,571.54	55.41%	1156	55.60%	65,598.66	66.81%
Non-prestigious	1,798	54.63%	10,116.90	44.59%	923	44.40%	32,585.77	33.19%
Panel C: Industrial Distribution								
	Res.	Oil	HT	Other.	Res.	Oil	HT	Other.
Gross proceeds	35.49%	24.80%	18.09%	21.62%	17.28%	16.45%	29.29%	36.98%
Number of issues	41.36%	26.71%	17.32%	14.62%	28.86%	24.15%	28.33%	18.66%
Panel D: Use of Gross Proceeds								
	#	#%	TGP $	TGP%	#	#%	TGP $	TGP%
Exploration	1,379	52.10%	7,436.01	39.17%	596	33.24%	7,243.21	9.70%
Investment	498	18.81%	5,633.26	29.67%	418	23.31%	22,852.05	30.60%
Corporate	770	29.09%	5,915.70	31.16%	779	43.45%	44,591.97	59.70%
Not available	644	-	3,703.46	-	286	-	23,497.19	-

Table III

Descriptive Statistics on Fama French Three-Risk Factors and the Investment Factor from LSZ on the Canadian Equity Market

Panel A reports gross risk factors. *Rm-Rf* corresponds, for a given month t, to the capped weighted index return on the Canadian stock market (R_{mt}) less the risk-free rate (the monthly rate of 91-day Canadian Government Treasury bills, $R_{f,t}$). *SMB* (size) and *HML* (book-to-market ratio) stand for the risk factors from Fama and French (1993). *INV and INV** (investment) stand for the investment factor from Lyandres, Sun and Zhang (2005 LSZ). The LSZ estimator (INV) captures the growth in fixed assets: INV_t = [Gross fixed $assets_t$ - Gross fixed $assets_{t-1}$] / Gross fixed $assets_{t-1}$. However, during the period under analysis, merger and acquisition waves occurred in Canada, mainly in the resources and technological sectors. Generally, these operations resulted in significant goodwill, which is an estimation of the intangible assets in which the acquirer invested. According to the growing weights of intangible assets in several industrial sectors during the 90's, we consider that a measure of the investment which captures this dimension can be more informative, in our context, than the growth in fixed assets. Consequently, we compute INV_t* as follows: INV_t* = [(Total assets - Current assets)$_t$ - (Total assets - Current assets)$_{t-1}$ + $Depreciation_t$ + $Writeups/Writedowns_t$] / Total $assets_{t-1}$. The main difference between *INV* and *INV** lies in the inclusion in INV* of other long-term asset elements, such as capitalized R&D and other intangible acquired assets. Panel B reports the purged risk factors, *pRm-Rf, pSMB, pHML, and pINV and pINV** stand for purged risk factors. We eliminate returns from issuing firms over the 36-month post-issue period in order to reduce benchmark contamination.

Descriptive statistics	*Rm-Rf*	*SMB*	*HML*	*INV*	*INV**
Panel A: Gross Risk Factors					
Monthly mean	0.65%	0.55%	0.76%	0.33%	0.43%
Monthly standard deviation	4.06%	6.12%	3.51%	3.38%	3.08%
T-Mean	2.08	1.16	2.82	1.25	1.82
Panel B: Purged Risk Factors					
	pRm-Rf	*pSMB*	*pHML*	*pINV*	*pINV**
Monthly mean	0.65%	0.58%	0.76%	0.30%	0.39%
Monthly standard deviation	4.06%	6.33%	3.53%	3.63%	3.03%
T-mean	2.08	1.18	2.76	1.08	1.68

Table IV

Abnormal Returns of Canadian Private and Public Issues Using Fama-French Three-Factor Pricing Model as a Benchmark

We estimate abnormal returns for the one-, two-, and three-year horizons following a Canadian private placement (Panel A) or a Canadian public offering (Panel B). The sample comprises 3,291 private placements (PPs) and 2,079 public offerings (SEOs) that occurred from January 1993 through December 2003. We examine value-weighted (monthly-rebalanced) calendar-time portfolio returns. Panel C reports the results on the differences in performance and in risk exposures between the private and public issuers. We regress the monthly excess returns to the calendar-time portfolios, $R_{p,t} - R_{f,t}$, on the Fama-French (1993) three-factor model:

$$R_{p,t} - R_{f,t} = \alpha_p + \beta_p (R_{m,t} - R_{f,t}) + s_p SMB_t + h_p HML_t + e_{p,t}$$

($R_{p,t}$ - $R_{f,}$) corresponds, for a given month *t*, to the returns of the portfolios of private and public equity issues ($R_{p,t}$) less the risk-free rate (the monthly rate of 91-day Canadian Government Treasury bills, $R_{f,t}$). β_p, s_p, h_p are the loadings of the portfolios on each risk factor: the market (10% capped index), *SMB* (size) and *HML* (book-to-market ratio). α indicates the monthly average abnormal return of our private and public equity issue sample. We estimate the weighted least squares (WLS) time series regression in which the weights are proportional to the square root of the number of firms present each month t. The *t*-statistics for each parameter are shown in parentheses. H_0 for the β coefficient is β equal to one.

