Equity Issuance, Distress, and Agency Problems: The 20% Rule for Privately Issued Equity

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Abstract

Stock exchanges require shareholder approval for discounted placements that make up more than 20% of existing shares. This study shows discontinuity among placement distribution around the 20% threshold, which suggests that managers tend to avoid shareholder approval by keeping the placement fraction just below 20%. Empirical results show that firms placing below 20% are less distressed, issue at higher discounts, have less managerial shares, and have lower announcement day returns than firms above 20%. Moreover, firms that avoid approval have higher cash holdings, and decreasing profitability over the following two years. These findings suggest agency problems in private placements.

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1. Introduction

Private placements are argued to provide a quick financing solutions for distressed firms.[1] The size of the U.S. market for private placements was reported to have reached over $50 billion in 2012 alone, and is expected to grow larger since Securities and Exchange Commission (SEC) recently decided to allow public advertisement of private placements. Although the ease of injecting equity has many potential benefits for troubled companies (e.g., earn time to recover from distress, and solve the underinvestment problem), a serious principal-agent problem arises, since distressed firm managers would want to keep financing deteriorating operations, even when it is optimal to liquidate the company.[2]

It has been difficult, however, to empirically sort out these two aspects of private placements, because the *ex ante* quality of investment opportunities are best known only to the managers, and it is hard to distinguish whether or not the equity issuance is in fact aligned with shareholders' best interests. To overcome these difficulties, I use managers' decisions facing a shareholder approval rule and the pattern in distribution of their decisions in avoiding the shareholder approval as a novel identification, to study principal-agent conflict in private placements.

NASDAQ and other exchanges require shareholder approval for discounted, privately issued, equity that makes up more than 20% of existing equity shares. I argue that the 20% rule provides an empirical identification for this research as the distribution around this 20% threshold will help identify whether managers purposely avoid the need for shareholder approval. By looking at the distribution of private placements, I find a clustering below and in the proximity of the 20% threshold, and a clear decrease in the number of observations above the 20% threshold, creating a distribution discontinuity. This distribution discontinuity suggests that in this region

[1] Wruck (1989), Hertzel and Smith (1993), Brophy, Ouimet, and Sialm (2009), and Chaplinsky and Haushalter (2010) describe the distressed nature of firms that issue discounted equity.

[2] Jensen and Meckling (1976) and Jensen (1989) argue self-interested managers would issue equity, even in cases the issuance do not maximize shareholder value. Grossman and Hart (1982) and Gilson (1989) suggest that the bankruptcy risk can lead to large personal losses, which include loss of benefits, specialized human capital, and reputation. Aghion and Bolton (1992) and Dewatripont and Tirole (1994) provide arguments that managers have both private and monetary incentives to continue funding negative NPV projects.

many managers avoid shareholder approval by altering placement contracts (i.e., placement fraction), which establishes the setting for testing hypotheses.

In testing hypotheses, observations that are distributed around the distribution discontinuity naturally form two groups necessary for testing hypotheses: testing group (i.e., approval avoiding group, where placements are issued at less than 20%) and comparison group (i.e., approval seeking group, where placements are issued at more than 20%). I form two main hypotheses on why managers would avoid the need for shareholder approval. To begin with, managers may avoid the need of shareholder approval when discounted issuances are misaligned with shareholders' best interests (the "Misalignment Hypothesis"). According to this hypothesis, managers would avoid the need for approval by issuing less than 20%, since managers know shareholders would not approve such issuances. Alternatively, managers who want to maximize shareholder value would possibly avoid the need of approval if the approval process itself is too costly (including timeliness of financing and unsophistication of shareholders) for shareholders (the "Costly Approval Hypotheses").

I present three main results from this study. Initially, I compare firm and issuance characteristics of the approval avoiding group with those of the approval seeking group to test the Misalignment and Costly Approval Hypotheses. I use a logit regression model to test whether or not various proxies predict a higher chance that managers avoid shareholder approval (i.e., issuance of less, but close to, 20%). The results show that relatively less distressed firms, firms that issue at higher discounts, firms with less managerial shares, and firms with higher number of investors, are found more often among approval avoiding firms than among approval seeking firms. In sum, these results support the Misalignment Hypothesis, but reject the Costly Approval Hypotheses, as well as various alternative hypotheses tested.[3]

I further test the Misalignment Hypotheses by using announcement day abnormal returns, and find that the approval seeking group (i.e., discounted equity fraction placed from 20% to 22.5%) has positive abnormal returns of 3.07% (t-stat = 2.13). The group that avoids the need

[3]I discuss alternative hypotheses including Market Timing, Fiduciary Duties, Monetary Costs, Uncertainty, Dynamic Learning Hypotheses at the end of the paper.

for shareholder approval (i.e., discounted issuance fraction placed from 17.5% to 20%), however, has negative announcement day returns of -1.30% (t-stat $= -1.90$). The mean difference in the returns is statistically and economically significant for various sample ranges centered around the 20% thresholds. These return patterns suggest that the issuances that avoid shareholder approval are, in general, viewed negatively by the market.

Finally, I study post-placement delistings, cash holdings, and change in profitability of the firms which avoid and the firms which seek shareholder approval. I find that firms that issue less than, but close to, 20% delist less frequently, but have higher cash holdings as well as highly decreased profitability over the next two years, compared to firms that issue more than 20%. These results suggest that firms that avoid approval inefficiently use cash reserves to finance losses, and prolong the life of the company at the expense of shareholder value. These results are consistent with the agency problem in distress, where managers have strong incentives to continue negative net present value (NPV) projects, even when it is optimal to cease deteriorating operations and return capital to shareholders.

