The Choice of Public vs. Private Placement of Equity: Evidence from the PIPE and SEO Markets

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Abstract

We examine the determinants of placing equity privately vs. publicly and analyze 7631 private investments in public equity (PIPEs) and seasoned equity offerings (SEOs) during 1997 to 2006. Using a matched sample analysis we document that firms that are more likely to use PIPEs tend to be smaller, higher levered and more cash restricted companies, compared to SEO issuers. Our event study shows that, although PIPE issues are completed at significantly higher discount than SEO deals, PIPE (SEOs) announcements are perceived positively (negatively) by the market. The results from the empirical analysis are consistent with the information acquisition hypothesis for PIPE issues and the signaling hypothesis for SEO issues. Finally, long run analysis suggests that PIPE issuers outperform SEO firms and are more likely to become takeover targets.

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Introduction

The use of private investment in public equity ("PIPE") has increased dramatically in the last few years. For example, the amount of capital raised in 2006 through PIPEs was larger than all the IPO and SEO deals on Nasdaq, NYSE and Amex put together. Anecdotal evidence suggests that PIPEs represent an attractive alternative for public firms to access the equity market.

A public company seeking to raise additional equity can either complete a seasoned equity offering or place stock privately. In general, the choice between public and private equity has been long discussed in the literature. Public equity offers important benefits, such as an increase in liquidity, the establishment of firm value, increased customer recognition, and a facilitation of the use of stock as an employee incentive. On the downside, public companies face increased scrutiny, must disclose their operating data, and need to file numerous reports.

Anecdotal evidence suggests that companies' executives increasingly find that in recent years the cost of public equity exceeds its benefits (Fortune, June 11, 2007). Since PIPEs are sold to a limited number of qualified investors, raising equity through PIPEs vs. SEOs can significantly reduce the direct issuing costs. Ferreira and Brooks (2000) and Anson (2001) provide evidence for reduced issue costs and quicker processing associated with the private placement of equity, due to the absence of certain statutory requirements and direct negotiations between issuers and investors.

Indirect issuing costs are significant for both SEOs as well as PIPEs. Seasoned equity offerings are associated with well documented underpricing, which has been increasing over time (Corwin 2003), although much smaller than the observed underpricing in IPOs. Due to its illiquid nature, private equity is often sold at significantly discounted prices.

While public equity issues are viewed as conveying negative signals to the investor (Smith, 1986; Asquith and Mullins, 1986; Masulis and Korwar, 1986; Mikkelson and Partch, 1986), private equity issue decisions are perceived more favorably in the market (Hertzel and Rees, 1998; Goh, Gombala, Lee, and Liu, 1999). In addition, private placement of equity may be a better source of financing for specific types of issuers. For example, younger and smaller issuers with high growth potential can benefit from the information effects with private placement (Hertzel and Smith, 1993). Placing equity privately can be viewed as a signal that a company deems its stock underpriced. For instance, Freund, John and Vasudevan. (2006) show that equity and preferred PIPEs signal positive news of the issuer's firm value and continue to outperform the market portfolio for 9 months following the issue.

Finally, empirical evidence suggests that both SEO and PIPE issuers underperform in the long run. Evidence for the long-run SEO underperformance is widely documented (Spiess and Graves, 1995; Fama, 1998; and Jegadeesh et al., 2004), while Hertzel et al. (2002) observe a negative long-run performance following private placements of equity.

Though the choice of issuing public vs. private equity has been examined in the literature, there is little research on the use of public vs. private equity placement by publicly traded companies. In addition, as Hertzel and Smith (1993) point out, equity private placement continues to be one of the least researched methods of capital raising. While PIPEs are a novel source of financing, their use, with few exceptions[1], has not been well researched.

We study the PIPE and SEO market during 1997 – 2006 and examine the determinants that influence the choice of public companies to use private vs. public sources of equity financing. While some evidence exists that direct and indirect costs are higher for initial public offerings[2], this question has not been examined empirically for American public companies seeking additional equity financing. Therefore, the objective

[1] See Ferreira and Brooks (2000), Anson (2001), Carpentier, L'Her and Suret (2005), Gomes and Phillips (2005), Chaplinski and Haushalter. (2005), Brophy, Ouimet and Sialm (2006), and Freund, John and Vasudevan (2006).
[2] See Altinkilic and Hansen (2003), Kim and Shin (2004), and Mola and Loughran (2004).

of this paper is to analyze the comparative advantage of placing equity privately by analyzing PIPE and SEO issues during 1997 – 2006. The results help provide an explanation for the increasing popularity of PIPEs in the US in recent years.

We examine PIPE and SEO issues' risk-adjusted abnormal returns during 1997-2006. We employ a standard event study methodology following Mikkelson and Partch (1988) to determine abnormal returns (ARs) to shareholders around the announcement of the issue. First, we focus on short-term announcement returns and employ multiple regression analysis with proper controls to determine the relationship between the announcement ARs and a number firm characteristics for the PIPE and SEO issuers separately. Next, we perform a one-on-one match of PIPE and SEO firm issuers based on issue quarter and year, industry (two-digit SIC codes) and size (total assets)[3], and analyze determinants of the choice between private and public equity placement, controlling for issuer (and market) characteristics. Finally, we perform a long-run holding period returns study and examine PIPE and SEO issuers' returns over 6-month, 1- and 2-years periods.

Our results show that PIPE issues on average have a significantly higher issue discount compared to SEO deals (10.7% vs. 5.9%). This result is consistent with the literature and particularly with the information acquisition hypothesis (Hertzel and Smith, 1993) since the process of private placement is more opaque than that of public equity issue. As issue discount is the main component of issue cost for PIPE placement, we conclude that cost of issue is not the main driver for PIPE transactions.

We suggest that issuers, who raise additional equity via a PIPE rather than an SEO, bear some unique characteristics. For example, smaller firms with higher growth potential tend to rely more on PIPEs as a source of equity financing than SEO deals. PIPE issuers have an average market capitalization of $925 million and are 9 years old, while SEO issuers have a market cap of $2,381 million and are approximately 10 years of age. Also, we observe that riskier, high growth potential firms (such as biotech companies) are more likely to raise equity through private placement. Based on our

[3] We conduct the same test with a three-way PIPE and SEO issuer match, in which we also match on firm profitability. While results are not different, the three-way matching procedure reduces significantly the number of usable observations.

matched sample analysis, we find that PIPE issuers are lower-profitability, cash-restricted firms, with higher leverage and facing higher bankruptcy cost at issue than SEO firms.

Furthermore, our results indicate that PIPE firms' underperformance is less severe in the long run than that of SEO issuers based on one- and two-year holding period returns (HPRs). For example, one and two-year HPRs for PIPE (SEO) issuers are -4.3% (-3.4%) and -7.5% (8.4%), respectively.

Finally, we also test the hypothesis that PIPE issuers are more likely to become takeover targets in the future, due to increased ownership concentration and perhaps desire of institutional investors to exit the investment after a certain period of time. Our logistic model results show that PIPE issuers are associated with a statistically significant coefficient of 0.2, which supports our prediction.

The rest of the paper is organized as follows. We provide a literature review in Section 2. In Section 3, we include the empirical methodology for analysis of announcement returns, sample and matched sample comparisons of PIPE and SEO deals and issuer characteristics. Section 4 presents the empirical results. Section 5 concludes.

2. Literature Review

To analyze what determines the preference of using private placement via PIPEs vs. public placement through SEOs to raise additional equity financing, we need to understand the costs and benefits associated with PIPEs vs. SEOs. In this section we briefly review the relevant literature.

A. Information Content

Most of the prior literature regarding the information content of public issues focuses on the adverse selection problem faced by outsiders investing in newly issued securities. The traditional pecking order theory (Myers and Majluf, 1984; Nachman and Noe, 1994; and Narayanan, 1988) states that the order of external financing would be retained earnings, private debt, public debt, preferred stock and public equity. This theory is empirically supported by Sunder and Myers (1999) and Lemmon and Zender (2002).

Fulghieri and Lukin (2001) propose a reversed pecking order theory under the assumption of non-fixed information asymmetry. They suggest that higher quality firms

would encourage outside investors to produce information by issuing more information-sensitive securities such as equity or preferred stock when costs of information production are low. The alternative external financing decision in the private markets enriches the content of the pecking order theory and the reversed pecking order theory. Gomes and Phillips (2005) examine a firm's choice of using public vs. private securities. They posit that firms with higher information asymmetry prefer to issue securities less sensitive to firm value conditional on the public security choice. In addition, conditional on the private security choice, firms with a higher degree of information asymmetry are more likely to issue equity.

In contrast to the negative information content of public issues, several works find that positive information is released by private placement of equity and debt (Hertzel and Smith, 1993; and Wruck, 1989). However, private equity issuers tend to have poor long-run stock price performance after placement as do issuers of public equity (Hertzel et al., 2002; Hillion and Vermaelen, 2004; and Freund, John and Vasudevan, 2006).

Several behavioral theories, such as the market efficiency hypothesis, the underreaction hypothesis (Daniel, Hirshleifer and Subrahmanyam, 1998), and the over-optimism hypothesis (Loughran and Ritter, 1997) are used to explain the long-run stock price underperformance of SEO issuers. Under the underreaction hypothesis, investors are overconfident and react only partially to news announcements. The over-optimism hypothesis asserts that investors will place more emphasis on recent stock price and operating performance than on the long-run performance. Therefore, firms will tend to issue equity at times when they are most profitable and experience declines in performance post equity issue.

Loughran and Ritter (1997) document poor long-run stock price performance following initial public offerings. Their findings are consistent with the overreaction hypothesis. Freund, John and Vasudevan (2006) analyze PIPE long-term performance and find that issuers of equity and preferred PIPEs without protection outperform their matching portfolios for up to nine months. Brophy, Ouimet and Sialm (2006) examine the effect of investor type and security structure on subsequent performance of PIPE issuers. They find that issuers with hedge fund investors experience lower returns; these

tend to be young, high-risk firms with substantial asymmetric information. Also, issuers where investors have significant re-pricing rights tend to perform worse.

Wu, Wang and Yao (2005) find that for both public and private equity placement issuers in Hong Kong the announcement effect is more likely to be positive for smaller issuers. Freund, John and Vasudevan (2006) further examine the relationship between information released by PIPE issues and their characteristics and level of information asymmetry. They find a more positive price reaction for larger issuers and poor operating performance of firms at issue. In addition, issuers of PIPEs offering protection underperform in the long run relative to their matching portfolios. Finally, Hillion and Vermalen (2004) find that issuers of reset and floating convertible securities have poor operating and stock price performance at issue.

B. Issue Cost of Equity Securities and Related Factors

The issue costs of SEOs have long been discussed in prior literature (Lee et al., 1996). Direct and indirect components of issue costs include gross spread and discount (the difference between offer and listed price), respectively. For PIPEs the discount is the principal component of issue costs. Other factors determining issue costs include offering size, timing of the issue, risk and other characteristics of the securities issued.

The size of issue and the issuer are related since larger firms usually undertake larger offerings. In addition, larger, well-capitalized companies tend to be less risky and more liquid and therefore investment bankers' fees tend to be smaller for such firms (Butler, Grullon and Weston, 2003; Altinkilic and Hansen, 2003).

Issue discount is negatively related to firm size conditional on the uncertainty (Kim and Shin, 2004; Bajaj, Mazumdar and Sarin, 2002; and Hertzel and Smith, 1993). One explanation is that discounts reflect economies of scale in information production and that smaller firms have greater information asymmetry than do larger firms. Hence, more transparent companies will incur lower issue costs (Ang and Brau, 2002).

SEO discounts increased in percentage terms since the 1980s (Altinkilic and Hansen, 2003; Kim and Shin, 2004; Mola and Loughran, 2004). Kim and Shin (2004) point out that the increase comes from the limitations on short sales imposed by Rule

10b-21.[4] They argue that the rule makes pre-offer day prices less informative following the rule, hence SEOs are offered at significant discounts due to the uncertainty of the pre-offer day price.