	Fama French Factors	Fama French Purged Factors				
Panel A: Private Placements						
Holding period (month)	alpha	alpha	beta	s	H	Adj. R2
1 to 12	-0.57%	-0.68%	1.08	0.55	-0.30	0.63
	(-1.50)	(-1.80)	(0.87)	(8.83)	(-2.62)	
1 to 24	-0.55%	-0.63%	1.13	0.59	-0.38	0.67
	(-1.50)	(-1.74)	(1.50)	(9.77)	(-3.55)	
1 to 36	-0.75%	-0.83%	1.14	0.53	-0.26	0.69
	(-2.23)	(-2.49)	(1.81)	(9.87)	(-2.63)	
Panel B: Public Offerings						
Holding period (month)	alpha	alpha	beta	s	H	Adj. R2
1 to 12	-0.45%	-0.54%	1.25	0.25	-0.11	0.71
	(-1.37)	(-1.67)	(3.28)	(5.44)	(-1.29)	
1 to 24	-0.39%	-0.47%	1.21	0.19	-0.13	0.74
	(-1.38)	(-1.71)	(3.22)	(4.76)	(-1.76)	
1 to 36	-0.67%	-0.73%	1.20	0.15	-0.02	0.76
	(-2.71)	(-2.98)	(3.44)	(4.14)	(-0.27)	
Panel C: SEOs - PPs						
Holding period (month)	alpha	alpha	beta	s	H	Adj. R2
1 to 12	0.11%	0.16%	0.05	-0.29	0.00	0.10
	(0.25)	(0.36)	(0.49)	(-4.28)	(0.01)	
1 to 24	-0.19%	-0.18%	-0.01	-0.36	0.18	0.18
	(-0.48)	(-0.44)	(-0.13)	(-5.65)	(1.55)	
1 to 36	-0.37%	-0.33%	-0.001	-0.35	0.21	0.23
	(-1.09)	(-0.94)	(-0.01)	(-6.43)	(2.10)	

Table V

Abnormal Returns of Canadian Private and Public Issues Using the Fama-French Three-Factor Pricing Model Augmented by the LSZ Investment Factor as a Benchmark

We estimate abnormal returns for the one-, two-, and three-year horizons following a Canadian private placement (Panel A) or a Canadian public offering (Panel B). The sample comprises 3,291 private placements (PPs) and 2,079 public offerings (SEOs) that occurred from January 1993 through December 2003. We examine value-weighted (monthly-rebalanced) calendar-time portfolio returns. Panel C reports the results on the differences in performance and in risk exposures between the private and public issuers. We regress the monthly excess returns to the calendar-time portfolios, $R_{p,t} - R_{f,t}$, on the Fama-French (1993) three-factor model augmented by the Lyandres-Sun-Zhang (2005 LSZ) investment factor:

$$R_{p,t} - R_{f,t} = \alpha_p + \beta_p (R_{m,t} - R_{f,t}) + s_p SMB_t + h_p HML_t + i_p Invt^* + e_{p,t}$$

($R_{p,t}$ - $R_{f,}$) corresponds, for a given month *t*, to the returns of the portfolio of private and public equity issues ($R_{p,t}$) less the risk-free rate (the monthly rate of 91-day Canadian Government Treasury bills, $R_{f,t}$). β_p, s_p, h_p , i_p are the loadings of the portfolio on each risk factor: the market (10% capped index), *SMB* (size) and *HML* (book-to-market ratio) and *INV** (investment). All risk factors are purged. α indicates the monthly average abnormal return of our private and public equity issue sample. We estimate the weighted least squares (WLS) time series regression in which the weights are proportional to the square root of the number of firms present each month t. The *t*-statistics for each parameter are shown in parentheses. H_0 for the β coefficient is β equal to one.

	Fama French Factors	Fama French Purged Factors					
Panel A: Private Placements							
Holding period (month)	alpha	alpha	beta	s	h	i	Adj. R2
1 to 12	-0.51%	-0.58%	1.07	0.55	-0.32	-0.21	0.63
	(-1.33)	(-1.50)	(0.74)	(8.93)	(-2.79)	(-1.73)	
1 to 24	-0.36%	-0.46%	1.11	0.60	-0.41	-0.28	0.68
	(-1.00)	(-1.26)	(1.26)	(10.05)	(-3.87)	(-2.58)	
1 to 36	-0.56%	-0.63%	1.12	0.54	-0.29	-0.30	0.71
	(-1.67)	(-1.90)	(1.58)	(10.32)	(-3.02)	(-3.03)	
Panel B: Public Offerings							
Holding period (month)	alpha	alpha	beta	s	h	i	Adj. R2
1 to 12	-0.48%	-0.62%	1.25	0.23	-0.09	0.14	0.71
	(-1.44)	(-1.89)	(3.21)	(4.79)	(-1.05)	(1.34)	
1 to 24	-0.33%	-0.46%	1.21	0.20	-0.13	-0.03	0.74
	(-1.17)	(-1.64)	(3.22)	(4.69)	(-1.78)	(-0.30)	
1 to 36	-0.60%	-0.70%	1.20	0.16	-0.03	-0.07	0.76
	(-2.39)	(-2.80)	(3.44)	(4.25)	(-0.40)	(-0.98)	
Panel C: SEOs - PPs							
Holding period (month)	alpha	alpha	beta	s	h	i	Adj. R2
1 to 12	0.01%	-0.03%	0.06	-0.31	0.04	0.35	0.14
	(0.02)	(-0.06)	(0.54)	(-4.71)	(0.33)	(2.62)	
1 to 24	-0.35%	-0.35%	0.00	-0.38	0.21	0.29	0.20
	(-0.86)	(-0.85)	(0.00)	(-5.98)	(1.86)	(2.40)	
1 to 36	-0.49%	-0.48%	0.01	-0.37	0.24	0.25	0.25
	(-1.42)	(-1.37)	(0.12)	(-6.78)	(2.41)	(2.42)	