There are three main contributions. In the first place, this paper contributes to the empirical literature on agency problems in equity issuance, as well as in distress. By using market-to-book equity to proxy for growth opportunities, Jung, Kim, and Stulz (1996) show that equity issuances by firms with poor growth opportunities suggest agency problems, and that stock returns react negatively to these equity issuances. Using L.A. Gear's example, DeAngelo, DeAngelo, and Wruck (2002) illustrate how managers can gain substantial operating discretion to fund losses by selling assets during financial distress. The paper complements these studies by showing agency problems in private placements. Moreover, it shows explicitly, using a large sample distribution, how managers alter a specific term (i.e., placement fraction) in contracts in order to avoid the need for aligning with shareholder's interests. This identification setting is especially useful, because it bypasses the need to measure or use proxies in estimating which managerial actions are misaligned with shareholders' best interests in a distress setting, which

is theoretically important but empirically challenging.[4] To the best of my knowledge, this is the first paper that documents the distribution discontinuity at the 20% threshold as identification to test misalignment of interests in private placements.[5]

In the next place, by introducing the shareholder approval rule, this study provides additional findings that contribute to the private placement literature. Wruck (1989), Hertzel and Smith (1993), and others document the positive announcement returns of private placements and propose the 'monitoring hypothesis' and 'certification hypothesis' to justify the positive announcement returns. Barclay, Holderness, and Sheehan (2007), on the other hand, argue that many other firm and issuance characteristics are consistent with 'managerial entrenchment hypothesis', with an exception of the positive announcement day returns. My paper complements the weakness of the 'managerial entrenchment hypothesis' by showing that even the positive announcement day returns could be misleading in representing private placements. I find that firms that issue less than, but close to, 20% at a discount have negative announcement day returns (compatible with the 'managerial entrenchment hypothesis') and firms that issue above 20% have positive announcement day returns (compatible with the 'certification hypothesis').

In the last place, this paper suggests that there would be benefits from lowering the shareholder approval threshold. The SEC adopted significant changes by lifting the long-standing ban on general solicitation and advertising of private placements in 2013. Since the results of this paper indicate agency problems, it seems necessary for governing organizations to reevaluate costs of agency problems, when implementing changes to regulations regarding private placements. As this paper shows that shareholder approval plays a disciplinary role for managers, lowering the threshold seems to lead to a situation, where more managers would need to seek approval, while approval avoiding managers would dilute shareholders less even

[4] See Myers (2003), Stein (2003), and Hotchkiss, John, Mooradian, and Thorburn (2008) for survey of theoretical and empirical papers on the topics of distress and agency problem.

[5] Arena and Ferris (2007) investigate the impact of shareholder approval on board appointments related to private placements. They identify such approval by examining press releases, 8-K filings, and proxy statements rather than by using the 20% rule. My paper, on the other hand, use the distribution discontinuity framework to provide a novel setting for testing and showing agency problems by identifying the managers' selection to seek and, more importantly, to avoid shareholder approval.

when the benefits from the placement is limted. The paper leaves open, as for future research, the question of what is the optimal threshold level to balance out the benefit and cost of shareholder approval in the U.S. private placement market.

The remainder of the paper is organized as follows: Section 2 introduces the shareholder approval regulation and examines the distribution discontinuity that suggests that managers tend to avoid the need of shareholder approval. Section 3 discusses the empirical framework and hypotheses to test the motivation behind the avoidance behavior. Section 4 summarizes mean statistics and Section 5 presents the empirical results. Section 6 discusses alternative hypotheses, and finally, Section 7 concludes.

2. Do managers avoid seeking shareholder approval?

This section briefly introduces the 20% shareholder approval rule and some basic characteristics of private placements. Then I will look at the distribution around the 20% threshold to see if managers avoid the need for shareholder approval.

2.1. The 20% shareholder approval rule

A private placement is a private equity issuance by a publicly traded firm issued to a group of limited accredited investors. Private placements include both registered direct (RD) issuances and private investment in public equity (PIPE). Some important characteristics that differentiate a private placement from traditional public offerings are: pricing of the equity issuance, the speed with which funds can be raised, the manner in which the offering is marketed (private placements issuers were not allowed to publicly solicit investors until amendments were made to the regulation, effective as of September 23, 2013), and the lack of underwriting. In addition, private placements are typically traded at a discount averaging from 15% to 30%, and a typical deal takes two to four weeks, while public offerings are offered close to the market price and go through lengthy process of public offering.

Because of the dilutive nature of private placement, NASDAQ, NYSE, and NYSE MKT (formerly AMEX) have corporate governance listing regulations for private placements. Among these, I focus on describing the NASDAQ regulations, which account for 76% of my observations, while 17% are from NYSE MKT and 7% from NYSE.[6] I note, however, that similar rules including the exceptions and additional regulations exist for both NYSE MKT and NYSE exchanges.[7]

NASDAQ Listing Rule 5635 (previously 4350) states the regulations of listed firms regarding shareholder approval. In particular, Rule 5635(d) states that "*Each company shall require shareholder approval prior to the issuance of securities... at a price less than the greater of book or market value, which... equals 20% or more of the common stock, or 20% or more of the voting power outstanding before the issuance.*"[8] Where shareholder approval is required, the minimum vote will be the majority of the total votes cast on the proposal. These votes may be cast in person or by proxy at an annual or special meeting, or by written consent of majority shareholders (see NASDAQ Rule 5635 (e)(4)). This shareholder approval regulation does not apply to public offerings.