Based on the "windows of opportunity" hypothesis public offerings issue costs can also be related to hot and cold issue markets (Bayless and Chaplinsky, 1997; Helwege and Liang, 2004). Helwege and Liang (2004) show that investor optimism leads to large volume of offerings, oversubscription, and high discount in hot IPO markets. Since managers have private information about the value of their firm, they would trade to exploit the windows of opportunity. Hence, the discount would be higher during hot issue markets than during cold issue markets.

The quality of the investment banker chosen also has an impact on the equity issue cost. According to Ang and Brau (2002) firms with better information about their value would choose a high quality investment banker. Since the use of reputable investment bankers signals better prospects of the firms, the issue discount would be lower.

Discounts are influenced by the costs to resolve information asymmetry regarding the firm. In the U.S., private placement of equity and SEO discounts are estimated to be around 9-20% and 3% respectively (Hertzel and Smith, 1993; Wu, 2004; Mola and Loughran, 2004). Based on the information acquisition hypothesis, the discount should be greater for PIPE issues than for SEO issues. Hertzel and Smith (1993) reason that the the value of firms that place equity privately is more uncertain than SEO firms' value; hence investors require larger discounts to compensate for the resource expenses on value finding.

At first glance, the gross spread is theoretically expected to be larger for PIPEs than SEOs as investment bankers expose themselves to more risk when underwriting less liquid issues. However, it is possible that this risk is offset by less workload and quicker underwriting process for PIPEs as these issues tend to be smaller in size and involve a

[4] Rule 10b-21, proposed by the Securities and Exchange Commission (SEC) and effective since August 25th 1988, prohibits short sellers from covering short positions with shares purchased in an equity offering, if the position was established between the filing and offering dates.

limited number of investors. Moreover, direct offerings (without investment bankers) represent a significant share of PIPE issues (38% vs. only 1% for SEOs).

3. Empirical Methodology

We test the following four hypotheses:

H1: PIPE issues have higher discount than SEOs.

Generally, the process of private placement of equity is less transparent than that of a public equity sale, based on the information acquisition hypothesis (Hertzel and Smith, 1993). Hence, higher uncertainty should be associated with a larger issue discount. Therefore, we expect that PIPE issues will be associated with a higher issue discount than SEOs.

H2: *PIPEs are used by smaller firms.*

Since PIPEs are placed with a limited number of qualified investors we expect gross proceeds from PIPEs to be significantly smaller than that from seasoned equity offerings. Therefore, all else equal, we hypothesize that PIPEs will be used by smaller and younger firms. These companies will have a higher cost of capital and face higher uncertainty than SEO candidates.

H3: PIPE issuers are more cash-flow restricted firms, facing higher bankruptcy costs, but with higher growth potential than SEO issuers.

Since PIPE issuers can complete the equity placement faster compared to SEO firms, companies will choose PIPEs when they need quick access to the capital markets and cannot afford to wait the typical time associated with an SEO process. Therefore, we hypothesize that PIPE issuers are more likely to be cash-flow restricted firms with higher leverage, but also higher growth potential.

H4: PIPE issuers outperform SEO issuers in the long run.

Since we expect PIPE issuers to be small, high-growth firms that have limited free cash flows, we expect that these types of firms are more likely to perform well in the long run, compared to SEO firms, who will tend to be more mature, and less risky.

A. Data

We examine PIPE and SEO issuance from 1997 to 2006. We obtain PIPE placement data from FactSet's PlacementTracker database. The data includes information on registration date, deal structure type, security issued type, offer price and amount, firm industry, and investor identity. SEO issuance data is obtained from the SDC Platinum Database. The data includes the issue date, security issued, offer price and amount, and book-runner identity. There are 7,468 PIPEs and 4,947 SEOs in our original sample.

We obtain stock return data from the Center for Research in Security Prices (CRSP) database and firm level data from COMPUSTAT. We exclude observations that do not have sufficient returns to estimate the market model, or are not found in the COMPUSTAT database. Our final sample contains 4,580 PIPE and 3,051 SEO issues. Table 1 and Figure 1 present the annual distribution of PIPE and SEO issues during 1997 – 2006. We observe that the number of PIPE deals exceeds that of SEOs post 1999. While SEO issuance remains stable around 300 and 400 offerings annually, the number of PIPEs substantially increases to around 500 after 1999. The total number of both types of issues attains at least 800 annually during 2001 to 2006. The hottest year based on total issues is 2003. During this year, the number of PIPEs reached its highest level in our sample and represented almost twice the number of SEOs.

B. Announcement Abnormal Return Analysis

We employ a standard event study methodology following Mikkelson and Partch (1988) to determine the abnormal returns (AR) to shareholders around the announcement of the equity issuance. The market proxy we use is the CRSP value-weighted index. We obtain cumulative abnormal returns (CARs) for (0,+1), (-1,+1), (-2,+2), (-5,+5), and (-5,+10)-day windows. We fist focus on short-term announcement returns and employ multiple regression analysis with proper controls to measure the relationship between the announcement ARs, and a number of characteristics of the firm for the PIPE and SEO deals separately.

Table 2 provides definitions of the variables used in the multiple regression analysis. Variables that control for the characteristics of the issue include: firm age (in months); *PRESTI_AGENT*, a dummy variable indicating whether the issue was

underwritten by a reputable investment bank; *DISCOUNT* – the issue discount; *HOT_MKT* – a dummy variable indicating a hot market based on trading volume; *LOWPRICE* – a dummy variable indicating whether issue price is below $5.00, and relative offer size to market capitalization (*OSIZE_TO_MCAP*). In addition, we include a number of financial and accounting measures to control for unique characteristics of the issuer.

Table 3 exhibits descriptive statistics of variables used in the empirical analysis. Summary statistics for cumulative abnormal returns (CARs), equity offering characteristics and issuer accounting variables are provided in Panel A for PIPEs and Panel B for SEOs. Based on casual observation we note that mean CARs are higher and positive for all windows for PIPE issues, while they are negative for SEOs. The results support the signaling theory and our predictions. The magnitude of the CARs in SEOs (2-3%) is also consistent with the empirical evidence provided in the literature. Average long-term (one- and two-year) holding period returns are smaller (and negative) for SEOs, which supports our Hypothesis 4 that PIPE issuers outperform SEO firms in the long run.

The summary statistics of issue characteristics in Table 3 display some important findings. While a very small percentage of SEO firms choose a direct offering (1.4%), more than 38% of PIPE issues do not use an investment banker. While the role of reputable agents is significant in SEOs (63% of issues use a prestigious investment banker), this role is significantly diminished with PIPEs (only 20% of the issues use a top underwriter). PIPE issues tend to be significantly smaller than SEOs. Average gross proceeds for PIPEs and SEOs are approximately $70 and $179 million, respectively. Issue discount is significantly higher for PIPEs. We record a discount for PIPEs of 10.7% compared to a SEO discount of only 5.9%. This supports our Hypothesis 1 that PIPE issues will bear a higher discount than SEOs.

We further observe that PIPE firms are more than twice smaller than SEO firms based on market cap and approximately less than 1/3 of the size of SEO firms based on total assets. This supports our Hypothesis 2 that PIPEs are used by smaller firms.

We notice that PIPE and SEO issuers are different in the use of long- vs. short-term debt. While the long-term debt ratio tends to be smaller for PIPE issuers one quarter before the filing, the short-term debt ratio is higher. PIPE firms are very different from SEO firms in terms of their profitability and available free cash flow. Based on Table 3 we note that PIPE issuers are significantly less profitable than SEO firms with an average return on assets of -13.9% and -1.1%, respectively. *CASH_DEPLETE* ratio is significantly higher and *CF_TO_BOOK* is significantly lower for PIPE vs. SEO firms. This supports our Hypothesis 3 that PIPEs are issued by more cash-flow restricted firms.

In Table 4 we present descriptive statistics for PIPE and SEO samples by industry. We note that PIPEs are concentrated in high growth industries such as high tech and bio, where they exceed the number of SEOs by at least a factor of 2 and 5, respectively. In addition, the number of PIPEs is considerably larger in service and chemicals & allied product industries (after accounting for biotech), where PIPEs outnumber SEOs by a factor of 2.

C. Sample Comparison of Cumulative Abnormal Returns, Issue and Firm Characteristics for PIPE and SEO issues

We perform a T-test for difference in means of variables of interest between PIPE and SEO firms. The results are reported in Table 5.

Since PIPEs convey a positive signal to the market, while SEOs provide a negative signal to investors (Hertzel and Smith, 1993; and Wruck, 1989), we expect positive announcement returns for PIPEs and negative announcement returns for SEOs. In each of the windows PIPEs record a positive return, while SEOs have a negative announcement effect with T-Tests significant at the 1 percent level.

Due to its illiquid nature, private equity allows for long-term focus; however private equity sales are often done at discounted prices. Prior literature documents that PIPEs have higher discounts than SEO issues (Carpentier, L'Her and Suret, 2005). The result of the means test in Panel B of Table 5 supports our expectation. Since the discount is the main component of issue costs for PIPEs in the US, we conclude that there tend to be other drivers for issuers to choose private offering rather public equity issue.

Other notable results include that for SEOs the share of issues underwritten by prestigious investment bankers are significantly higher than with PIPEs. Gross proceeds raised from equity issues are significantly lower for PIPEs than for SEOs. PIPE issuers are younger firms with lower liquidity and lower average price per share (almost 50% of PIPE issuers have a stock price less than $5 per share). PIPE issues are considerably more concentrated in high growth industries, such as high tech. PIPEs are issued by smaller firms, both based on market capitalization and total asset measures. Furthermore, PIPE firms tend to raise less capital relative to their market capitalization. PIPE issuers have higher short-term leverage, lower profitability, and lower free cash flows.

4. Regression Results

A. Determinants of Equity Announcements Cumulative Abnormal Returns, based on Heckman's Two-Stage Least Square Regression Results, for the Full Sample

Since, *D_PE* (indicator variable equal to one if the firm is selling equity using a PIPE and zero if the firm is selling shares via an SEO) is not exogenous, we employ a two-stage least square Heckman selection model, in which our selection equation's dependent variable is *D_PE* and in the second stage we include the outputted inverse Mills ratio (*IMR*). The dependant variable in the second stage is the cumulative abnormal return in 2-, 3-, 5-, 11-, and 16-day window periods. Note that the inverse Mills ratio (IMR) is statistically significant in all of our models. The results from the second stage suggest that the higher the issue discount, the lower the CARs are. Use of prestigious investment bankers, profitability (*ROA*) and Tobin's Q (*TOBINQ*) one month prior to issue are negatively related to announcement returns, while leverage one quarter prior to issue is positively related to abnormal announcement returns. The coefficient on *PRESTI_AGENT* is consistent with the empirical evidence that issues underwritten by more prestigious investment banks tend to be more underpriced, hence announcement returns will be negative. The signs of *TOBINQ* and *ROA* are consistent with predictions based on the signaling theory, in which equity issue conveys a negative signal to the market. On the other hand as firms raise much needed equity capital, this presents positive news for firms with higher leverage and increased bankruptcy risk.

B. Matched Sample and Choice of PIPEs vs. SEOs

We perform a one-to-one matched sample analysis based on industry (two-digit SIC codes), issue year and quarter, and size (total assets) one quarter prior to issue to control for the effects of market conditions, industry and size[5]. Our matched sample contains 1,438 observations – 719 PIPE and 719 SEO issues. Through conducting a matched sample analysis we eliminate any industry and size effects and focus on the factors that impact the probability of a public firm to raise additional equity via PIPE or SEO.

Summary statistics for the matched sample are provided in Table 7. Table 8 reports the results of the mean test of differences between variables of interest for the matched sample of PIPE and SEO issues.