Table VI

Robustness of results on the performance of Canadian private placement and public offerings using the Fama-French three-factor pricing model augmented by the LSZ investment factor as a benchmark

We estimate abnormal returns for the three-year horizons following a Canadian private or public issue. The sample comprises 3,291 private placements and 2,079 public offerings that occurred from January 1993 through December 2003. We examine value-weighted (monthly-rebalanced) calendar-time portfolio returns. We regress the monthly excess returns to the calendar-time portfolios, $R_{p,t} - R_{f,t}$, on the Fama-French (1993) three-factor model augmented by the Lyandres-Sun-Zhang (LSZ) investment factor:

$$R_{p,t} - R_{f,t} = \alpha_p + \beta_p (R_{m,t} - R_{f,t}) + s_p SMB_t + h_p HML_t + i_p Invt^* + e_{p,t}$$

($R_{p,t}$ - $R_{f,}$) corresponds, for a given month *t*, to the returns of the portfolio of private and public equity issues ($R_{p,t}$) less the risk-free rate (the monthly rate of 91-day Canadian Government Treasury bills, $R_{f,t}$). β_p, s_p, h_p , i_p are the loadings of the portfolio on each risk factor: the market (10% capped index), *SMB* (size) and *HML* (book-to-market ratio) and *INV** (investment). All risk factors are purged. α indicates the monthly average abnormal return of our private and public equity issue sample. We estimate the weighted least squares (WLS) time series regression in which the weights are proportional to the square root of the number of firms present each month t. The *t*-statistics for each parameter are shown in parentheses. H_0 for the β coefficient is β equal to one.

Panel A: OLS Estimation						
Private placements						
Holding period (month)	alpha	beta	s	h	i	Adj. R2
1 to 36	-0.62%	1.15	0.50	-0.20	-0.26	0.69
	(-1.82)	(1.81)	(9.92)	(-2.14)	(-2.81)	
Public Offerings						
Holding period (month)	alpha	beta	s	h	i	Adj. R2
1 to 36	-0.70%	1.16	0.16	-0.01	-0.04	0.75
	(-2.82)	(2.77)	(4.35)	(-0.19)	(-0.50)	
Panel B: Equal-Weighted Calendar-Time Portfolios						
Private placements						
Holding period (month)	alpha	beta	s	h	i	Adj. R2
1 to 36	-0.81%	1.09	0.63	-0.22	-0.33	0.80
	(-3.07)	(1.46)	(15.24)	(-2.85)	(-4.22)	
Public Offerings						
Holding period (month)	alpha	beta	s	h	i	Adj. R2
1 to 36	-0.70%	1.26	0.34	0.02	-0.13	0.80
	(-2.88)	(4.54)	(9.34)	(0.32)	(-1.76)	
Panel C: Non-Overlapping Events						
Private placements						
Holding period (month)	alpha	beta	s	h	i	Adj. R2
1 to 36	-0.48%	0.99	0.43	-0.17	-0.14	0.68
	(-1.66)	(-0.20)	(9.38)	(-2.00)	(-1.65)	
Public Offerings						
Holding period (month)	alpha	beta	s	h	i	Adj. R2
1 to 36	-0.49%	1.14	0.15	-0.01	0.02	0.78
	(-2.16)	(2.70)	(4.47)	(-0.12)	(0.26)	

Table VII

Constraint Levels and Characteristics of Private and Public Issuers Before the Announcement

Panel A reports the constraint level and characteristics of private issuers. Panel B reports the constraint level and characteristics of public issuers. Year until cash depleted is the cash, deposit and short-term investment divided by the absolute value of EBITDA. Alpha indicates the monthly average abnormal return of our private and public issuers sample estimated when regressing the monthly excess returns on the calendar-time portfolios on the Fama-French three-factor model augmented by the Lyandres-Sun-Zhang (2005 LSZ) investment factor, for each group according the level of financial constraints. Sales and total assets are expressed in millions of Canadian dollars. # stands for the number of issuers.

Constraint Group	#	# (%)	Sales (median)	Total Asset (median)	ROE (Median)	Month to cash depleted	Monthly Alpha
Panel A: Private placements							
Level 1: light	378	13.37	39.57	77.83	6.82	Na	0.129
Level 2	434	15.35	4.08	11.56	4.83	Na	0.261
Level 3	695	24.58	0.00	8.83	-9.05	34.93	-1.122
Level 4	684	24.19	0.00	4.96	-35.18	4.31	-1.287
Level 5: strong	637	22.52	0.00	2.46	-54.59	0.32	-1.606
Panel B: Public Offerings							
Level 1: light	682	36.83	145.42	254.54	7.41	Na	-0.470
Level 2	193	10.42	5.32	12.83	5.81	Na	-0.895
Level 3	348	18.79	0.00	17.97	-14.82	33.56	-0.981
Level 4	320	17.28	0.05	5.91	-58.66	5.06	-0.537
Level 5: strong	309	16.68	0.01	1.76	-60.28	0.338	-1.906

Table VIII

Operating Performances of Private and Public Issuers

Year 0 stands for the fiscal year closed after the issue; year -1 is the fiscal year closed before the issue; year -2 is the fiscal year closed before year -1. In this table, the data related to the fiscal year of an issuer appear only once (even if it issues more than once in that year). Diff indicates that the median between the private and public equity issuers for the two-tailed tests differs significantly at the 1% (***), 5% (**) or 10% (*) levels. Sales and operating income before depreciation (OIBD) are expressed in millions of Canadian dollars. Number stands for the number of issuers.