Because private placements are utilized by many distressed companies, NASDAQ also makes an exception to the 20% rule when a delay in equity financing would seriously jeopardize the financial viability of the firm (the "financial viability exception", Rule 5635 (f)). This financial viability exception still needs to be approved by the audit committee or a comparable body of the board of directors consisting solely of independent, disinterested directors. Additionally, companies may also comply with the 20% limitation in this rule by placing a "cap" on the number of shares that can be issued in the transaction, so that the 20% of shares will be issued first, and only the additional shares are subject to shareholder approval (NASDAQ Interpretation Material 5635-2).

[6] Also, NASDAQ has a separate on-line Listing Center with a Frequently Asked Question section that provides detailed interpretation of the rules that are helpful in understanding the applications of the rules.

[7] NYSE MKT LLC Section 705 through 713, and NYSE Rule 312 describe the 20% shareholder approval rule and the financial viability exception, and other shareholder approval regulations.

[8] According to SEC News Digest 89-231 and 90-142 regulation, the 20% rule was lowered from 25% to 20% in 1990, before the start of my sample.

To better understand the timing of the process, I search for filing records regarding the 20% rule obtained from the SEC EDGAR system. Among available observations that issue more than 20% at a discount, the close and announcement of the private placements generally occur before the shareholder approval process. Then follows a proxy statement filling for an annual meeting (63%) or a special meeting (30%), or a statement relying on the financial viability exception (2%), or filing of approval by written consent of majority shareholders (4%). This timing suggests that "prior" shareholder approval means prior to the actual issuance, not prior to the closing (or the announcement) of the private placement.[9]

In addition to the 20% rule (NASDAQ Rule 5635(d)), there are three other cases in which shareholder approval could be required for both public and private equity issuance: The first case is for equity issuance that are related to acquisition of stock or assets of another company (NASDAQ Rule 5635 (a)). Shareholder approval is required, if the issuance is again excess of 20%, or any director, officer or substantial shareholder of the company has 5% or greater interest directly or indirectly toward the target of acquisition. The second case is for equity issuance that result in change-of-control (NASDAQ Rule 5635 (b)). NASDAQ Listing Center clarifies that change-of-control means an investor with 20% or more shares and the ownership would become the largest position in the company. The final case is for equity-based compensation to employees could require shareholder approval (NASDAQ Rule 5635 (c)). NASDAQ Listing Center clarifies that the issuance of common stock to its officers, directors, employees, or consultants in a private placement, at a price less than the market value of the stock is considered a form of "equity compensation" and requires shareholder approval regardless of the fraction issued. To focus on the 20% rule (NASDAQ Rule 5635(d)), I control for these three cases by including indicator functions (for the first two cases, which are subsumed under the 20% rule for discounted placements), and by dropping observations (for the last case).

[9] According to NASDAQ listing center, proxy statements require sufficient information for shareholders to make a meaningful decision. Proxy statements need to disclose the maximum number of shares, maximum dollar amount, maximum discount, and the purpose of the transaction, and the time frame to complete the transaction when investors are not identified. However, companies were regulated not to publicly solicit investors for a private placement, making it difficult to carefully file a proxy statement before identifying an investor and closing a placement.

2.2. Distribution discontinuity at the 20% threshold

The 20% rule is an exchange rule to protect shareholders from being excessively diluted through discounted private placement contracts. Managers, however, are the ones who write private placement contracts and have the power to avoid shareholder approval by issuing less than 20% of existing shares. Therefore, the distribution around the 20% threshold would provide evidence whether or not many managers purposely avoid the need for shareholder approval. If managers do not avoid shareholder approval, the distribution would be smooth around the threshold. But if many managers purposely avoid the need for shareholder approval, observations would be clustered just below the 20% threshold, creating a distribution discontinuity.

Figure 1 presents the distribution of common equity private issuances. The x-axis represents the fraction of equity placed relative to existing shares, and the y-axis represents the amount of premium/discount. We can observe the distribution discontinuity in discounted issuances that are around the 20% threshold: issuances are clustered just below the 20% threshold, while the number of observations drops dramatically beyond the threshold.

To further study this discontinuity pattern, I look at the cumulative distribution function (CDF) and the histogram for discounted equity issuance with fraction of equity placed from 10% to 30% in Figure 2. The CDF shows a steady increase below the 20% threshold, and displays a wedge around the 20% threshold. Above the 20% threshold, the rate of increase in the CDF flattens out, suggesting that there is an even, but relatively small number of observations after the threshold. The histogram also shows a distribution discontinuity at the 20% threshold. The distribution generally decreases from about 15% to 17.5%, but then increases from about 17.5% to 20% with an especially high bar just below the 20% threshold.

The figures graphically present the distribution discontinuity that will be used as an empirical identification for the rest of this paper. I also statistically test this distribution discontinuity in Appendix D and show that this discontinuity is extremely unlikely to happen by simple chance. I will discuss the empirical framework and testable hypotheses in the following section using

this distribution discontinuity framework, followed by empirical results.

3. Testing principal-agent conflict by distribution discontinuity

We have observed a distribution discontinuity pattern in the close proximity of 20% threshold, which means that those firms' managers purposely avoid shareholder approval in this region. But it is premature to conclude that all those managers have agency problems. In this section, I discuss the research design of this paper, arguing that the setting of the firms that issue private placements provides empirical identification to test whether or not the behavior of these firms' managers avoiding shareholder approval actually suggests principal-agent conflict.