Consistent with the results for the whole sample comparison between PIPE and SEO issues, we find that after eliminating market conditions, industry and size effects PIPE firms continue to outperform SEO issuers in each of the announcement period return windows. In Table 8, we reconfirm that PIPE issues' agents are less likely to be prestigious investment bankers. Panel B in Table 8 exhibits mean values and T-tests of differences for accounting variables. Although the conclusions based on differences between PIPE and SEO issuer and deal characteristics regarding most variables remain the same, we observe some notable differences. We note that for the matched sample SEO firms have both lower long-term as well as lower short-term leverage. Also, PIPE firms have significantly lower current assets to total assets, current ratio and quick ratio. These findings are consistent with our predictions that PIPE issuers are more highly levered and cash flow restricted firms. Based on other issuer characteristics we note that PIPE issuers in the matched sample are older firms than SEO issuers. This finding is largely driven by our matching procedure, in which we eliminate smaller, high growth firms which also tend to be younger. We observe that PIPE and SEO firms differ based on Tobin's Q. The Tobin's Q result is reversed from our observation for the unmatched sample, and implies that PIPE firms in our matched sample have a lower Tobin's Q than

[5] We also perform a four-way match, in which we match SEO and PIPE issues based on year and quarter of issue, industry (two-digit SIC codes), size (total assets one quarter prior to issue) and profitability (return on assets one quarter prior to issue). While results are not different from when using the less restrictive matching procedure, the final sample size is significantly decreased to 1,100 observations (550 PIPEs and 550 SEOs). Therefore, we only report the results using the less restrictive matching procedure.

SEO firms. Once again, this result is driven by the matching procedure. However, we should keep in mind that the purpose of the matching sample is to eliminate the difference in size (which makes remaining PIPE firms more mature with less growth opportunities), and examine the difference in abnormal returns for similar firms that choose to raise equity via PIPE or SEO.

C. Regression of Abnormal Announcement Period Returns on Issuer Characteristics

In Table 9 we present the results from OLS multiple regressions for several CAR specifications for PIPE and SEO announcements separately, controlling for a number of issue and issuer characteristics, as well as various accounting measures. We expect a negative coefficient of the age variable (*AGE*). Since older firms have more publicly available information, the degree of information accumulation would not be as significant for younger firms. If high reputation investment bankers are associated with higher underpricing then we will expect a negative relation between the ranking of the agents (*PRESTI_AGENT*) and the announcement stock return. We predict the issue discount coefficient (*DISCOUNT*) to be negative in both PIPE and SEO samples, since a large discount conveys that the intrinsic value of the stock is much lower, or that firm stakeholders are willing to accept a much lower price, which in both cases represents a negative signal to the market. We expect a positive relation between *HOT_MKT* (the variable indicating hot market) and announcement returns, since based on the investor overoptimism view, during hot markets equity issues should experience higher returns. We predict the coefficient of *PROTECT* (a dummy variable indicating the presence of any downside or price protection for PIPEs) to be negatively related to announcement stock returns since protection may imply a 'death spiral' problem, which conveys a negative signal to the market. *LOWPRICE* controls for whether we are dealing with small stocks, with price less than five dollars per share. Most brokerage firms will not allow investors to buy stock on margin if the stock price is less than $5 per share; hence, these shares will not be available to short. We predict that *LOWPRICE* is negatively related to announcement stock returns.

We control for firm and issue size by using *LNTASSETS* (the natural log of book value of total assets) and relative offer size to market capitalization (*OSIZE_MCAP*). We control for financial leverage, by including *LTDR*, the ratio of the long-term debt to total assets, as well as *CL_TA* (current liabilities to total assets). The adverse selection theory would predict negative coefficients for these variables since high leverage results in increased bankruptcy cost. However, a positive coefficient is possible if the cost of information production is not sufficiently large and outside investors will be able to expend resources to get information about future firm value. Other less informed investors can learn from the informed and revise their estimates of the issuer. The revisions are expected to be larger for firms with high leverage.

The ratio of current assets to current liabilities, *CR*, and the quick ratio, *QR*, are proxies to measure short-term solvency. We expect positive coefficients for these variables since a high current or quick ratio is perceived as a positive signal if there is asymmetric information and the cost of information production is large. However, the information production hypothesis will predict negative coefficients.

High Tobin's Q implies higher growth potential. We also control for Tobin's Q (*TOBINQ*), which is expected to be positive related to announcement stock returns if the information production is costly while negative based on the information production hypothesis.

We include *ROA* (return on assets), *RE_TA* (retained earnings to total assets) and *CF_TO_BOOK* (cash flow to book ratio) variables to control for firm profitability and free cash flow availability. We expect the coefficients of *ROA*, *RE_TA*, and *CF_TO_BOOK* to be positive if investors are more likely to judge by the firm's current performance. However, the coefficients could be negative if placing equity privately is perceived as a signal that the stock is undervalued.

Cash depletion rate, *CASH_DEPLETE*, is used as a proxy for the cash management of the firm. A higher cash depletion rate suggests that the firm is more cash restricted and will need larger infusions of cash to continue operations. The coefficient is expected to be negative under the adverse selection hypothesis and positive under the information production hypothesis.

Finally, we include industry dummies to control for any industry effects.

Table 9 shows the results of the multiple ordinary least square regressions of short-term cumulative abnormal return (CAR) of day 0 to day +1, day -1 to day +1, day -2 to day +2, day -5 to day +5, day -5 to day +10 on issuer and issue characteristics for the PIPE and SEO samples, respectively.

We first investigate the effect of difference of structure type on the announcement abnormal return. A negative relation is detected as expected between *PROTECT*, the proxy of protection, and CAR from 5 days prior to issue to 10 days following issue. A similar but weaker relation is found in the CAR (-5 to 5) regression model. However, we do not find a similar relation for smaller window sizes.

For PIPEs, we find a significant negative relation between the *PRESTI_AGENT* dummy and CAR for each of the five windows, which confirms our expectation.

According to Table 9, the issue discount variable, *DISCOUNT*, is significantly negative related to cumulative abnormal returns, which is consistent with our prediction. The effect of issue discount on CAR is significant in three of the five return windows for PIPE issues, but this is not the case for any of the SEO regressions. The positive sign of the hot market dummy coefficient, *HOT_MKT*, is also consistent with our expectation, since in hot markets investors will exhibit over optimism, which will be reflected in higher announcement returns. In contrast, we do not find a clear effect of the hot market dummy in the SEO regressions. In addition, in all of the PIPE models, we observe a negative coefficient of *LOWPRICE* (indicator that shows whether the stock price is below $5 per share) that is statistically significant in two of the models, and this supports our prediction. However, in the SEO regressions this effect is not observed.

In the PIPE models we conclude that firms with higher profitability and long-term debt ratio one quarter prior to issue, with lower Tobin's Q, lower cash flow to book ratio and current ratio experience higher returns. This result provides evidence that PIPEs are used generally by more highly levered cash-restricted firms with depressed prices which need to raise much needed capital. The SEO regressions paint a different picture. While there is a negative relationship between leverage and returns four quarters prior to issue, this result is reversed when looking at leverage one quarter before issue.

In summary, we find issues which involve higher issue discount and more protection in contract have lower cumulative abnormal returns for PIPEs. Our findings support the information production hypothesis that investor revision of the firm value would be larger for firms with high bankruptcy cost and worse performance in terms of market share price, and short term-solvency.

D. Tobit Regression Analysis Determining the Probability of Raising Equity Using PIPEs vs. SEOs

We investigate the choice between PIPE and SEO issuance for a given firm via a Tobit regression on the matched sample based on industry, issue year and quarter and firm size one quarter prior to issue. The dependent variable is an indicator variable equal to one if the issue is for a PIPE deal and zero for an SEO deal.

Table 10 provides the regression results for the matched sample. As expected, *OSIZE_TO_MCAP* (the relative offer size) is significantly negative. In other words, smaller size equity issues are more likely to be PIPE issues, when controlling for market, industry, and other issue and issuer characteristics. The sign on the *PRESTI_AGENT* dummy variable is also as expected. That is, all things being equal, PIPE issuers are less likely to hire a prestigious investment banker. Furthermore, the positive coefficient of *LOWPRICE* is consistent with our hypothesis that share prices of PIPE issuers are more likely to be low, as compared to those of SEO issuers.

We observe an interesting finding for accounting issuer characteristics, which is consistent with the difference-in-means test of the matched sample (provided in Table 8). According to Table 10 Model 1, we find that the long-term debt ratio, *LTDR*, is negative four quarters prior to issue and significant and positive one quarter prior to issue. The result suggests that the relative leverage of PIPE to SEO issuers increases as time approaches the issue date. This relative change becomes clearer in Model 2 in Table 10. A similar pattern is detected for the ratio of current liabilities to assets (*CL_TA*). The results suggest that relative short-term obligations gradually increase during the year prior to the PIPE issue. The results support our prediction of cash management that PIPE issuers are more cash-restricted than SEO issuers.

An interesting evolution in the year prior to issue also occurs for Tobin's Q. According to Table 10, the Tobin's Q coefficient is positive four quarters prior to issue and negative one quarter prior to issue. That is, the market performance relative to book value becomes worse as time moves forward towards issue.

E. Multinomial Logistic Regression Analysis Determining the Probability of Issuing vs. Not Issuing Equity

While in the previous sections we examined and compared PIPE and SEO issuers, we also would like to research what are the factors driving the decision to raise equity (in a public or private placement) vs. not to issue equity. Therefore, we use multinomial logistic regressions to compare the factors that predict issue of equity (PIPE or SEO) vs. not raising equity. The dependent variable, *D_OFFER* is a category variable equal to 0 – if the firm did not issue equity, 1 – if the firm conducted an SEO offering and 2 – if the company placed equity with private investors. For each matched pair of PIPE and SEO firms based on year and quarter of issue, as well as based on industry and size we match with a firm from the COMPUSTAT universe that has not issued equity during our sample period 1997 – 2006, within the same industry and similar size. Based on this procedure we obtain 1,359 observations. Table 11, presents two multinomial logistic regressions in which *D_OFFER* is the dependent variable, and *D_OFFER*=0 is the comparison group. In the first model we control for firm age, stock price less than $5 per share, long-term debt ratio, Tobin's Q, profitability (ROA), cash flow to book ratio, and current ratio. All accounting variables are measured one quarter prior to the event date. We observe that both SEO and PIPE issuers are younger firms, with higher Tobin's Q, lower cash flow to book ratio, and lower current ratio when compared to non-issuers. While the relationships observed are very similar for the PIPE and SEO samples, we do notice that the coefficient sizes of *CF_TO_BOOK* and *CR* are much higher (negative) in the PIPE sample. Also, while PIPE firms are more likely to be low priced stocks, the reverse is true for SEO issuers.

F. Long-Run Stock Price Performance

In this section, we conduct a long-run performance study, where we examine the determinants of PIPE and SEO long-term performance, measured by holding period 6-month, 1- and 2-year returns. While the initial summary statistics in Table 3 provide evidence that PIPE firms outperform SEO issuers in the long run, as we postulate in our Hypothesis 4, here we investigate if certain issue and issuer characteristics can predict the long-term performance of equity issuers. Results from the models examining the determinants of PIPE and SEO firms' long-run performance are presented in Table 12. We find that generally results are similar for the PIPE and SEO sample, as well as consistent with our findings about the determinants for cumulative abnormal announcement returns for equity (PIPE and SEO) issues. In all models the coefficient on *HOT_MKT* is negative, showing that issues during hot equity markets underperform in the long run. The coefficient of *LOWPRICE* is significant and positive in all models, suggesting that low price stocks perform well in the long run. With PIPE firms, larger firms are strongly positively related to long-term performance; this effect is less pronounced for SEO firms. Finally, Tobin's Q and retained earnings are negatively related to long-term returns, results that we also observe for the short-term wealth effect from stock issue announcements.

In addition to long-run performance, we also examine whether PIPE issuers are more likely to become takeover targets in the future. Table 13 exhibits descriptive characteristics of the firms which become takeover targets within 3 years of the stock equity issue announcement. We find that approximately 54% of PIPE issuers become takeover targets. In Table 14 we conduct a regression determining the impact of firm characteristics on the probability of a firm becoming a takeover target. The variable of interest here is *D_PE*, an indicator variable equal to one if the equity issue was privately placed (through PIPE) and zero if it was done through an SEO. *D_PE* is positive and statistically significant in all of the models, indicating that PIPE issuers are much more likely to become targets of takeovers.