	Median Sales			Proportion with 0 Sales (%)			Number	
	Private	Public	Diff	Private	Public	Diff	Private	Public
Year -3	0.02	3.09	***	46.94	29.00	***	1,960	1,417
Year -2	0.05	5.44	***	44.68	27.43	***	2,209	1,604
Year -1	0.20	7.85	***	42.12	26.02	***	2,393	1,691
Year 0	0.69	12.75	***	39.36	22.98	***	2,350	1,693
	Median OIBD			Proportion with OIBD ≤ 0 (%)			Number	
	Private	Public	Diff	Private	Public	Diff	Private	Public
Year -3	-0.13	0.04	***	66.51	48.91	***	1,493	1,243
Year -2	-0.15	0.11	***	67.51	48.73	***	1,868	1,455
Year -1	-0.23	0.08	***	67.46	49.09	***	2,219	1,597
Year 0	-0.42	0.28	***	65.64	48.43	***	2,232	1,627
	Median ROA (%)			Median Adjusted ROA (%)			Number	
	Private	Public	Diff	Private	Public	Diff	Private	Public
Year -3	-10.93	-3.81		0.80	0.03		1,949	1,411
Year -2	-10.59	-4.56		1.47	0.00	***	2,199	1,595
Year -1	-8.53	-3.88		2.98	0.21	***	2,386	1,690
Year 0	-6.49	-3.51		3.02	0.08	***	2,350	1,693

Table IX

Focus on the Price Run-Up of Canadian Private Placements and Public Offerings Using the Fama-French Three-Factor Pricing Model Augmented by the LSZ Investment Factor as a Benchmark

We estimate abnormal returns for the four mutually exclusive windows: [-12;-10], [-9;-7], [-6;-4], and [-3;0] preceding a 3,291 Canadian private placements (PPs, Panel A) or 2,079 public offerings (SEOs, Panel B) that occurred from January 1993 through December 2003. We examine value-weighted (monthly-rebalanced) calendar-time portfolio returns. Panel C reports the results on the differences in performance and in risk exposure between the private and public issuers. We regress the monthly excess returns to the calendar-time portfolios, $R_{p,t} - R_{f,t}$, on the Fama-French (1993) three-factor model augmented by the Lyandres-Sun-Zhang (LSZ) investment factor: $R_{p,t} - R_{f,t} = \alpha_p + \beta_p (R_{m,t} - R_{f,t}) + s_p SMB_t + h_p HML_t + i_p Invt^* + e_{p,t}$; ($R_{p,t}$ - $R_{f,}$) corresponds, for a given month *t*, to the returns of the portfolio of private and public equity issues ($R_{p,t}$) less the risk-free rate (the monthly rate of 91-day Canadian Government Treasury bills, $R_{f,t}$). β_p, s_p, h_p , i_p are the loadings of the portfolio on each risk factor: the market (10% capped index), *SMB* (size) and *HML* (book-to-market ratio) and *INV** (investment). All risk factors are purged. α indicates the monthly average abnormal return of our private and public equity issue sample. We estimate the weighted least squares (WLS) time series regression in which the weights are proportional to the square root of the number of firms present each month t. The *t*-statistics for each parameter are shown in parentheses. H_0 for the β coefficient is β equal to one.