3.1. Empirical framework

Managers are generally argued to have the most accurate information about a company. Hence, it is likely that managers know whether or not their actions maximize shareholder value, as well as whether their shareholders would approve their actions when required. Supporting this argument, Listokin (2008) shows that when the manager-sponsored votes are close to a 50% approval, votes pass overwhelmingly more than the ones that lose. Also, he finds that most manager-sponsored votes pass easily.[10] These results imply that managers acquire highly accurate information about the outcome even before the vote takes place, and that they would go through shareholder approval processes only when the proposal is most likely to be approved.

Assuming that managers are well-informed about shareholders' best interests and the cost-benefit structure of a placement, the clustering of observations just below 20% (i.e., the testing group) would possibly be a mixture of different types of managers.[11] Some managers might have

[10] I use the RiskMetrics database from 1997 to 2004 to verify these results. I find that among the 15,916 manager-proposed votes, less than 2% (285) did not pass.

[11] Myers (1977) and Hart and Moore (1995) provide an example of these two views in theoretical models. Both papers argue that distress can prevent a company to undertake new investment. Argument of Myers (1977), however, is from assuming benevolent managers, while that of Hart and Moore (1995) is from assuming self-interested managers.

wanted to issue more than 20%, but reduced the amount because the private placement is not in the best interest of shareholders. Another group of managers might have reduced the amount to maximize shareholders' value by avoiding certain costs that might occur during the shareholder approval process. Some other managers might have increased the equity placed to the maximum amount that does not require shareholder approval, even though a smaller amount is optimal for shareholders. Still other managers might have issued just below the threshold, because they think that the fraction below 20% is optimal for shareholders. Since the observations that are clustered just below the 20% threshold provide various possibilities, the main motivation of their avoidance behavior requires testing.

Firms further below the threshold do not require shareholder approval, but would consist of *fewer* managers who *purposely* avoid approval. Therefore, the identification strategy of this paper mainly applies to observations in the proximity of the 20% threshold, where the number of observations starts to increase from about 17.5% and above, and this portion of observations accounts for about 15% of the sample population that place less than 20%.

The comparison group (i.e., observations that issue more than 20%) also plays an important role in this empirical setting. The significance of the comparison group is two-fold. On one hand, the placements of the comparison group are subject to shareholder approval. Thus, managers in the comparison group can be viewed as confident that the private placement will be approved. Hence, the comparison group's private placements are most likely to be in shareholders' best interests. Therefore, comparing the firms that avoid the need for approval to this comparison group as a benchmark will provide identification for whether or not shareholder approval avoidance behavior suggests principal-agent problems.

On the other hand, the testing group firms are not typical firms that can be compared to traditional size and book-to-market matched firms. These firms issue discounted equity for about 20% of existing shares, diluting shareholders. A manager who takes these extreme measures would argue that the firm is in abnormal circumstances (e.g., distressed, or in urgent need for financing) so that they must avoid shareholder approval. Firms in the comparison group

that issue close to the 20% threshold, however, should also be in similar circumstances to firms in the testing group. Particularly, firms in the comparison group close to the 20% threshold, also dilute shareholders' equity value at similar while potentially have similar benefits compared to those firms just below 20%. Thus, firms in the comparison group should be comparable in many aspects (e.g., size, market-to-book ratio, leverage, cash holdings, and contracting terms) to those firms in the testing group, especially the firms that issue very close to the 20% threshold.

The empirical approach of this paper utilizes the very fact that observations alter the selection of group assignments by changing the contractual terms. This 'identification of self-selection' creates a testing group that avoids a specific treatment (shareholder approval) and another comparison group that does not avoid this treatment.[12] Thus, this identification shifts the research question from whether a private placement is in the best interest of shareholders to whether the managers' decision to avoid seeking shareholder approval is in the best interest of shareholders. In essence, the distribution around the 20% rule, characteristics, and announcement day returns of the testing group, with regard to the comparison group, will provide a novel empirical identification to test hypotheses in private placements.

3.2. Main hypotheses: Misalignment and Costly Approval Hypotheses

I propose the main testable hypotheses regarding the reasons why managers would avoid seeking shareholder approval. I first divide hypotheses into two main categories: the Misalignment Hypotheses (MH) and the Costly Approval Hypotheses (CAH). I first discuss the Misalignment Hypothesis.

Misalignment Hypothesis (MH):

[12] To clarify, the empirical approach described in this section is different from the regression discontinuity setting (see Keys, Mukherjee, Seru, and Vig (2010) and Cuñat, Gine, and Guadalupe (2012) for recent examples). The regression discontinuity approach uses the fact that the distribution around a threshold is smooth. The assignment of observations close above or below the threshold is considered to be close to a random sample, which replicates the random assignment of an experiment. Once an observation passes a threshold, the treatments are different on either side of the threshold, creating a natural experimental setting and an inference of a causal relationship of the treatment itself.

Managers avoid the need for shareholder approval because managers' interests and shareholders' interests are misaligned.

The Misalignment Hypothesis argues that managers avoid seeking approval because of principal-agent conflict of interests. Under this hypothesis, self-interested managers believe that the private placement is *not* in the best interests of shareholders, so that it would be rejected if shareholder approval is sought. But, they would still want to issue equity even when the issuances do not maximize shareholder value, as argued by Jensen and Meckling (1976) and Jensen (1989).