5. Conclusions

We examine the determinants of the choice of raising equity from private versus public sources of financing, PIPE and SEO indirect issue costs (issue discount), announcement returns and long-term performance. We focus on private placement in public equity sales and seasoned equity offerings during 1997 - 2006. Based on the regression analysis of PIPE issues we find that issues that involve larger discount, lower Tobin's Q, cash flow to book ratio and current ratio have lower cumulative announcement returns for PIPEs. Based on the regression analysis for SEOs we observe negative relationship between leverage four quarters before the issue, but positive relationship between short term leverage and firm size, and CARs one quarter before issue. Our findings for PIPEs and SEOs fit the information production hypothesis that investor revision of the firm value would be larger for the firms with high bankruptcy cost and worse performance in terms of profitability, market share price, and short-term solvency.

We employ Tobit regressions to analyze the firm's choice between public and private equity placement, using a one-on-one SEO and PIPE issuers matched sample. We find that PIPEs are associated with significantly higher discount, both for the original and matched samples. We further argue that issuers who choose to use PIPEs rather than SEOs to raise equity have some specific characteristics. We find that smaller and younger firms tend to rely more on PIPE deals as a source of equity financing than on SEO deals. In addition, riskier firms, with increased leverage but high growth potential, are more likely to use private rather than public placement of equity. Based on the matched sample analysis, we find that PIPE issuers are more cash restricted and with higher bankruptcy cost at issue (but with higher growth potential) than SEO issuers. As time approaches the issue date, PIPE issuers gradually increase their relative (to SEO) leverage and short-term obligations, and perform poorer in terms of cash management and market to book performance.

We further confirm our hypothesis that PIPE issuers outperform SEO firms in the long run. However, because of the increased concentration of ownership, they are more likely to be targets for takeovers in the future. Our analysis sheds more light on private

investment in public equity as an important vehicle to finance small, high growth, cash restricted firms. We show that while issue discount associated with PIPEs is large, announcement returns are positive, and in the long run PIPE firms perform better than SEOs.

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Table 1: Annual Distribution of PIPEs and SEOs
Annual distribution of number of issues for 4,580 PIPEs and 3,051 SEOs issued during 1997 – 2006. Data for PIPE and SEO issue characteristics is obtained from FactSet and the SDC Platinum Database provided by Thomson, respectively.

	Number of Issues		
Year	PIPEs	SEOs	Total
1997	245	341	586
1998	242	251	493
1999	320	268	588
2000	540	270	810
2001	600	259	859
2002	434	265	699
2003	660	320	980
2004	563	405	968
2005	461	327	788
2006	515	345	860
Total	4580	3051	7631

Figure 1: Annual Distribution of PIPEs and SEOs
Annual distribution plot of number of issues for 4,580 PIPEs and 3,051 SEOs issued during 1997 – 2006. Data for PIPE and SEO issue characteristics is obtained from FactSet and the SDC Platinum Database provided by Thomson, respectively.

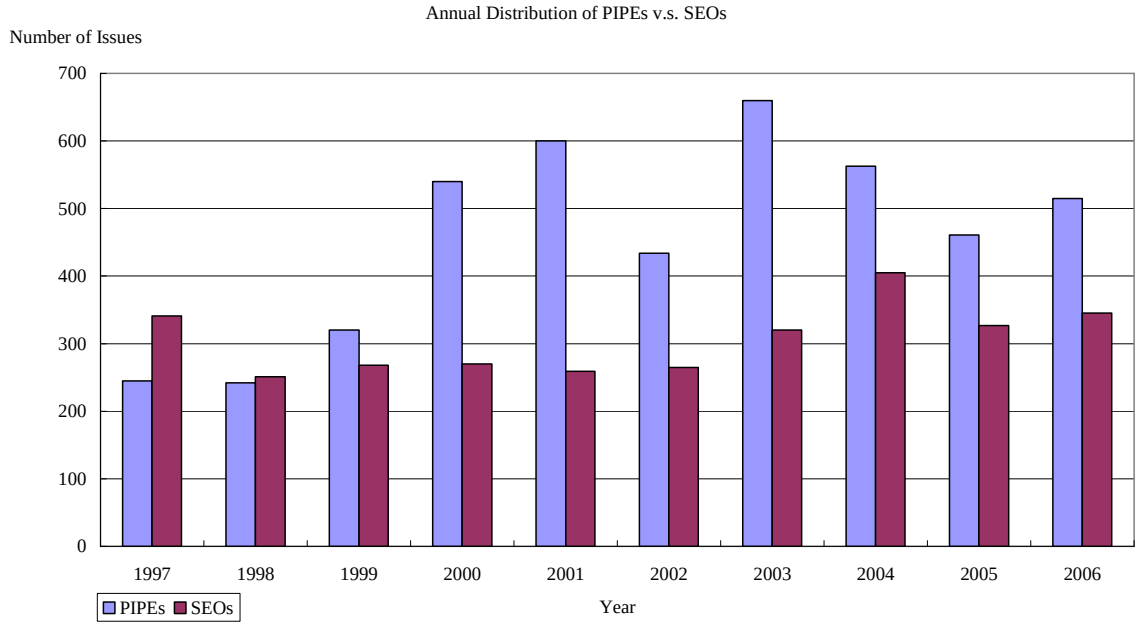

Table 2: Summary of Variable Definitions

Definitions are given for variables used in this paper. Our sample comprises PIPE and SEO issues from 1997 to 2006.Variables are classified in two categories: issue and issuer characteristics. Data for PIPE and SEO issue characteristics are gathered from FactSet and the SDC platinum Database provided by Thomson, respectively. Issuer characteristics data is obtained from Compustat and CRSP database.

Panel A. Issue Characteristics

Variable	Definition
DIRECT	An indicator variable equal to one if the issue was done in a direct offering, zero otherwise
PRESTI_AGENT	An indicator variable equal to one if the offer is underwritten by a prestigious investment banker based on ranking of Institutional Investor magazine 2003, and zero otherwise. Prestigious IBs include: Lehman Brothers, Morgan Stanley, Merrill Lynch, Smith Barney Citigroup, UBS, Credit Suisse First Boston, Goldman Sachs & Co., Bear, Stearns & Co., J.P. Morgan Securities, Deutsche Bank Securities.
PROTECT	An indicator variable equal to one if the issue offers any protection (reset ,floating, or convertible)
GPROCEEDS	Offer Size in Thousands USD
DISCOUNT	Issue discount defined as: For SEOs and common stock PIPEs, issue discount=1-(offer price/ market price at first trading day) if offer price>market price, or 0, otherwise; For convertible PIPEs, issue discount=1-(fixed conversion price/ market price on first trading day).
AGE	Age of the firm in months, defined as number of months to PIPE (SEO) issue date from the date the firm appears in CRSP for the first time.
HOT_MKT	A dummy variable equal to one if the issue is during a hot period. We use three-month moving average of the number of PIPEs (for PIPE sample) and SEOs (for the SEO sample) to identify hot periods. A period with at least three consecutive months that are in the upper third of PIPE (SEO) issuance activity represents a hot period (see Helwege and Liang, 2004).
LOWPRICE	An indicator variable indicating a low price stock and equal to one if the stock price is lower than $5.00, zero otherwise.
OILGAS	An indicator variable equal to one if the issuer is from the oil and gas industry based on SIC code; zero, otherwise.
BIO	An indicator variable equal to one if the issuer is from the biotechnology industry based on SIC code; zero, otherwise.
HIGHTEC	An indicator variable equal to one if the issuer is from the high technology industry based on SIC code; zero, otherwise.
RE	An indicator variable equal to one if the issuer is from the real estate industry based on SIC code; zero, otherwise.

Table 2: Panel B. Issuer Accounting Characteristics (One and Four Quarters Prior To Issue)

TYPE	Variable	Definition
Size	*MKTCAP*	Market capitalization of the firm defined as closing market price times common shares outstanding (in thousand USD)
Size	*TASSETS*	Total Assets = Book Value of Total Assets (in thousands USD)
Size	*OSIZE_TO_MCAP*	Offer Size / Market Capitalization
Debt Management	*LTDR*	Debt Ratio = Long Term Debt / Total Assets
Debt Management	*CL_TA*	Current Liabilities / Total Assets
Market Performance	*TOBINQ*	(Total Assets + Common Shares Outstanding * Market Price per Share - Book Value of Common Stocks) / Total Assets
Profitability	*ROA*	Net Income / Total Assets
Profitability	*CF_TO_BOOK*	Cash Flow / Total Assets
Profitability	*RE_TA*	Retained Earnings / Total Assets
Cash Management	*CASH_DEPLETE*	Absolute Value of Cash Flow from Operations / Cash and Short Term Investments
Short term solvency	*CA_TA*	Current Assets/ Total Assets
Short term solvency	*CR*	Current Ratio = Current Assets / Current Liabilities
Short term solvency	*QR*	Quick Ratio = (Current Assets - Inventory) / Current Liabilities

Table 3: Descriptive Statistics

Descriptive statistics for 4,580 PIPEs and 3,051 SEOs issued during 1997 – 2006. Data for PIPE and SEO issue characteristics is obtained from FactSet and the SDC Platinum Database provided by Thomson, respectively. Issuer characteristics variables are obtained from COMPUSTAT and CRSP database. CARs are cumulative abnormal returns in the respective windows. Gross proceeds, market capitalization and total assets are in thousands USD. All variables are as defined in Table 2.

Panel A: PIPEs (N=4,580)

		PIPEs			
		N	**MEAN**	**MEDIAN**	**STD**
CAR	*CAR(0,+1)*	4580	0.014	-0.001	0.121
	CAR(-1,+1)	4580	0.016	0.001	0.138
	CAR(-2,+2)	4580	0.019	-0.001	0.165
	CAR(-5,+5)	4580	0.020	-0.001	0.195
	CAR(-5,+10)	4580	0.021	-0.009	0.264
HPR	*HPR(6m)*	3329	-0.043	-0.101	0.440
	HPR(1y)	3984	-0.034	-0.159	0.601
	HPR(2y)	3007	0.084	-0.134	0.793
Issue Characteristics	*DIRECT*	4580	0.380	0.000	0.485
	PRESTI_AGENT	4580	0.204	0.000	0.403
	GPROCEEDS	4580	69,928	10,000	206,958
	DISCOUNT	4409	0.107	0.030	0.178
	AGE	4580	110.140	75.000	118.061
	HOT_MKT	4580	0.458	0.000	0.498
Issuer Accounting Characteristics 1 Quarter Prior to Issue Date	*MKTCAP*	4580	925,477	102,636	5,070,112
	TASSETS	4580	1,093,910	45,895	8,512,049
	OSIZE_TO_MCAP	4580	0.187	0.118	0.460
	LTDR	4580	0.171	0.055	0.281
	CL_TA	4367	0.315	0.244	0.357
	TOBINQ	4576	4.457	2.794	6.398
	ROA	4580	-0.139	-0.075	0.266
	CF_TO_BOOK	4580	-0.098	-0.048	0.198
	CASH_DEPLETE	4430	5.278	0.419	79.427
	RE_TA	4580	-3.527	-1.346	7.472
	CA_TA	4366	0.561	0.579	0.258
	CR	4366	3.354	1.958	5.240
	QR	3904	3.472	2.058	5.303
Issuer Accounting Characteristics 4 Quarters Prior to Issue Date	*MKTCAP*	4437	996,029	97,391	6,803,554
	TASSETS	4545	1,008,165	45,924	7,622,627
	OSIZE_TO_MCAP	4437	0.235	0.122	0.920
	LTDR	4528	0.158	0.046	0.268
	CL_TA	4332	0.282	0.207	0.518
	TOBINQ	4415	4.398	2.719	5.929
	ROA	4535	-0.118	-0.065	0.360
	CF_TO_BOOK	4338	-0.086	-0.046	0.338
	CASH_DEPLETE	4392	19.914	0.301	1037.444
	RE_TA	4514	-3.213	-1.041	31.961
	CA_TA	4331	0.586	0.619	0.261
	CR	4329	4.125	2.361	7.014
	QR	3873	4.275	2.483	7.271

Panel B: SEOs (N=3,051)