	Fama French factors	Fama French purged factors					
Panel A: Private placements							
Holding period (month)	alpha	alpha	beta	s	h	i	Adj. R2
-12 to -10	0.07%	0.27%	1.19	0.62	0.01	0.01	0.56
	(0,12)	(0.45)	(1.17)	(6.55)	(0.06)	(0.09)	
-9 to -7	0.70%	0.79%	1.16	0.45	0.00	0.13	0.40
	(1.04)	(1.19)	(0.84)	(4.21)	(0.01)	(0.81)	
-6 to -4	1.09%	1.47%	0.90	0.37	-0.23	-0.16	0.38
	(1.71)	(2.24)	(-0.57)	(3.69)	(-1.19)	(-1,07)	
-3 to 0	3.18%	3.11%	1.20	0.79	-0.64	0.32	0.71
	(5.47)	(5.61)	(1.42)	(11.23)	(-4.01)	(2.42)	
-12 to 0	1.64%	1.67%	1.18	0.52	-0.27	0.05	0.64
	(4.05)	(4.12)	(1.80)	(8.81)	(-2.36)	(0,52)	
Panel B: Public Offerings							
Holding period (month)	alpha	alpha	beta	s	h	i	Adj. R2
-12 to -10	0.62%	0.64%	1.04	0,22	-0.04	-0.11	0.33
	(0.73)	(0.76)	(0.18)	(1.44)	(-0.18)	(-0.55)	
-9 to -7	0.82%	0.52%	1.40	0.48	0.47	0.59	0.55
	(0.67)	(0.46)	(1.66)	(3.17)	(1.78)	(2.40)	
-6 to -4	1.00%	1.00%	1.29	0.38	-0.16	0.09	0.47
	(1.20)	(1.22)	(1.33)	(3.16)	(-0.69)	(0.46)	
-3 to 0	2.92%	2.77%	1.70	0.23	-0.16	(0.10)	0.48
	(3.35)	(3.22)	(3.31)	(2.27)	(-0.77)	(0.53)	
-12 to 0	1.01%	0.80%	1.35	0.31	-0.04	0.25	0.65
	(2.43)	(1.97)	(3.67)	(5.51)	(-0.40)	(2.38)	
Panel C: SEOs - PPs							
Holding period (month)	alpha	alpha	beta	s	h	i	Adj. R2
-12 to -10	-0.36%	-0.41%	-0.12	-0.19	0.12	0.08	0.02
	(-0.58)	(-0.68)	(-0.79)	(-2.03)	(0.75)	(0.52)	
-9 to -7	-0.63%	-0.95%	-0.01	-0.06	0.21	0.51	0.04
	(-0.86)	(-1.32)	(-0.03)	(-0.60)	(1,09)	(2.80)	
-6 to -4	-1.16%	-1.48%	0.23	-0.09	0.06	0.19	0.00
	(-1.73)	(-2.17)	(1.34)	(-0.97)	(0.32)	(1.12)	
-3 to 0	-1.43%	-1.41%	0.10	-0.49	0.16	-0.19	0.15
	(-1.85)	(-1.84)	(0.53)	(-4.88)	(0.74)	(-1.00)	
-12 to 0	-1.31%	-1.47%	0.03	-0.21	0.18	0.14	0.10
	(-3.19)	(-3.62)	(0.33)	(-3.71)	(1.62)	(1.38)	

Figure 1

Evolution of the Median Relative Trading Volume of Private and Public Issuers

We estimate the relative monthly trading volume for each of the private and public issuers, for the [-24; +24] month windows around the announcement, which is located in the first day of month 0. Incomplete series of volumes are deleted and overlapping events are omitted. For each sample, the average trading volume across the [-48; -37] period is estimated and used as a benchmark. For a given month t, the relative volume is given by the observed total trading volume divided by the benchmark.

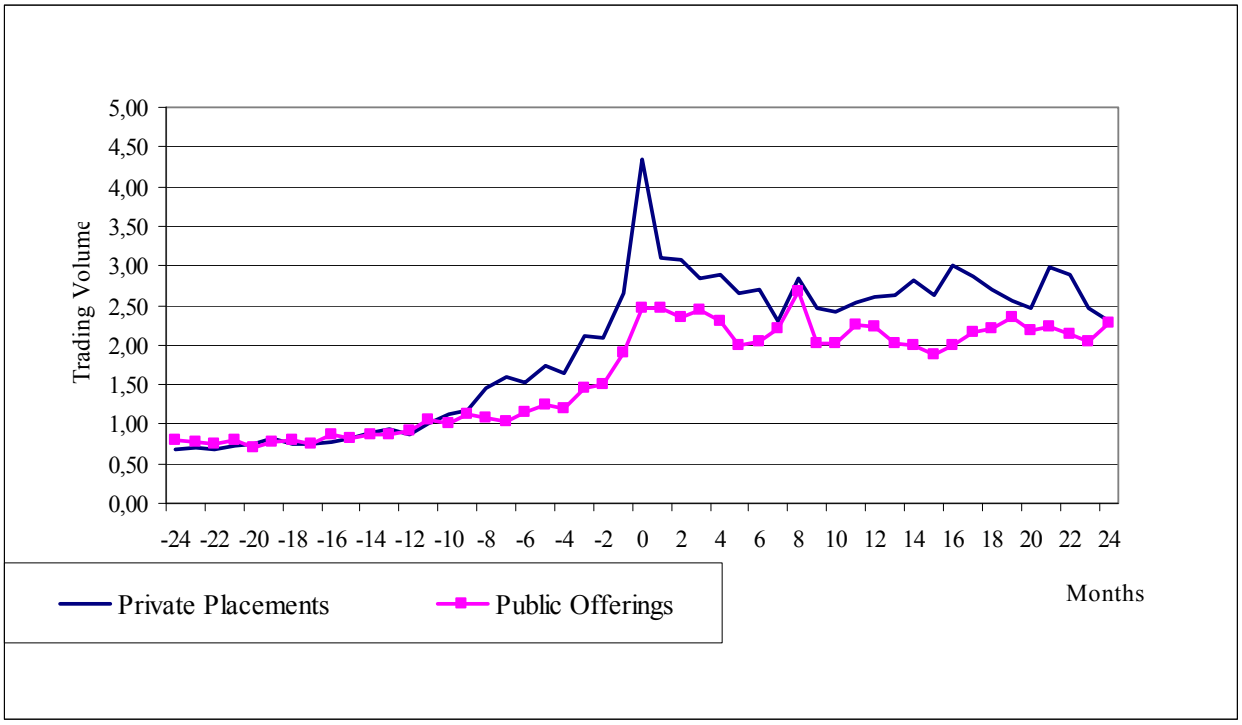

Table X

Post-Issue Operating Performance of Private and Public Issuers Relative to Comparable Firms

Year 0 stands for the fiscal year closed after the issue; year -1 for the fiscal year closed before the issue. In this table, the data related to the fiscal year of an issuer appear only once (even if it issues more than once in that year). Panel A reports the sales expressed in millions of Canadian dollars. Panel B reports the operating income before depreciation, expressed in millions of Canadian dollars. Panel C reports industry-adjusted net return on asset ratios. Panel D reports *p*-Values from Wilcoxon Signed-Rank test for changes in abnormal ROA, from year i to year j. The superscripts ***, **, and * indicate that the median between the private and public equity issuers for the two-tailed tests differs significantly at the 1%, 5% and 10% levels, respectively.