In distress situations, risk-averse managers are argued to be overly conservative because bankruptcy can lead to large personal losses for the managers including loss of benefits, specialized human capital, and reputation (see Grossman and Hart (1982) and Gilson (1989)). As a result, self-interested managers could make shareholders pay a cost (e.g., dilution) that outweighs the benefits (e.g., decreasing the risk of bankruptcy, solving the underinvestment problem), because self-interested managers could enjoy the benefit of prolonging the company without being directly affected by the costs. Thus, managers could still decrease shareholder value, even when managers issue equity as financing of last resort and shareholders may benefit (before costs) from the placement.[13] Moreover, distressed firm managers are argued to keep investing in negative NPV projects, rather than to optimally liquidate the firm and return capital to shareholders (see Aghion and Bolton (1992) and Dewatripont and Tirole (1994)). In these cases, managers would avoid shareholder approval by issuing less than 20%.

I use several proxies to test the Misalignment Hypothesis. At first, MH would predict that managers are not able to justify the placement discounts. Since higher discounts are costly to shareholders, the managers should have a good excuse (e.g., the firm being highly distressed). MH predicts that firms that avoid seeking approval would issue at a higher discount after

[13]Notice that the agency problem that Misalignment Hypothesis is arguing is not necessarily the act of managerial entrenchment that destroys shareholder value without any benefits. Rather, it could be passive in the sense that shareholders may still benefit from the action, but simply pay too much for the benefits.

controlling for other characteristics, especially distress.

Secondly, I proxy for alignment of principal-agent interests by the proportion of shares held by the managers. The cost of issuing discounted equity (e.g., dilution) would impact managers, if managers hold equity shares, as it would impact shareholders. In this case, managers would issue equity only when the benefit is larger than the costs of dilution. Therefore, MH predicts that firms that avoid approval would have less managerial ownership.

Thirdly, I include the proportion of active institutional investors (i.e., institutions classified as investment companies or independent investment advisors) to proxy for better monitoring and corporate governance.[14] MH would predict that firms that avoid approval should have less active institutional investors after controlling for other firm characteristics.

Finally, I proxy for misalignment by looking at placement investor characteristics. Wruck (1989), Hertzel and Smith (1993), and Barclay, Holderness, and Sheehan (2007) discuss and argue the benefits of monitoring by concentrated new investors and investors that gain board positions for private placements. MH predicts that managers avoiding shareholder approval would place the issuance to higher number of buyers because managers would not want concentrated ownership by new equity holders that could possibly challenge managers.

Now, I discuss two Costly Approval Hypotheses (CAH), which might potentially explain why managers would still avoid shareholder approval, while keeping their interests aligned with those of shareholders. I focus on two costs: timeliness of financing, and shareholders not being sophisticated enough to understand whether a placement is in their own best interests.

Costly Approval Hypothesis 1 (CAH1):

Managers avoid the need for shareholder approval because timely financing is required.

The Costly Approval Hypothesis 1 (CAH1) is related to the timeliness of the issuance. Since

[14] Chen, Harford, and Li (2007) argue that active institutional ownership is a better proxy for better governance than total institutional ownership, which is consistent with the argument in my paper. See Appendix E for further discussion and robustness checks using alternative specifications for institutional ownership.

many firms that issue private placements are highly distressed and could be out of alternative funding opportunities as argued by Brophy, Ouimet, and Sialm (2009), and Chaplinsky and Haushalter (2010), managers would avoid seeking approval to secure the timeliness of financing. Companies could be in urgent need of cash to pay interests and avoid bankruptcy. Companies could also need financing to invest in projects and solve the underinvestment problem, as argued by Hertzel and Smith (1993). Waiting for approval can be costly for shareholders because it might jeopardize the financial viability of a company. Under this hypothesis, we assume that managers expect the shareholders to approve the issuance when required, but the approval process could take too much time to go through, and thus it is avoided.[15]

I test CAH1 to see whether firms that avoid seeking approval are more distressed than the comparison group by using a measure for distress. Since distressed firms are more likely to avoid seeking approval under CAH1, CAH1 predicts that firms that avoid seeking shareholder approval would be more distressed.

Additionally, I use debt covenants violations,[16] and the use of proceeds related to debt or other specific use of proceeds to proxy for the need for timely financing. Under CAH1, firms that avoid seeking shareholder approval should have violated debt covenants more often, and state the use of proceeds as debt-related, or state a specific use of proceeds more often than firms that seek approval.

Costly Approval Hypothesis 2 (CAH2):

Managers avoid the need for shareholder approval because there are not enough sophisticated shareholders to correctly approve a placement.

The Costly Approval Hypothesis 2 (CAH2) suggests that managers avoid seeking shareholder

[15]I note that two regulations weaken this hypothesis. The financial viability exception (NASDAQ Rule 5635(f)) mentioned in Section 2 weakens this argument, because managers could use the exception to go around the shareholder approval process and still issue more than 20% if it is clear that the delay of financing would jeopardize the financial viability of the company. Also, companies could have issued up to 20% and waited for the approval for shares above 20% (NASDAQ Interpretation Material 5635-2), weakening this hypothesis.

[16]Roberts and Sufi (2009) show that after covenants are triggered, the control rights go to creditors and additional debt financing becomes difficult.

approval because there are not enough sophisticated shareholders to understand what is in their own best interests. Under this hypothesis, we assume that managers do not only act in the best interests of shareholders, but they are also concerned that shareholders would falsely vote against their own best interests. Then, managers would avoid seeking shareholder approval in order to avoid the possibility of the placement being falsely rejected.