		SEOs			
		N	**MEAN**	**MEDIAN**	**STD**
CAR	*CAR(0,+1)*	3051	-0.010	-0.012	0.071
	CAR(-1,+1)	3051	-0.017	-0.018	0.082
	CAR(-2,+2)	3051	-0.021	-0.019	0.098
	CAR(-5,+5)	3051	-0.023	-0.020	0.114
	CAR(-5,+10)	3051	-0.037	-0.028	0.159
HPR	*HPR(6m)*	2397	-0.005	0.006	0.285
	HPR(1y)	2872	-0.043	-0.039	0.398
	HPR(2y)	2361	-0.075	-0.098	0.515
Issue Characteristics	*DIRECT*	3051	0.014	0.000	0.118
	PRESTI_AGENT	3051	0.630	1.000	0.483
	GPROCEEDS	3051	178,959	90,800	298,442
	DISCOUNT	2712	0.059	0.000	0.144
	AGE	3051	120.264	63.000	160.227
	HOT_MKT	3051	0.429	0.000	0.495
Issuer Accounting Characteristics 1 Quarter Prior to Issue Date	*MKTCAP*	3051	2,381,371	621,175	8,859,958
	TASSETS	3051	3,661,798	469,757	19,447,322
	OSIZE_TO_MCAP	3051	0.218	0.152	0.503
	LTDR	3051	0.229	0.178	0.234
	CL_TA	2509	0.217	0.180	0.151
	TOBINQ	3044	3.774	2.226	5.648
	ROA	3051	-0.011	0.008	0.081
	CF_TO_BOOK	3051	0.012	0.026	0.081
	CASH_DEPLETE	2745	0.796	0.000	7.451
	RE_TA	3051	-0.371	0.018	1.557
	CA_TA	2501	0.481	0.465	0.277
	CR	2500	3.079	1.979	3.488
	QR	2042	3.429	2.258	3.720
Issuer Accounting Characteristics 4 Quarters Prior to Issue Date	*MKTCAP*	2666	1,881,354	424,987	7,465,852
	TASSETS	2935	3,262,463	405,656	1,8378,262
	OSIZE_TO_MCAP	2666	0.416	0.211	1.779
	LTDR	2925	0.243	0.187	0.249
	CL_TA	2410	0.231	0.187	0.201
	TOBINQ	2642	2.741	1.913	2.519
	ROA	2927	-0.015	0.006	0.139
	CF_TO_BOOK	2811	0.008	0.025	0.104
	CASH_DEPLETE	2625	1.277	0.000	13.756
	RE_TA	2895	-0.411	0.010	1.811
	CA_TA	2400	0.485	0.471	0.278
	CR	2399	3.262	1.953	4.137
	QR	1918	3.610	2.179	4.436

Table 4: Descriptive Statistics for PIPE and SEO Issues by Industry

Descriptive statistics for 4,580 PIPEs and 3,051 SEOs issued during 1997 – 2006 by Industry. *CHEALLIED* represent the Chemicals and Allied Products Industry (SIC code 28); *BIO* represents the biotechnology industry (SIC code=2836) - Note that *BIO* is included in *CHEMALLIED*; *HIGHTECH* includes high technology firms deal with communications, electronic and computer equipment and components, industrial and commercial machinery, measuring, analyzing, and controlling instruments, photographic, medical and optical goods, and watches and clocks (SIC codes 35, 36, 38, and 48); *SERVICES* is the services industry (SIC codes from 70 to 89); *FININSRE* is the finance, insurance, and Real Estate industry; *MINING* includes mining and oil gas industry (SIC codes from 10 to 14); *ELEGASSAN* represent electric, gas, and sanitary services industry (SIC code 49); *OTHER* represents the industries excluding those categories mentioned above. Data for PIPE and SEO issue characteristics is obtained from FactSet and the SDC Platinum Database provided by Thomson, respectively. Issuer characteristics variables are obtained from COMPUSTAT and CRSP database. CARs are cumulative abnormal returns in the respective windows. All variables are as defined in Table 2.

Panel A: SEOs

	SIC	Number	*Discount*		*CAR(0,+1)*		*CAR(-1,+1)*		*CAR(-2,+2)*		*CAR(-5,+5)*		*CAR(-5,+10)*	
			Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
CHEMALLIED	28	287	0.065	0	-0.018	-0.023	-0.028	-0.031	-0.033	-0.031	-0.038	-0.03	-0.068	-0.049
BIO	2836	19	0.074	0	-0.059	-0.059	-0.056	-0.056	-0.046	-0.051	-0.048	-0.096	-0.025	-0.1
HIGHTECH	35,36,38,48	641	0.061	0	-0.013	-0.015	-0.024	-0.024	-0.028	-0.027	-0.037	-0.032	-0.048	-0.044
SERVICES	70~89	583	0.06	0	-0.006	-0.009	-0.014	-0.014	-0.022	-0.017	-0.024	-0.02	-0.05	-0.027
FININSRE	60~67	519	0.062	0	-0.005	-0.009	-0.007	-0.011	-0.009	-0.013	-0.006	-0.012	-0.008	-0.013
MINING	10~14	210	0.052	0	-0.012	-0.013	-0.016	-0.017	-0.019	-0.013	-0.016	-0.016	-0.03	-0.026
ELEGASSAN	49	158	0.083	0	-0.011	-0.012	-0.016	-0.015	-0.017	-0.013	-0.017	-0.016	-0.025	-0.023
OTHERS		653	0.044	0	-0.009	-0.012	-0.018	-0.02	-0.018	-0.018	-0.017	-0.017	-0.029	-0.03

Panel B: PIPEs

	SIC	Number	*Discount*		*CAR(0,+1)*		*CAR(-1,+1)*		*CAR(-2,+2)*		*CAR(-5,+5)*		*CAR(-5,+10)*	
			Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
CHEMALLIED	28	967	0.102	0.048	0.008	-0.005	0.012	0	0.02	-0.001	0.024	-0.005	0.032	-0.007
BIO	2836	104	0.095	0.05	0.005	-0.004	0.001	-0.012	0.003	-0.03	-0.003	-0.031	0.048	-0.017
HIGHTECH	35,36,38,48	1331	0.114	0.047	0.014	-0.001	0.017	0.001	0.021	0	0.02	-0.002	0.026	-0.01
SERVICES	70~89	1076	0.112	0.029	0.016	-0.001	0.022	0.003	0.025	0.001	0.024	0.002	0.013	-0.009
FININSRE	60~67	256	0.078	0	0.007	-0.001	0.005	-0.002	0.004	-0.003	0.005	-0.001	0.013	-0.008
MINING	10~14	210	0.104	0.022	0.013	-0.002	0.012	0.001	0.007	-0.003	0	-0.011	0.003	-0.028
ELEGASSAN	49	66	0.127	0.023	0.012	-0.002	0.006	-0.002	0.002	0.002	0	0.002	-0.004	0.016
OTHERS		674	0.106	0	0.02	0.002	0.019	0.005	0.016	0.001	0.018	0.002	0.017	-0.011

Table 5: Sample Comparison of Cumulative Abnormal Returns, Issue and Firm Characteristics for PIPE and SEO issues

Cumulative abnormal returns, issue and firm characteristics statistics and T-test values for 4,580 PIPEs and 3,051 SEOs issued during 1997 – 2006. Data for PIPE and SEO issuer characteristics is obtained from FactSet and the SDC Platinum Database provided by Thomson, respectively. Issuer characteristics variables are obtained from COMPUSTAT and CRSP database. CARs are cumulative abnormal returns in the respective windows. Gross proceeds, market capitalization and total assets are in thousands USD. All variables are as defined in Table 2.
*** : 1% significance level, ** : 5% significance level, *: 10% significance level

Panel A. Cumulative Abnormal Returns

		N	Mean	S. E.
CAR(0,+1)	SEO	3051	-0.010	0.001
	PIPE	4580	0.014	0.002
	Diff		-0.023 ***	0.000
CAR(-1,1)	SEO	3051	-0.017	0.001
	PIPE	4580	0.016	0.002
	Diff		-0.034 ***	0.000
CAR(-2,2)	SEO	3051	-0.021	0.002
	PIPE	4580	0.019	0.002
	Diff		-0.040 ***	0.000
CAR(-5,5)	SEO	3051	-0.023	0.002
	PIPE	4580	0.020	0.003
	Diff		-0.042 ***	0.000
CAR(-5,+10)	SEO	3051	-0.037	0.003
	PIPE	4580	0.021	0.004
	Diff		-0.058 ***	0.010

Panel B: Issue Characteristics

		N	Mean	S. E.
PRESTI_AGENT	SEO	3051	0.630	0.483
	PIPE	4580	0.204	0.403
	Diff		0.425 ***	0.010
GPROCEEDS	SEO	3051	178,959	298,442
	PIPE	4580	69,928	206,958
	Diff		109,031 ***	5.787
DISCOUNT	SEO	2712	0.059	0.144
	PIPE	4409	0.107	0.178
	Diff		-0.049 ***	0.004
AGE	SEO	3051	120.264	160.227
	PIPE	4580	110.140	118.061
	Diff		10.123 ***	3.190
HOT_MKT	SEO	3051	0.429	0.495
	PIPE	4580	0.458	0.498
	Diff		-0.028 **	0.012
LOWPRICE	SEO	3051	0.112	0.006
	PIPE	4580	0.468	0.007
	Diff		-0.356 ***	0.010
OILGAS	SEO	3051	0.055	0.004
	PIPE	4580	0.031	0.003
	Diff		0.024 ***	0.005
BIO	SEO	3051	0.006	0.001
	PIPE	4580	0.023	0.002
	Diff		-0.016 ***	0.003
HIGHTEC	SEO	3051	0.210	0.007
	PIPE	4580	0.291	0.007
	Diff		-0.081 ***	0.010
RE	SEO	3051	0.004	0.001
	PIPE	4580	0.003	0.001
	Diff		0.001 ***	0.001

Panel C: Issuer Characteristics

		1 Quarter Prior to Issue			4 Quarters Prior to Issue		
		N	**Mean**	**S. E.**	**N**	**Mean**	**S. E.**
MKTCAP	SEO	3051	2,381,371	8,859,958	2666	1,881,354	7,465,852
	PIPE	4580	925,477	5,070,112	4437	996,029	6,803,554
	Diff		1,455,894 ***	159,888		885,325 ***	172,987
TASSETS	SEO	3051	3,661,798	19,447,322	2935	3,262,463	1,8378,262
	PIPE	4580	1,093,910	8,512,049	4545	1,008,165	7,622,627
	Diff		2,567,888 ***	326,067		2,254,299 ***	306,769
OSIZE_TO_MCAP	SEO	3051	0.218	0.503	2666	0.416	1.779
	PIPE	4580	0.187	0.460	4437	0.235	0.920
	Diff		0.031 ***	0.011		0.181 ***	0.032
LTDR	SEO	3051	0.229	0.234	2925	0.243	0.249
	PIPE	4580	0.171	0.281	4528	0.158	0.268
	Diff		0.058 ***	0.006		0.085 ***	0.006
CL_TA	SEO	2509	0.217	0.151	2410	0.231	0.201
	PIPE	4367	0.315	0.357	4332	0.282	0.518
	Diff		-0.099 ***	0.007		-0.051 ***	0.011
TOBINQ	SEO	3044	3.774	5.648	2642	2.741	2.519
	PIPE	4576	4.457	6.398	4415	4.398	5.929
	Diff		-0.682 ***	0.143		-1.657 ***	0.121
ROA	SEO	3051	-0.011	0.081	2927	-0.015	0.139
	PIPE	4580	-0.139	0.266	4535	-0.118	0.360
	Diff		0.128 ***	0.005		0.103 ***	0.007
CF_TO_BOOK	SEO	3051	0.012	0.081	2811	0.008	0.104
	PIPE	4580	-0.098	0.198	4338	-0.086	0.338
	Diff		0.110 ***	0.004		0.095 ***	0.007
CASH_DEPLETE	SEO	2745	0.796	7.451	2625	1.277	13.756
	PIPE	4430	5.278	79.427	4392	19.914	1037.444
	Diff		-4.482 ***	1.520		-18.637	20.250
RE_TA	SEO	3051	-0.371	1.557	2895	-0.411	1.811
	PIPE	4580	-3.527	7.472	4514	-3.213	31.961
	Diff		3.156 ***	0.137		2.802 ***	0.595
CA_TA	SEO	2501	0.481	0.277	2400	0.485	0.278
	PIPE	4366	0.561	0.258	4331	0.586	0.261
	Diff		-0.080 ***	0.007		-0.101 ***	0.007
CR	SEO	2500	3.079	3.488	2399	3.262	4.137
	PIPE	4366	3.354	5.240	4329	4.125	7.014
	Diff		-0.276 ***	0.117		-0.863 ***	0.156
QR	SEO	2042	3.429	3.720	1918	3.610	4.436
	PIPE	3904	3.472	5.303	3873	4.275	7.271
	Diff		-0.043	0.132		-0.665 ***	0.181

Table 6: Heckman's Two-Stage Least Squares Regression Results

This table provides the results for the two-stage Heckman selection models, where the dependent variable is the risk-adjusted abnormal announcement period return for 4,580 PIPEs and 3,051 SEOs issued during 1997-2006. In the first stage, the PIPE issue indicator variable, *D_PE*, is regressed on the issue and issuer characteristics. In the second stage, the dependent variables used are cumulative abnormal returns for days 0 to +1, -1 to +1, -2 to +2, -5 to +5, and -5 to +10, where day 0 is the issue date. Calculations of cumulative abnormal returns are based on Mikkelson and Partch (1988). Variable definitions are provided in Table2. The standard errors are robust standardized.