	Medians of Variables			Number of Observations		Proportions		
	Private	Public	Diff	Private	Public	Private	Public	Diff
Panel A: Sales								
						Percent with Zero Sales (%)		
Year -1	0.20	7.85	***	2,393	1,691	42.12	26.02	***
Year 1	0.88	16.99	***	1,986	1,448	38.82	21.75	***
Year 2	0.59	17.15	***	1,693	1,195	40.64	23.43	***
Year 3	0.34	16.69	***	1,494	957	42.50	24.87	***
Panel B: Operating Income								
						Percent with Negative Operating Income (%)		
Year -1	-0.23	0.08	***	2,219	1,597	67.46	49.09	***
Year 1	-0.51	0.09	***	1,901	1,403	66.60	49.54	***
Year 2	-0.40	-0.01	***	1,632	1,162	66.73	50.26	***
Year 3	-0.33	0.32	***	1,446	930	66.94	49.03	***
Panel C: Industry-Adjusted Net Return on Assets Ratios (%)								
Year -1	2.98***	0.21	***	2,386	1,690			
Year 1	0.00	-0.53**	***	1,984	1,448			
Year 2	-0.36**	-0.68***	**	1,690	1,195			
Year 3	-0.29	-1.56***	*	1,492	958			

Panel D*: p*-Values from Wilcoxon Signed-Rank Test for Changes in Abnormal ROA, from Year i to Year j

	Private Placements		Public Offerings	
	Value	$p_{(0)}$	Value	$p_{(0)}$
-1; +1	0.97		0.68	
-1; +2	0.43		0.04	**
-1; +3	0.14		0.05	**
0;1	<0.0001	***	0.07	**
0;2	<0.0001	***	0.00	***
0;3	<0.0001	***	0.00	***

Table XI
Determinants of the Cross-Sectional Variance of the Underperformance of Canadian Private and Public Issues Using the Fama-French Three-Factor Pricing Model Augmented by the LSZ Investment Factor as a Benchmark

We estimate abnormal returns over the three-year horizons following a Canadian private placement or public offering. The sample comprises 3,291 private placements and 2,079 public offerings that occurred from January 1993 through December 2003. We examine value-weighted (monthly-rebalanced) calendar-time portfolio returns. We regress the monthly excess returns to the calendar-time portfolios, $R_{p,t} - R_{f,t}$, on the Fama-French (1993) three-factor model augmented by the Lyandres-Sun-Zhang (2005 LSZ) investment factor: $R_{p,t} - R_{f,t} = \alpha_p + \beta_p (R_{m,t} - R_{f,t}) + s_p SMB_t + h_p HML_t + i_p Invt^* + e_{p,t}$ ($R_{p,t} - R_{f,t}$) corresponds, for a given month t, to the returns of the portfolio of private and public equity issues ($R_{p,t}$) less the risk-free rate (the monthly rate of 91-day Canadian Government Treasury bills, $R_{f,t}$). β_p, s_p, h_p , i_p are the loadings of the portfolio on each risk factor: the market (10% capped index), SMB (size) and HML (book-to-market ratio) and INV* (investment). All risk factors are purged. α indicates the monthly average abnormal return of our private and public equity issue sample. We estimate the weighted least squares (WLS) time series regression in which the weights are proportional to the square root of the number of firms present each month t. The t-statistics for each parameter are shown in parentheses. H_0 for the β coefficient is β equal to one. Two criteria are used to distinguish glamour from value firms: the book-to-market ratio, and an average score based on the book-to-market ratio as well as the earnings-to-price and cash-flow-to-price ratios.

Panel A: Book to Market (Glamour versus Value)				
	Private Placements		Public Offerings	
	Glamour	Value	Glamour	Value
Holding period (month)	alpha	alpha	alpha	alpha
1 to 36	-0.83%	-0.19%	-1.22%	-0.19%
	(-1.77)	(-0.45)	(-3.28)	(-0.83)
Panel B: Book to Market (Score)				
	Private Placements		Public Offerings	
	Glamour	Value	Glamour	Value
Holding period (month)	alpha	alpha	alpha	alpha
1 to 36	-1.34%	-0.34%	-1.51%	-0.38%
	(-2.32)	(-0.99)	(-2.46)	(-1.58)
Panel C: Book to Market and Investment				
	Private Placements		Public Offerings	
	Glamour/Low Invt	Glamour/High Invt	Glamour/Low Invt	Glamour/High Invt
Holding period (month)	alpha	alpha	alpha	alpha
1 to 36	-0.67%	-1.16%	-0.92%	-1.33%
	(-1.19)	(-1.98)	(-1.68)	(-2.53)
	Value/Low Invt	Value/High Invt	Value/Low Invt	Value/High Invt
Holding period (month)	alpha	alpha	alpha	alpha
1 to 36	-0.38%	0.06%	-0.13%	-0.06%
	(-0.87)	(0.10)	(-0.48)	(-0.15)