For the test of CAH2, I use the proxy of sophisticated ownership with majority shares (i.e., $I_{Sophisticated\ Ownership>50\%}$), where I define sophisticated ownership to be the sum of managerial ownership and institutional shareholders. If a placement maximizes shareholder value, managers who hold equity shares would positively vote for the issuance when required. Also, institutional investors should be sophisticated enough to understand the cost and benefits of a private placement so that they would also vote positively for the placement, or rely on the Proxy Voting Services of Institutional Shareholder Service Inc. (ISS).[17] Especially, the cost of approval under CAH2 would be minimized if these sophisticated investors hold majority shares because they would be sophisticated enough to correctly approve a placement, and would also be able to approve the placement by written consent without even holding a shareholder meeting (NASDAQ Rule 5635 (e)(4)). Therefore, CAH2 would predict that firms that avoid seeking shareholder approval would have smaller portion of sophisticated investors holding more than majority shares in the sample.

Other possible hypotheses including Market Timing, Fiduciary Duties, Monetary Costs, Uncertainty, and Dynamic Learning are discussed in Section 6.

[17] See ISS U.S. Proxy Voting Summary Guidelines (http://www.issgovernance.com/files). ISS explicitly states that private placements should be voted for case by case, taking into consideration dilution, financial issues (e.g., the company's financial conditions, need for capital, use of proceed, etc.), management effort to seek alternative financing, control issues, conflict of interests, and stock market reaction. ISS also explicitly advises shareholders to vote for a private placement if it is expected that the company will file for bankruptcy if the placement is not approved.

4. Data and summary mean statistics

I use four main data sources for the analysis of this paper. I use COMPUSTAT for quarterly accounting data. For stock market data, I use the CRSP monthly database for market size and financial ratios, and CRSP daily stock returns for event studies and identifying timely changes in shares outstanding.

For private issuance data, I use Sagient Research's PlacementTracker database, which is the primary source for private placements.[18] The database includes shares outstanding, type of equity placed, warrants attached, closing day of the contract, and the use of proceeds. I match all types of private placement observations with the CRSP/COMPUSTAT database. Then, I use only common equity issuances that would not have potential problems in calculating the fraction of issuance and discounts, to determine whether the 20% shareholder approval rule applies. See Appendix A for further details on data selection and calculation of the fraction of equity placed.

I include all observations included in the PlacementTracker database that should span both approved and rejected placements.[19] In order to be included in the sample, firms need to be listed on NASDAQ, NYSE, and NYSE MKT. I also require each observations to have market and accounting variables to form the distress measure of Campbell, Hilscher, and Szilagyi (2008), which will be the distress measure for this paper.[20] Definitions and detailed derivations of each variable used in the distress measure can be found in Appendix B.

Additionally, I use Thomson Reuters data to match holding information for the private

[18] See Brophy, Ouimet, and Sialm (2009) and Chaplinsky and Haushalter (2010) for more details on data.

[19] I find, however, only two out of 406 cases were stated to be cancelled after the announcement of the placement that was issued more than 20%. Even in these two cases it was not because shareholders rejected the private placements that the placements were cancelled, but because of other circumstantial reasons. This is consistent with Listokin (2008) who finds that most manager-sponsored votes pass easily. These results confirm that managers have a very good sense of whether or not shareholder will pass the discounted private placement, so that managers issue more than 20% only when they are sure the placement will be approved.

[20] I use the distress measure from Campbell, Hilscher, and Szilagyi (2008), because it is known to be the state-of-art measure that is estimated on the most recent data. The model combines both accounting and market variables, and uses quarterly data that would be more timely than other measures that use annual frequencies. The predictability is documented to outperform other distress measures. I get very similar results when using a more traditional measure of Ohlson (1980) O-score.

placement issuers. Institutional ownership (13f) and manager ownership information (12s) is aggregated for each firm for each quarter. Insider shares include direct ownership by CEOs, CFOs, and COOs. I also use debt covenants violation data from Amir Sufi's website, which is also at a quarterly frequency. I assume there are zero managerial share or no covenant violation if data are not observed for firms in the sample. I collect board information from both Corporate Library and Risk Metrics database, and G-Index from Investor Responsibility Research Center (IRRC), which only provide limited coverage of observations.

Table 1 presents summary mean statistics of discounted common equity issuance, their issuer, and investor characteristics. Column (1) summarizes the full discounted sample of issuance fractions from 0% to 40%. The data span the period from January 1995 to June 2010 with 2,466 observations. I initially focus on column (1) with all discounted placements. Then, I report mean statistics of samples of 17.5% to 22.5%, 15% to 25% and 10% to 30% below and above 20%, which will be three sample ranges to be used throughout the paper. Due to the fact that my paper uses the identification of managers' self-selection to issue less than 20%, it is important to understand which variables are comparable and which variables differ between below and above the 20% threshold.

The part I of the table summarizes general firm characteristics. The mean size of market equity (winsorized above and below at the 1% level) is \$294 million and market-to-book ratio (MB) is on average 3.62, which means that firms on average are small growth firms. $TLMTA$, $NIMTAAVG$, and $CASHMTA$ are total liabilities, geometrically decreasing average of quarterly net income, and cash plus short-term investments, respectively, over market equity plus total liabilities. Mean leverage ($TLMTA$) is 21.92%, and mean earnings ($NIMTAAVG$) is negative -3.43%, suggesting that the average placement firms lose money in operation. Cash holdings ($CASHMTA$) average around 9.4%. Other than earnings, the difference below and above 20% for size, market-to-book, leverage and cash holdings are economically and statistically insignificant, suggesting that firms are comparable by a typical size and market-to-book matching.

The part II of the table summarizes variables related to the placement characteristics.