***, ** and * denote significance levels of 1%, 5% and 10%, respectively.

	CAR(0,+1)		CAR(-1,+1)		CAR(-2,+2)		CAR(-5,+5)		CAR(-5,+10)	
	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat
INTERCEPT	0.033 ***	8.25	0.033 ***	6.60	0.036 ***	6.00	0.041 ***	5.12	0.050 ***	5.56
PRESTI_AGENT	-0.014 ***	-3.50	-0.012 ***	-2.40	-0.013 **	-2.60	-0.023 ***	-3.83	-0.056 ***	-7.00
DISCOUNT	-0.070 ***	-5.83	-0.032 **	-2.13	-0.023	-1.35	-0.023	-1.00	0.033	1.03
$TOBINQ_{T-1}$	-0.001 ***	-10.00	-0.001 ***	-10.00	-0.002 ***	-2.00	-0.002 ***	-2.00	-0.003 ***	-3.00
LIB_ASSET_{T-1}	0.004 **	2.00	0.005 *	1.667	0.004	1.33	0.006	1.50	0.005	0.71
ROA_{T-1}	-0.021 *	-1.91	-0.02	-1.54	-0.028 **	-2.15	-0.016	-1.067	-0.018	-0.75
Selection Equation - Dependent Variable : D_PE										
INTERCEPT	2.265 ***	7.06	2.265 ***	8.78	2.265 ***	5.70	2.265 ***	6.55	2.265 ***	6.49
LOWPRICE	0.450 ***	9.37	0.450 ***	9.57	0.450 ***	11.84	0.450 ***	10.23	0.45 ***	8.49
OILGAS	-0.149 *	-1.66	-0.149 *	-1.77	-0.149 *	-1.86	-0.149 *	-1.69	-0.149 *	-1.86
$LTDR_{T-1}$	0.180 **	2.14	0.180 **	2.14	0.180 *	1.89	0.180 *	1.75	0.18 **	1.96
$CURLIB\_ASSET_{T-1}$	0.445 ***	2.82	0.445 ***	2.95	0.445 ***	3.01	0.445 ***	3.45	0.445 ***	3.25
$TOBINQ_{T-1}$	-0.041 ***	-8.20	-0.041 ***	-8.20	-0.041 ***	-5.86	-0.041 ***	-5.12	-0.041 ***	-5.86
ROA_{T-1}	-1.067 **	-2.40	-1.067 ***	-3.10	-1.067 **	-2.46	-1.067 ***	-2.71	-1.067 ***	-3.21
$CF\_TO\_BOOK_{T-1}$	-1.626 ***	-3.45	-1.626 ***	-3.13	-1.626 **	-2.53	-1.626 ***	-2.59	-1.626 ***	-2.89
$LNTASSET_{T-1}$	-0.160 ***	-10.00	-0.16 ***	-11.43	-0.160 ***	-8.42	-0.160 ***	-8.89	-0.16 ***	-9.41
$OSIZE\_TO\_MCAP_{T-1}$	-0.265	-0.95	-0.265	-0.93	-0.265	-0.71	-0.265	-0.85	-0.265	-0.73
IMR	-0.018 ***	-2.57	-0.022 ***	-3.14	-0.023 ***	-2.56	-0.019 *	-1.58	-0.024 *	-1.71
Wald chi^2	62.65		28.15		19.33		25.84		71.61	

Table 7: Matched Sample Descriptive Statistics

Matched sample includes 1,438 PIPEs and SEOs and is a result of a matching procedure in which we match issues based on year quarter, issuer industry (based on two-digit SIC codes), and size (total assets). Definitions of variables are provided in Table 2. Our sample includes PIPE and SEO issues from 1997 to 2006. Data for PIPE and SEO issuer non-accounting information are gathered from FactSet and the SDC Platinum Database provided by Thomson, respectively. Issuer characteristics variables are obtained from COMPUSTAT and CRSP database.

Panel A: Cumulative Abnormal Returns

	SEO (N=719)			**PIPE (N=719)**		
	MEAN	MEDIAN	STD	MEAN	MEDIAN	STD
CAR(0,+1)	-0.016	-0.020	0.091	0.012	-0.004	0.129
CAR(-1,1)	-0.029	-0.028	0.109	0.013	0.002	0.143
CAR(-2,2)	-0.037	-0.035	0.135	0.017	-0.001	0.164
CAR(-5,5)	-0.044	-0.044	0.151	0.017	-0.005	0.196
CAR(-5,+10)	-0.074	-0.062	0.223	0.019	-0.011	0.249

Panel B: Issue Characteristics

	SEO (N=719)			**PIPE (N=719)**		
	MEAN	MEDIAN	STD	MEAN	MEDIAN	STD
DIRECT	0.018	0.000	0.133	0.398	0.000	0.490
PRESTI_AGENTS	0.537	1.000	0.499	0.196	0.000	0.397
GPROCEEDS	85,600	58,500	97,200	42,900	15,000	78,700
DISCOUNT	0.063	0.000	0.166	0.120	0.040	0.212
AGE	74.337	47.000	85.286	91.754	67.000	87.594
HOT_MKT	0.477	0.000	0.500	0.427	0.000	0.495

Table 7, Panel C: Issuer Characteristics

		SEO (N=719)			PIPE (N=719)		
		MEAN	MEDIAN	STD	MEAN	MEDIAN	STD
4 Quarters Prior to Issue Date	*MKTCAP*	410,976	152,459	1,269,428	363,980	106,964	1,664,068
	TASSETS	289,179	55,383	2,097,259	291,744	54,637	2,053,372
	OSIZE_TO_MCAP	0.571	0.343	1.000	0.250	0.143	0.359
	LTDR	0.133	0.021	0.230	0.147	0.041	0.220
	CL_TA	0.247	0.188	0.224	0.252	0.203	0.189
	TOBINQ	4.278	3.408	3.603	3.891	2.748	4.265
	ROA	-0.078	-0.026	0.239	-0.103	-0.072	0.189
	CF_TO_BOOK	-0.053	-0.005	0.187	-0.074	-0.052	0.122
	CASH_DEPLETE	1.245	0.116	8.823	11.890	0.306	166.820
	RE_TA	-1.477	-0.676	3.042	-2.049	-1.057	3.421
	CA_TA	0.668	0.721	0.243	0.591	0.621	0.250
	CR	5.064	3.004	5.608	4.148	2.543	4.788
	QR	5.268	3.224	5.756	4.289	2.626	4.915
1 Quarters Prior to Issue Date	*MKTCAP*	607,680	298,121	1,371,469	419,050	133,946	1,307,698
	TASSETS	335,821	67,118	2,279,928	329,355	59,035	2,280,673
	OSIZE_TO_MCAP	0.303	0.197	0.821	0.169	0.125	0.172
	LTDR	0.110	0.011	0.205	0.161	0.049	0.249
	CL_TA	0.224	0.182	0.154	0.269	0.218	0.202
	TOBINQ	6.302	4.594	6.198	4.195	3.087	5.565
	ROA	-0.061	-0.018	0.134	-0.111	-0.076	0.201
	CF_TO_BOOK	-0.038	0.003	0.129	-0.072	-0.050	0.125
	CASH_DEPLETE	0.784	0.109	3.822	12.408	0.376	180.517
	RE_TA	-1.365	-0.553	2.641	-2.478	-1.249	4.342
	CA_TA	0.666	0.718	0.239	0.578	0.604	0.244
	CR	4.598	3.303	4.551	3.561	2.296	3.892
	QR	4.793	3.546	4.638	3.670	2.378	3.967

Table 8: Matched Sample Comparisons between PIPEs and SEOs

Matched sample includes 1,438 PIPEs and SEOs and is a result of a matching procedure in which we match issues based on year quarter, issuer industry (based on two-digit SIC codes), and size (total assets). Definitions of variables are provided in Table 2. Our sample includes PIPE and SEO issues from 1997 to 2006. Data for PIPE and SEO issuer non-accounting information are gathered from FactSet and the SDC Platinum Database provided by Thomson, respectively. Issuer characteristics variables are obtained from COMPUSTAT and CRSP database.
***, ** and * denote significance levels of 1%, 5% and 10%, respectively.

Panel A: CAR and Issue Characteristics (N=1,438)

Variable		Mean	S.E.
CAR(0,+1)	SEO	-0.016	0.003
	PIPE	0.012	0.005
	Diff	-0.028 ***	0.006
CAR(-1,1)	SEO	-0.029	0.004
	PIPE	0.013	0.005
	Diff	-0.042 ***	0.007
CAR(-2,2)	SEO	-0.037	0.005
	PIPE	0.017	0.006
	Diff	-0.054 ***	0.008
CAR(-5,5)	SEO	-0.044	0.006
	PIPE	0.017	0.007
	Diff	-0.062 ***	0.009
CAR(-5,+10)	SEO	-0.074	0.008
	PIPE	0.019	0.009
	Diff	-0.092 ***	0.012
PRESTI_AGENT	SEO	0.537	0.019
	PIPE	0.196	0.015
	Diff	0.341 ***	0.024
GROSS_PROCEEDS	SEO	85,596	3623
	PIPE	42,863	2936
	Diff	42,732 ***	4664
ISSUE_DISCOUNT	SEO	0.063	0.006
	PIPE	0.120	0.008
	Diff	-0.057 ***	0.010
AGE	SEO	74.337	3.181
	PIPE	91.754	3.267
	Diff	-17.417 ***	4.559
HOT_MKT	SEO	0.477	0.019
	PIPE	0.427	0.018
	Diff	0.050 *	0.026

Panel B. Issuer Characteristics (N=1,438)

		One Quarter Prior to Issue		Four Quarters Prior to Issue	
		Mean	S.E.	Mean	S.E.
MKTCAP	SEO	607,680	51,147	410,976	52,041
	PIPE	419,050	48,769	363,980	63,861
	Diff	188,630 ***	70,671	46,996	83,830
OSIZE_MCAP	SEO	0.303	0.031	0.571	0.041
	PIPE	0.169	0.006	0.250	0.014
	Diff	0.134 ***	0.031	0.321 ***	0.041
LTDR	SEO	0.110	0.008	0.133	0.009
	PIPE	0.161	0.009	0.147	0.008
	Diff	-0.052 ***	0.012	-0.015	0.012
CL_TA	SEO	0.224	0.006	0.247	0.009
	PIPE	0.269	0.008	0.252	0.007
	Diff	-0.046 ***	0.010	-0.005	0.011
TOBINQ	SEO	6.302	0.231	4.278	0.149
	PIPE	4.195	0.208	3.891	0.164
	Diff	2.107 ***	0.311	0.387 *	0.224
ROA	SEO	-0.061	0.005	-0.078	0.009
	PIPE	-0.111	0.007	-0.103	0.007
	Diff	0.051 ***	0.009	0.025 **	0.012
CF_TO_BOOK	SEO	-0.038	0.005	-0.053	0.007
	PIPE	-0.072	0.005	-0.074	0.005
	Diff	0.034 ***	0.007	0.020 **	0.009
CASH_DEPLETE	SEO	0.784	0.143	1.245	0.342
	PIPE	12.408 *	6.779	11.890	6.292
	Diff	-11.625	6.771	-10.645 *	6.468
RE_TA	SEO	-1.365	0.098	-1.477	0.118
	PIPE	-2.478	0.162	-2.049	0.129
	Diff	1.113 ***	0.190	0.573 ***	0.175
CA_TA	SEO	0.666	0.009	0.668	0.009
	PIPE	0.578	0.009	0.591	0.009
	Diff	0.088 ***	0.013	0.078 ***	0.013
CR	SEO	4.598	0.172	5.064	0.218
	PIPE	3.561	0.146	4.148	0.181
	Diff	1.037 ***	0.226	0.916 ***	0.282
QR	SEO	4.793	0.181	5.268	0.236
	PIPE	3.670	0.156	4.289	0.193
	Diff	1.123 ***	0.239	0.979 ***	0.302

Table 9: Regressions of Abnormal Announcement Period Returns on Issuer Characteristics

This table provides the results of the ordinary least square regression models of the risk-adjusted announcement period returns for 4,580 PIPEs and 3,051 SEOs from 1997 to 2006. The dependent variables used are the cumulative abnormal returns for days 0 to +1, -1 to +1, -2 to +2,-5 to +5, and -5 to +10, where day 0 is the issue date. Calculations of cumulative abnormal returns are based on Mikkelson and Partch (1988). Variable definitions are given in Table 2.
***, ** and * denote significance levels of 1%, 5% and 10% respectively.