Table XI (continued)

Panel D: Score and Investment				
	Private Placements		Public Offerings	
	Glamour/Low Invt	Glamour/High Invt	Glamour/Low Invt	Glamour/High Invt
Holding period (month)	alpha	alpha	alpha	alpha
1 to 36	-1.01%	-1.29%	-1.03%	-1.75%
	(-1.28)	(-1.70)	(-1.04)	(-2.03)
	Value/Low Invt	Value/High Invt	Value/Low Invt	Value/High Invt
Holding period (month)	alpha	alpha	alpha	alpha
1 to 36	-0.05%	-0.57%	-0.33%	-0.44%
	(-0.14)	(-1.20)	(-1.36)	(-1.18)
Panel E: Book to Market or Score (High Tech Bubble)				
	Private Placements		Public Offerings	
	Book-to-market	Score	Book-to-market	Score
Holding period (month)	alpha	alpha	alpha	alpha
1 to 36	-0.86%	-1.42%	-1.24%	-1.53%
	(-1.74)	(-2.36)	(-3.23)	(-2.41)
Panel F: Glamour/Investment (High Tech Bubble)				
	Private Placements		Public Offerings	
	Book-to-market Glamour/High Invt	Score Glamour/High Invt	Book-to-market Glamour/High Invt	Score Glamour/High Invt
Holding period (month)	alpha	alpha	alpha	alpha
1 to 36	-1.14%	-1.46%	-1.39%	-1.91%
	(-1.85)	(-1.98)	(-2.45)	(-2.17)

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Endnotes

[1] Chaplinsky and Haushalter (2006) argue that the private placements in public equity (PIPEs) they study differ from the private placements studied by Hertzel and Smith (1993), Barclay, Holderness, and Sheehan (2003) and Krishnamurthy, Spindt, Subramaniam, and Woidtke (2005), in several respects, including resale restrictions, involvement of hedge funds and monitoring. Such a distinction is not required in Canada. We use PPs and SEOs to designate Canadian Private Placements and Seasoned Equity Offerings. However, we kept the term PIPEs when referring to US studies which used this acronym.

[2] We are aware of three previous studies where the stock market performances of PIPEs and SEOs are put in perspective. Hertzel, Lemmon, Link and Rees (2002) compare their PIPE results with SEO results from Loughran and Ritter (1995), but the methodologies and periods of analysis differ. Brophy, Ouimet and Sialm (2005) use the post-SEO returns of comparable firms as a benchmark to estimate abnormal returns following PIPEs. They observe that the PIPE portfolio underperforms the matching SEO portfolio by 16.86% over two years. Krishnamurthy, Spindt, Subramaniam and Woidtke (2005) compare the pre- and post-issue performance of private and public issuers over the 1983-1992 period. They observe close pre-issue returns, but in the post-issue period, they document that the underperformance is more pronounced for private issuers; they however reject the hypothesis that the difference is significant. We are only conscious of one previous study comparing private vs. public seasoned equity offerings outside the US, by Brown, Gallery and Goei (2006) in Australia.

[3] Positive expectations can also be falsely grounded if managers alter discretionary accounting accruals to artificially increase the intermediate earnings reported before the issue, as proposed by Teoh, Welch and Wong (1998). After observing that more than 66% of PP issuers and close to 50% of SEO firms have negative operating income, we do not consider this explanation. If accounting manipulation in such cases cannot be ruled out, then a significant effect on the investors' optimism is unlikely.

[4] The duration of the prospectus review process has recently been examined in the U.S. In his report on SEC operations, the American auditor general wrote (United States General Accounting Office (2002)): "Industry officials said that it generally takes SEC 4 to 7 weeks to complete a review process. Requests for exemptions, however, require more time (average delays of three to six months), with extreme cases requiring more than one year: A 1996 SEC inspector general report noted that is was not unusual for the length of time required for staff

review to be a year or longer due to the complexity of the issues, the lack of delegated authority, or workload pressures"

[5] There are two Stock Exchanges in Canada. In 2005, the TSX had 1,537 listed companies, with a market cap of 1.83 trillion Canadian dollars, while the TSXV (including NEX) had 2,221 listed companies, with a market capitalization of 34 billion Canadian dollars. According to Boritz (2006) the median size of TSXV companies is about 2% of the median size of TSX companies. See Appendix A of Boritz's paper for more information about the Canadian capital market.

[6] As all dollar figures presented hereafter are denominated in Canadian dollars, we no longer specifically mention it from here on.

[7] This procedure was extended to include the entire universe of Canadian securities, because data for non-issuers are required for the estimation of the various benchmarks. The Canadian market is affected by a very high delisting rate and we researched and analyzed 4,786 delisting cases. We eliminated from the database the returns surrounding reverse takeovers, which are common in Canada and lead to extreme and unreliable returns for smaller companies. We carefully screen all extreme returns to detect and correct errors and abnormal situations. This work was required to limit the effects of the numerous problems detected by Ince and Porter (2006) in the DataStream database.

[8] All size values are estimated in T_0, which is the year of the issue. Then, we report post-money values.