Discount is the difference in issuance price relative to the price on the day previous to the close of the placement contract which averages 15%. Fraction placed is the amount issued calculated to apply the 20% rule. Use of proceeds is divided into debt-related, acquisition, and specific use, which are denoted by indicator functions I_{Debt}, $I_{Acquisition}$, and $I_{Specific}$, respectively. Difference between below and above the 20% threshold in all placement characteristics are statistically insignificant, except for the fraction placed due to sample construction.

The part III of the table summarizes variables that are related to distress. *CHS*, which is the distress measure from Campbell, Hilscher, and Szilagyi (2008) averages -6.70. This mean statistic suggests that placement firms are generally distressed.[21] Indicator functions that are one if each firm is in the highest distress quartile of the full sampled observations (Distress_{High}) and Debt covenant ($I_{Covenant\ Violation}$) are also presented. The difference in this part shows that firms with fraction less than 20% are less distressed than firms above 20%.

The part IV of the table presents variables related to the ownership structure. Managerial Ownerships, Active Institutional Ownership (i.e., institutions classified as independent investment advisors or investment companies), and Passive Institutional Ownership (i.e., the ownership by non-active institutions) are shown. Institutional Ownership is the sum of active and passive institutional investors, and the Sophisticated Ownership is the sum of managerial and institutional investors. Also, institutional investors holding majority shares ($I_{Inst.\ Ownership>50\%}$) and sophisticated investors holding majority shares ($I_{Sophisticated\ Ownership>50\%}$) are presented. Generally, firms that issue less than 20% have more Institutional Ownership and Sophisticated Ownership than firms above 20%. This difference is mainly driven by the approximately 7% difference in Passive Institutional Ownership.

The part V of the table summarizes variables related to buyer characteristics. Number of Buyers, portion of placements with a single investor ($I_{One\ Buyer}$), Board representation by investors ($I_{Board\ Representation}$), and strategic alliance between the investor and the placement

[21] This average number is equal to an annual financial failure rate (i.e., delisting or receiving a credit rating D) of 1.47% or a monthly rate of 0.12%. According to Table VI of Campbell, Hilscher, and Szilagyi (2008), this average default rate corresponds to the top distress quartile of all firms traded on the market. These statistics confirm that firms that issue privately are generally distressed.

company ($I_{Strategic\ Alliance}$) are presented. Firms with fraction placed less than 20% have higher number of buyers and smaller portion of single investor placements in the sample close to the 20% threshold, while other buyer characteristics are insignificantly different.

Finally, the table summarizes board characteristics and governance index with only limited availability. Indicator function of chairman of the board of directors also being the CEO ($I_{CEO-Chairman}$), and the portion of independent directors are shown. G-Index matches even less observations with only 202 matches. CEO-Chairman duality mostly occurs for samples below 20%, while other variables are insignificantly different. These variables are used only in Appendix E due to their limited data availability.

In sum, firms in the sample are small and growth firms that are relatively distressed. A quick univariate mean difference test suggests that firms that issue below and above the 20% are comparable in size, market-to-book, leverage, cash holdings, placement characteristics, use of proceeds, board representation, and strategic alliance with investors, suggesting the firms that issue more than 20% are generally a good comparison group for firms that issue less than 20%. On the other hand, variables with significant univariate differences initially suggest evidence against the Costly Approval Hypotheses. In the following Empirical Result Section, I formally test hypotheses in a better controlled multivariate setting.

5. Empirical results

5.1. Logit analysis on the decision to avoid shareholder approval

In this section, I investigate the firm and issuance characteristics to test whether avoiding shareholder approval is evidence of costly shareholder approval, or principal-agent conflict. I use a logit regression to predict the decision to avoid shareholder approval ($I_{\text{Fraction}<20\%}$). For the explanatory variables, I include variables that could test the Costly Approval Hypotheses (CAH) and Misalignment Hypothesis (MH) that were described earlier in the Main Hypotheses Section and Data Section.

As the first category, I include variables that could test whether or not the need for timely financing is required (CAH1). I use the distress measure, *CHS,* and the indicator function of Distress_{High} because the distress measure might have non-linear features. I also include indicator functions of $I_{Covenant\ Violation}$, I_{Debt}, and $I_{Specific}$. CAH1 predicts that these variables would have positive coefficients. As the second category, I include a variable to test whether there are enough sophisticated shareholders to correctly approve a placement (CAH2). CAH2 predicts negative coefficients for $I_{Sophisticated\ Ownership>50\%}$. As the third category, I include variables that could test misalignment of interests (MH). I use variables of placement discounts, managerial ownership, active institutional ownership and number of placement investors. MH predicts positive coefficients for discounts and number of buyers, but negative coefficients for managerial and active institutional ownership.[22]

As the final category, I include variables that could affect the decision of issuing less than 20%. I include indicator functions of the buyer gaining a board position to control for possible monitoring effects, the buyer being in a strategic relation with the placement company, the buyer being a single investor to control for possible change-of-control placements (NASDAQ Rule 5630 (b)), and for use of proceeds for acquisition (NASDAQ Rule 5630 (a)). Although the 20% rule subsumes change-of-control and acquisition related private placements for the discounted sample as discussed in Section 2, I control for these cases to see if the avoidance is due to other regulations rather than the 20% rule.

Table 2 presents the empirical results. I initially run the logit regression on the sample closest to the 20% threshold of 17.5%−22.5% in regressions (1) and (2). I use a wider sample range of 15%−25% in regressions (3) and (4), and of 10%−30% in regressions (5) and (6). The odd number regressions use the distress measure, *CHS*, while the even number regressions include Distress_{High} instead of *CHS*.