Panel A: PIPEs

	PIPE									
	CAR(0,+1)		CAR(-1,1)		CAR(-2,2)		CAR(-5,5)		CAR(-5,10)	
	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat
INTERCEPT	0.048	1.31	0.051	1.19	0.036	0.93	0.039	0.70	0.117 *	1.68
PRESTI_AGENTS	-0.017 ***	-2.71	-0.016 **	-2.02	-0.019 ***	-2.61	-0.029 ***	-3.46	-0.055 ***	-4.68
DISCOUNT	-0.079 ***	-6.04	-0.040 **	-2.05	-0.034 *	-1.87	-0.033	-1.28	0.019	0.70
AGE	0.000	-0.04	0.000	0.19	0.000	0.16	0.000	-0.03	0.000	-0.37
HOT_MKT	0.005	1.30	0.008	1.62	0.012 **	2.41	0.014 **	2.51	0.028 ***	3.10
LOWPRICE	-0.012 **	-2.23	-0.007	-1.20	-0.010	-1.27	-0.011	-1.42	-0.022 **	-2.49
PROTECT	0.005	0.98	0.005	0.88	0.000	0.04	-0.011	-1.51	-0.031 ***	-2.65
OILGAS	0.015	1.40	0.010	1.29	0.005	0.50	-0.011	-0.95	0.004	0.23
BIO	-0.017	-1.51	-0.026 *	-1.85	-0.027	-1.43	-0.035 *	-1.78	0.021	0.49
HIGHTEC	-0.002	-0.40	-0.002	-0.34	0.001	0.12	-0.002	-0.31	0.010	1.08
RE	0.047	1.20	0.020	0.35	0.036	0.88	0.057	0.30	0.035	0.79
$LTDR_{t-4}$	-0.008	-0.68	-0.008	-0.47	-0.010	-0.54	-0.023	-1.23	-0.053 **	-2.23
$CURLIB\_ASSET_{T-4}$	-0.007	-0.53	-0.006	-0.46	-0.003	-0.28	-0.014	-1.19	-0.005	-0.34
$TOBINQ_{T-4}$	0.000	0.65	0.000	0.69	0.000	0.65	0.000	0.22	0.000	0.32
ROA_{T-4}	0.017	0.99	0.018	0.94	0.025	0.97	-0.018	-0.52	0.003	0.08
$CF\_TO\_BOOK_{T-4}$	-0.023	-0.86	-0.022	-0.64	-0.024	-0.93	0.001	0.03	-0.013	-0.22
$CASH\_DEPLETE_{T-4}$	0.000	0.01	0.000	0.02	0.000	0.00	0.000	0.00	0.000	0.00
CR_{T-4}	0.000	-0.15	0.000	0.16	0.000	0.53	0.000	0.32	0.000	0.09
$LNTASSET_{T-1}$	-0.003	-1.41	-0.003	-1.25	-0.002	-0.83	-0.001	-0.27	-0.004	-1.04
$OSIZE\_TO\_MCAP_{T-1}$	0.025	1.34	0.020	1.02	0.023	0.77	0.030	1.30	0.086 **	2.53
$LTDR_{T-1}$	0.010	0.86	0.014	0.73	0.020	1.08	0.027	1.45	0.053 **	2.31
$CURLIB\_ASSET_{T-1}$	0.010	0.95	0.003	0.26	-0.007	-0.55	0.003	0.18	-0.016	-0.81
$TOBINQ_{T-1}$	-0.001 ***	-2.63	-0.001 ***	-2.99	-0.002 ***	-3.03	-0.002 ***	-2.67	-0.004 ***	-3.25
ROA_{T-1}	0.011	0.82	0.016	1.00	0.033 *	1.84	0.033	1.48	0.058 **	1.96
$CF\_TO\_BOOK_{T-1}$	-0.043 *	-1.64	-0.056	-1.49	-0.129 ***	-3.37	-0.090 **	-2.10	-0.141 ***	-2.66
$CASH\_DEPLETE_{T-1}$	0.000	-0.60	0.000	-0.29	0.000	-0.66	0.000	-0.13	0.000	-0.40
RE_ASSET_{T-1}	0.000	0.71	0.000	0.84	0.000	0.94	0.000	0.28	0.000	-0.42
$CURRENT\_RATIO_{T-1}$	-0.001	-1.48	-0.001 **	-2.21	-0.002 ***	-2.66	-0.002 ***	-2.58	-0.003 **	-2.33
Wald chi^2	143.830		139.650		110.640		154.380		373.550	
Adj. Rsq	0.028		0.015		0.017		0.014		0.034	

Panel B: SEOs

	SEO									
	CAR(0,+1)		CAR(-1,1)		CAR(-2,2)		CAR(-5,5)		CAR(-5,10)	
	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat
INTERCEPT	-0.007	-0.22	-0.105 ***	-2.90	-0.120 ***	-2.69	-0.100 *	-1.73	-0.165 **	-2.51
PRESTI_AGENTS	-0.003	-0.76	-0.002	-0.38	-0.004	-0.77	-0.005	-0.76	-0.009	-1.12
DISCOUNT	-0.020	-1.20	-0.027	-1.52	-0.007	-0.36	0.001	0.06	-0.002	-0.04
AGE	0.000	-1.56	0.000	-1.63	0.000	-1.45	0.000 **	-2.05	0.000 *	-1.72
HOT_MKT	-0.005	-1.35	-0.001	-0.19	0.000	0.04	-0.002	-0.47	0.017 *	1.89
LOWPRICE	-0.001	-0.17	0.002	0.21	0.003	0.34	-0.001	-0.12	-0.016	-1.16
OILGAS	-0.005	-0.83	-0.001	-0.16	-0.006	-0.87	-0.004	-0.52	-0.012	-0.93
BIO	-0.052 ***	-2.77	-0.034 **	-2.02	-0.012	-0.35	-0.002	-0.08	0.062	0.79
HIGHTEC	-0.004	-0.89	-0.006	-1.10	-0.008	-1.46	-0.017 **	-2.55	-0.007	-0.72
RE	0.007	0.17	0.023	0.58	0.035	0.44	0.009	0.09	0.004	0.08
$LTDR_{t-4}$	-0.034 **	-2.38	-0.051 ***	-2.62	-0.046 **	-1.96	-0.039	-1.53	0.008	0.28
$CURLIB\_ASSET_{T-4}$	-0.041 *	-1.67	-0.050 *	-1.80	-0.079 ***	-2.95	-0.076 ***	-2.90	-0.098 **	-2.32
$TOBINQ_{T-4}$	-0.002	-1.45	-0.001	-0.74	-0.002	-1.03	-0.002	-1.07	-0.001	-0.47
ROA_{T-4}	-0.027	-1.18	-0.003	-0.08	-0.026	-0.88	-0.026	-0.84	-0.047	-0.87
$CF\_TO\_BOOK_{T-4}$	0.013	0.36	0.010	0.18	0.042	0.66	0.060	1.08	0.111	1.38
$CASH\_DEPLETE_{T-4}$	-0.001	-1.26	-0.001	-0.86	-0.001	-1.04	-0.001	-1.15	-0.002	-1.10
CR_{T-4}	0.000	0.23	0.000	0.52	0.000	0.06	0.000	0.50	0.001	0.59
$LNTASSET_{T-1}$	0.001	0.45	0.005 ***	3.31	0.006 ***	2.89	0.006 **	2.05	0.010 ***	3.22
$OSIZE\_TO\_MCAP_{T-1}$	0.002	0.22	-0.001	-0.10	0.003	0.17	-0.011	-0.53	-0.001	-0.05
$LTDR_{T-1}$	0.019	1.34	0.023	1.08	0.019	0.80	0.011	0.41	-0.055 *	-1.87
$CURLIB\_ASSET_{T-1}$	0.050 **	2.00	0.045	1.46	0.090 ***	2.71	0.102 ***	2.63	0.073	1.39
$TOBINQ_{T-1}$	0.000	0.11	0.000	-0.38	0.001	0.34	0.000	-0.05	-0.001	-0.76
ROA_{T-1}	-0.051	-0.75	-0.005	-0.08	-0.008	-0.12	0.057	0.62	0.051	0.35
$CF\_TO\_BOOK_{T-1}$	0.069	0.99	0.025	0.40	-0.005	-0.07	-0.043	-0.47	-0.141	-0.87
$CASH\_DEPLETE_{T-1}$	0.000	-0.64	0.000	-1.04	0.000	-0.55	-0.001	-0.68	-0.001	-0.90
RE_ASSET_{T-1}	0.002	0.92	0.000	0.21	0.003	1.64	0.002	0.66	0.002	0.69
$CURRENT\_RATIO_{T-1}$	0.000	0.70	0.000	0.48	0.001	0.80	0.000	-0.19	-0.002	-1.33
Wald chi^2	80.890		100.430		89.440		134.790		165.300	
Adj. Rsq	0.012		0.014		0.018		0.020		0.036	

Table 10: Tobit Regression Results for a Matched Sample of 1,438 PIPEs and SEOs during 1997 to 2006

Results of Tobit regression models, where the dependent variable is *D_PE*, an indicator variable equal to one if the issue is PIPE, zero otherwise. The matched sample includes 1,438 PIPEs and SEOs and is a result of a three-way match in which we match issues based on year and quarter, issuer industry (based on two-digit SIC codes), and size (total assets). All variable definitions are provided in Table 2. Subscripts t-4, t-3, t-2 and t-1 indicate four, three, two and one quarters prior to issue.
***, ** and * denote significance levels of 1%, 5% and 10% respectively.