[9] According to Helwege and Liang (2004), we identify hot and cold issue markets using the three-month-centered moving averages of the total number of private and public issues for each month in the sample. Periods with at least three consecutive months in the upper (lower) third of activity volume constitute the hot (cold) periods. Otherwise, the period is considered neutral. This procedure classifies 27 months as cold periods, and 33 as hot, against 72 as neutral.

[10] Following Carter and Manaster (1990), we consider as prestigious the most active investment bankers in Canada. During the period under study, 7 investment bankers subscribed 60% of all the initial and seasoned equity issues, and are considered as prestigious: RBC Capital Markets, CIBC World Market Inc., BMO Nesbitt Burns Inc., TD Securities Inc., Scotia Capital Inc., Merrill Lynch Canada Inc. and Goldman, Sachs & Co. No other Canadian-based investment bankers own more than 5% of the total market. We also consider as prestigious U.S. firms with a score higher than 7 in Carter, Dark and Singh (1998). We also include in this group some international investment bankers, such as BNP Paribas, Deutsche Bank and UBS, based on the list of the most active investment bankers worldwide provided by Ljungqvist, Jenkinson and Wilhelm Jr (2003 Table 2, p. 73).

[11] The prestigious auditors are the "Big 5" or the "Big 4", depending on the year considered.

[12] The use of the gross proceeds is provided by the Financial Post database for approximately 33% of issues. We conducted an in-depth analysis of the prospectuses, notices and financial statements to fill the gaps. However, most of the information on the issues launched before the institution of SEDAR, in 1997, cannot be obtained. This explains why the use of the gross proceeds is not available for 19.57 % of the private and 13.76 % of the public issues.

[13] In May 1999, the TSX introduced a 10% cap index to avoid the risk of concentration on Nortel Inc., which represented up to 35% of the TSX in September 1999. Almost all Canadian pension plans then adopted the capped index in replacement of the former non-capped one.

[14] Loughran and Ritter (2000) argue, however, that the market factor is an equilibrium-priced risk factor, and for mean-variance efficiency considerations, we do not purge it of issuing firms.

[15] We could only compute the LSZ measure, $Invt$ = [Gross fixed assets$_t$ - Gross fixed assets$_{t-1}$] / Gross fixed assets$_{t-1}$, for 40,584 observations, instead of 73,679 for our $Invt^*$ measure.

[16] These premiums are slightly higher than that observed by L'Her, Masmoudi, and Suret (2004) over the 1960-2001 period in Canada. They found an average annual market premium of 4.52% and an average annual premium of 5.08% for *SMB* and *HML*, respectively. However, while L'Her, Masmoudi and Suret concentrated on large-cap Canadian companies, we focus on a more representative universe, which is much more small-cap-oriented.

[17] Although not reported, the average correlation of the investment factor with the Fama and French risk factors is low, at -6%. As in LSZ, the Fama and French TFPM does not capture much of the variation in the investment factor**.** The alpha from the regression is 0.29% per month, and is significant at the 1% level. The adjusted R squared is very low.

[18] For the sake of comparison with previous studies, we also analyzed abnormal returns computed through event-time methodologies. We used reference portfolios purged from event firms and formed continuously on the basis of firm size and book-to-market ratios. Both *CARs* and *BHARs* produce evidence of stronger underperformance following the issue, and of a sharper rally in the months preceding the issue.

[19] Although not reported, we obtained similar results with the LSZ investment factor, *INV*. Results are available upon request.

[20] To test for robustness, we also apply a more severe rule adopted by Bayless and Jay (2003); that is, we retain only the offerings of firms that made a single issue during the sample period. Results do not differ materially from those presented in this paper. For space considerations, results are not reported here, but are available upon request.

[21] In the operating performance analysis, a company appears only once for a given year, even if it proceeds to make several issues during that year.

[22] Although negative, the median ROA is high relative to the results reported for PIPEs in the U.S. The high proportion of resources and exploration firms explains this situation. They have few activities before the placement, and the net income is only slightly negative. The median ROA at time t=0 for technological firms is -32% for PPs, a result similar to the values reported by the U.S. studies. The corresponding value is -19% for Canadian SEOs.

[23] First, we purged the Canadian universe, by omitting any issuing firms for the three years surrounding any equity issue. Then, from this sample, we estimated the median of the ratio for six groups of sizes (estimated by the book value of equity) and by sector (3 digits, or 2, if the number of observations is lower than six). The abnormal performance of any firm is estimated by its raw return minus the median ratio of its size and sector matching group.

[24] We obtain similar results (not reported) with a 24-month reference window.

[25] SEDI stands for the System for Electronic Disclosure by Insiders, established by the applicable securities regulatory authorities; it has only been available since 2001, and does not allow an electronic download of data, meaning that we must thus collect data manually. Accordingly, the analysis of insiders' trades around private and public equity issues has been left for further study, and we do not test for the significance of our estimations.

[26] We estimate the gains and losses of each category of insiders between t-12 and t+12, where t is the announcement date. We assume that the acquisition cost of the shares owned at t-12 is the t-12 market price. We also assume that the selling price of the shares owned at t+12 is the market price at this moment. During the 25 months, we account for each transaction at the price recorded in SEDI. Each category of insiders appears as a winner, except for the "new insiders", who become insiders by buying parts of the private placements.

[27] The pre-announcement price run-up and abnormal volume are very similar to those observed in the Canadian market, before takeover announcements, by King and Padalko (2005)