	Model 1		**Model 2**		**Model 3**	
	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat
INTERCEPT	0.387	1.62	0.363	1.47	0.575 *	1.89
AGE	0.001 *	1.88	0.001 *	1.82	0.002 **	2.10
LOWPRICE	0.942 ***	6.42	0.914 ***	5.46	0.940 ***	5.81
OILGAS					-0.335	-0.95
HIGHTEC					-0.209	-1.37
$OSIZE\_TO\_MCAP_{T-1}$	-3.393 ***	-5.78	-3.358 ***	-5.76	-3.348 ***	-6.38
$LTDR_{t-4}$	-0.433	-0.64	-0.404	-0.82		
$LTDR_{t-1}$	0.960	1.37	0.906 *	1.91	0.714 **	2.11
$CURLIB\_ASSET_{T-4}$	-0.899	-1.46	-1.118 *	-1.87		
$CURLIB\_ASSET_{T-1}$	1.774 ***	3.15	1.837 ***	2.78	0.688	1.33
$TOBINQ_{T-4}$	0.084 ***	2.82	0.078 **	2.28	0.084 ***	3.04
$TOBINQ_{T-1}$	-0.186 ***	-4.76	-0.181 ***	-4.06	-0.186 ***	-4.48
ROA_{T-1}	-2.574 ***	-3.28	-2.565 ***	-3.74	-2.330 **	-2.14
$CF\_TO\_BOOK_{T-1}$					-0.566	-0.41
$CASH\_DEPLETE_{T-4}$			0.008	0.20		
$CASH\_DEPLETE_{T-3}$	0.029	0.42	0.140 **	2.49	0.026	0.28
$CASH\_DEPLETE_{T-2}$			-0.001	-0.02		
$CASH\_DEPLETE_{T-1}$			0.000	-0.02		
QR_{T-1}					-0.026	-1.23
Wald chi^2	133.270		126.840		169.730	
Pseudo Rsq	0.156		0.164		0.164	

Table 11: Multinomial Logistic Regression Statistics

Results of multinomial logistic regression models, where the dependent variable, *D_OFFER*, equals 2 if the firm conducted a PIPE issue; 1 if the firm conducted an SEO offering; and 0 if the firm did not issue equity. The comparison group is *D_OFFER*=0 (the firm did not issue equity). The sample includes 1,359 PIPEs, SEOs, and matching firms that did not issue equity. All variable definitions are provided in Table 2. Subscript t-1 indicates one quarter prior to issue. ***, ** and * denote significance levels of 1%, 5% and 10%, respectively.

	***D_OFFER* =1 (SEO)**			
	Model 1		**Model 2**	
	Estimate	Z-stat	Estimate	Z-stat
INTERCEPT	-0.450	-1.18	-0.702	-1.59
AGE	-0.004***	-3.62	-0.004***	-4.13
LOWPRICE	-0.703***	-4.21	-0.731***	-3.63
$LTDR_{T-1}$	0.535	0.80	0.534	0.65
CL_TA_{T-1}			0.728	1.36
$TOBINQ_{T-1}$	0.418***	3.56	0.422 ***	3.76
ROA_{T-1}	-0.219	-0.14	-0.241	-0.14
$CF\_TO\_BOOK_{T-1}$	-9.761***	-4.40	-9.843 ***	-4.40
$CASH\_DEPLETE_{T-1}$			0.000	-0.01
CR_{T-1}	-0.050*	-1.72	-0.037	-1.46
	***D_OFFER* = 2 (PIPE)**			
	Model 1		**Model 2**	
	Estimate	Z-stat	Estimate	Z-stat
INTERCEPT	-0.514	-1.25	-0.591	-1.14
AGE	-0.002**	-2.54	-0.002**	-2.32
LOWPRICE	0.145	1.04	0.129	0.65
$LTDR_{T-1}$	0.969	1.30	0.941	1.13
CL_TA_{T-1}			0.216	0.33
$TOBINQ_{T-1}$	0.345***	2.80	0.348***	2.79
ROA_{T-1}	-1.972	-1.08	-1.983	-1.03
$CF\_TO\_BOOK_{T-1}$	-11.011***	-4.27	-11.128***	-4.24
$CASH\_DEPLETE_{T-1}$			0.002	0.06
CR_{T-1}	-0.118***	-3.18	-0.116*	-2.70
Wald chi^2	273.920		225.390	
Pseudo Rsq	0.178		0.180	

Table 12: Regression Statistics for Long-Run Stock Price Performance Determinants for PIPE and SEO Issuers

Least square regression models of 6-month, 1- and 2-year holding period returns for 4,580 PIPEs and 3,051 SEOs from 1997 to 2006. The dependent variable is the simple holding period return for three different windows: (0, 6 months), (0, 1 year), and (0, 2 years) where 0 is the issue date. All variable definitions are provided in Table 2. ***, ** and * denote significance levels of 1%, 5% and 10% respectively.

	PIPE						SEO						ALL SAMPLE					
	6-month HPR		1-year HPR		2-year HPR		6-month HPR		1-year HPR		2-year HPR		6-month HPR		1-year HPR		2-year HPR	
	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat	Estimate	Z-stat
INTERCEPT	-0.191 *	-1.66	-0.561 ***	-4.67	-0.497 **	-2.46	0.144	1.310	0.085	0.660	-0.379 *	-1.84	-0.068	-0.89	-0.334	-3.21	-0.512 ***	-3.31
D_PE													-0.007	-0.56	0.029 **	2.45	0.178 ***	9.65
HOT_MKT	-0.049 ***	-2.97	-0.145 ***	-8.86	-0.232 ***	-8.20	-0.032 **	-2.49	-0.039 **	-2.16	0.002	0.07	-0.037 ***	-3.63	-0.091 ***	-6.62	-0.129 ***	-6.26
LOWPRICE	0.086 ***	4.54	0.148 ***	8.53	0.153 ***	4.40	0.045 *	1.95	0.057 *	1.78	0.065 *	1.84	0.079 ***	5.94	0.132 ***	6.17	0.145 ***	4.85
OILGAS	0.142 ***	3.42	0.151 ***	3.01	0.225 **	2.26	0.041 *	1.67	0.082 **	2.28	0.229 ***	5.71	0.086 ***	4.06	0.116 ***	4.46	0.231 ***	6.51
BIO	0.073	1.31	0.084	1.42	0.023	0.25	-0.049	-0.68	0.099	1.11	-0.186 **	-2.46	0.050	1.24	0.091 *	1.70	0.000	0.00
HIGHTEC	-0.023	-1.33	-0.026	-1.45	-0.052	-1.63	-0.029 **	-2.15	-0.015	-0.68	-0.029	-1.26	-0.028 **	-2.09	-0.030 **	-2.43	-0.053 **	-2.45
$LNTASSET_{T-1}$	0.014 **	2.51	0.031 ***	5.11	0.030 ***	3.02	0.000	0.05	0.006	0.93	0.024 **	2.44	0.009 **	2.54	0.021 ***	4.65	0.025 ***	3.52
$OSIZE\_TO\_MCAP_{T-1}$	0.009	0.30	0.044	0.79	0.050	0.76	0.008	0.52	-0.030 *	-1.69	-0.012	-0.24	0.010	0.70	0.012	0.97	0.026	1.01
$LTDR_{T-1}$	-0.038	-1.20	-0.008	-0.19	0.112 *	1.74	0.042	1.18	0.024	0.52	0.027	0.45	-0.018	-0.89	-0.008	-0.22	0.073	1.40
$CURLIB\_ASSET_{T-1}$	-0.031	-1.12	0.058	1.40	0.161 *	1.85	0.009	0.18	0.037	0.64	0.107	1.12	-0.022	-0.79	0.064	1.60	0.171 **	2.12
$TOBINQ_{T-1}$	-0.005 ***	-4.06	-0.013 ***	-7.89	-0.020 ***	-5.38	-0.004 **	-2.13	-0.006 **	-2.01	-0.011 ***	-2.87	-0.005 ***	-5.52	-0.012 ***	-7.00	-0.019 ***	-6.74
RE_ASSET_{T-1}	-0.006 ***	-4.18	-0.010 ***	-4.68	-0.010 **	-2.53	-0.008	-1.59	-0.010	-1.49	-0.017	-1.62	-0.006 ***	-3.80	-0.010 ***	-5.48	-0.011 ***	-3.31
Wald chi^2	193.420		589.630		174.130		352.110		585.680		280.910		306.750		524.400		367.490	
Adj. Rsq	0.031		0.062		0.073		0.085		0.107		0.107		0.042		0.062		0.082	
N	3984		3329		3007		2872		2397		2361		6856		5726		5368	

Table 13: Descriptive Statistics for PIPE and SEO Issuers that Become Takeover Targets

The table summarizes the results of the mean test for issue and firm characteristics statistics based on *D_MA*, an indicator variable equal to one if the issuer became a takeover target during the 3 year interval following the equity issuance, and zero otherwise. Our sample includes 4,580 PIPEs and 3,051 SEOs issued during 1997 – 2006; of these 1,830 became takeover targets. Issue and issuer characteristics are obtained from FactSet and the SDC Platinum Database provided by Thomson. Issuer characteristics variables are obtained from COMPUSTAT and CRSP database. All variables are as defined in Table 2.

***, ** and * denote significance levels of 1%, 5% and 10% respectively.

Variable	*D_MA*=0(5,801)	*D_MA*=1(1,830)	*Diff.*
D_PE	0.621	0.536	0.085 ***
OILGAS	0.042	0.037	0.005
HIGHTEC	0.255	0.268	-0.013
RE	0.004	0.001	0.003 **
OTHERIND	0.698	0.694	0.004
DR_{T-1}	0.185	0.224	-0.040 ***
$CURLIB\_ASSET_{T-1}$	0.283	0.266	0.017 **
LIB_ASSET_{T-1}	0.551	0.580	-0.029 **
QR_{T-1}	3.652	2.762	0.890 ***
CR_{T-1}	3.487	2.512	0.976 ***
ROA_{T-1}	-0.100	-0.050	-0.050 ***
$CF\_TO\_BOOK_{T-1}$	-0.067	-0.016	-0.051 ***
$CASH\_DEPLETE_{T-1}$	4.369	0.924	3.445 ***
$TOBINQ_{T-1}$	4.478	3.254	1.224 ***
$LNTASSET_{T-1}$	18.501	19.932	-1.431 ***
$MKTCAP_{T-1}$	976,937	3,190,035	-2,213,098 ***
$OSIZE\_TO\_MCAP_{T-1}$	0.199	0.201	-0.002 ***
AGE	99.572	160.486	-60.915 ***
LOWPRICE	0.356	0.231	0.125

Table 14: Logistic Regression Models Analyzing the Impact of Equity Issue Type on the Probability of Becoming a Takeover Target

This table provides the results of the logistic regressions analyzing the impact of equity issue type (PIPE vs. SEO) on the probability that a firm becomes a takeover target within 3 years of equity issue. The dependent variable is *D_MA*, an indicator variable equal to one if the issuer became a takeover target during the 3 year interval following the equity issuance, and zero otherwise. Variable definitions are given in Table 2. The subscript t-1 indicates one quarter prior to issue date. The standard errors are robust standardized.

***, ** and * denote significance levels of 1%, 5% and 10% respectively.

	Model 1		**Model 2**		**Model 3**		**Model 4**		**Model 5**	
	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.
INTERCEPT	-7.621 ***	0.32	-7.651 ***	0.37	-7.385 ***	0.44	-7.434 ***	0.38	-7.435 ***	0.38
D_PE	0.200 ***	0.07	0.183 ***	0.07	0.2 **	0.09	0.192 ***	0.06	0.193 **	0.08
AGE	0.001 ***	0.00	0.001 ***	0.00	0.001 ***	0.00	0.001 ***	0.00	0.001 ***	0.00
OILGAS	-0.479 ***	0.16	-0.427 **	0.21	-0.436 **	0.18	-0.458 **	0.21	-0.456 ***	0.17
HIGHTEC			0.132 **	0.06	0.131 *	0.08	0.129 *	0.07	0.13 **	0.06
RE			-0.685	0.83	-0.689	0.87	-0.675	0.73		
$LNTASSET_{T-1}$	0.340 ***	0.02	0.338 ***	0.02	0.323 ***	0.02	0.33 ***	0.02	0.33 ***	0.02
$OSIZE\_TO\_MCAP_{T-1}$	0.148 *	0.09	0.137 *	0.08	0.135	0.11	0.14 *	0.07	0.14	0.09
$LTDR_{T-1}$	-0.440 ***	0.15	-0.405 **	0.16	-0.386 ***	0.14	-0.419 ***	0.11	-0.42 ***	0.15
$CURLIB\_ASSET_{T-1}$			0.186	0.19	0.254 **	0.12				
ROA_{T-1}			-0.083	0.22						
$CASH\_DEPLETE_{T-1}$			-0.019 *	0.01	-0.017 *	0.01	-0.016 *	0.01	-0.016 *	0.01
QR_{T-1}	-0.046 ***	0.01	-0.043 ***	0.01	-0.041 ***	0.01	-0.05 ***	0.01	-0.049 ***	0.01
Wald chi^2	558.7		1389.2		1373.3		548.7		722.3	
Pseudo R-square	0.074		0.077		0.077		0.077		0.077	