In the first place, I examine the results by looking at regression (1) and (2). The first five

[22] I do not include variables that are used in constructing the distress measure such as size, market-to-book, leverage, cash holdings, and earnings due to possible multicollinearity problems. However, including these variables do not generally result in statistical significance and do not affect the results of other coefficients.

variables test CAH1. In regression (1), *CHS* has a statistically significant negative coefficient (-0.54 [t-stat $= -3.55$]). In regression (2), I find that Distress_{High} also has a statistically significant coefficient of -0.82 (t-stat $= -2.77$), suggesting that the significance of *CHS* is not due to possible nonlinearity in the distress measure. These coefficients suggest that approval avoiding firms consist of firms that are less distressed than approval seeking firms that seek approval, thus rejecting CAH1.[23] $I_{Covenant\ Violation}$, I_{Debt}, and $I_{Specific}$ have statistically insignificant coefficients, which do not support CAH1.

In the next place, I test CAH2 by looking at sophisticated ownership. I find a positive and statistically significant coefficient of 1.77 (t-stat $= 2.04$) for $I_{Sophisticated\ Ownership>50\%}$ in regression (1), and 1.72 (t-stat $= 2.00$) in regression (2). This positive coefficient suggests that approval avoiding firms, compared with approval seeking firms, have higher chance of having sophisticated investors holding more than majority shares. This result is the opposite of the predictions of CAH2. This coefficient suggests that managers avoid shareholder approval, *not* because shareholders are less sophisticated, *but* because shareholders are more sophisticated in understanding that the private placement is not in their best interests. Therefore, these results reject CAH2, and reinforce MH.[24]

In the last place, I look at variables that could test MH. I first look at issuance discounts. The coefficient for discount is 3.35 (t-stat $= 2.42$) in regression (1) and 2.98 (t-stat $= 2.18$) in regression (2), both statistically significant at the 5% level. These coefficients suggest that firms that avoid approval issue at higher discounts than firms that seek approval, which is consistent with MH. In Table 1, however, we have seen that discount is not significantly different between

[23] Private placements of firms that avoid approval are less distressed in a *relative* sense compared to private placements of firms that seek approval. Firms that issue privately can be considered somewhat distressed in general when viewed in the cross-section of all traded firms, as mentioned in the Data section. The quartile cutoff point for private placements used for Distress_{High} is higher than the average distressed firms of the top 10 to 5 percentile of the cross-section of all firms according to Table VI of Campbell, Hilscher, and Szilagyi (2008). The use of a higher cutoff point for Distress_{High} (i.e., top 10 percentile and 5 percentile) also results in statistically significant coefficients in regressions (2), (4), and (6).

[24] Notice from Table 1 that the difference in Sophisticated Ownership is driven by passive institutional ownership, rather than managerial and active institutional ownership, suggesting that this result should not be interpreted as rejection of MH. See Appendix E for further discussions and alternative specifications.

below and above the 20% threshold, in the sample of 17.5% to 22.5%. Hence, the statistically significant coefficient on placement discounts must be driven by controlling for other variables in the logit regression.

In particular, the coefficient for discount becomes less statistically significant (2.28 [t-stat = 1.75]) when *CHS* and Distress_{High} are not included in regressions (1) and (2). Controlling for distress is important because more distressed firms would be able to justify higher discounts, while investors would also ask for higher discounts for investing in a highly distressed company.[25] The interpretation of the coefficients on discounts in conjunction with distress is that approval avoiding firms issue at higher discounts (i.e., higher costs), considering that they are relatively less distressed (i.e., less benefits) than approval seeking firms.

In addition to placement discounts, the coefficients for managerial ownership are negative and statistically significant at the 10% level with coefficients of -0.03 (t-stat $= -1.74$) in regression (1) and -0.03 (t-stat $= -1.79$) in regression (2). The coefficients on managerial ownership suggest that managers who share the cost of dilution less (i.e., less managerial ownership) avoid shareholder approval more often. Therefore, self-interested managers, would be less aligned with shareholders' best interests when they avoid shareholder approval, which is consistent with MH. On the other hand, active institutional ownership has statistically insignificant coefficients. Also, the coefficient for the Number of Buyers is significantly positive (0.07 [t-stat = 2.97]). This result suggests that managers, when avoiding shareholder approval, issue to a larger number of investors in order to avoid monitoring and challenges from placement investors, which is consistent with MH.[26]

Among control variables, we can observe that the coefficient for the use of proceeds related to acquisition is negative and statistically significant. This significant coefficient suggests that it is not because of the rule regarding acquisitions (NASDAQ Rule 5635 (a)) that firms avoid shareholder approval. Once firms need to seek shareholder approval by issuing more than

[25] These results are consistent with Hertzel and Smith (1993) and Chaplinsky and Haushalter (2010) that show discount increases as distress levels increase.

[26] See Appendix E for results of additional variables with limited availability that are used to proxy for better governance (e.g., board characteristics and G-Index).

20%, firms state the use of proceeds as acquisition more often. Also, coefficients on single investor indicator are statistically insignificant although the univariate difference is statistically significant in Table 1. This insignificance is due to the inclusion of the Number of Buyers in the regression. Firms that avoid shareholder approval have less change-of-control placements, but this is in line with the approval avoiding firms issuing to a larger Number of Buyers.

In sum, regressions (1) and (2) reject predictions of CAH1 and CAH2, by showing that approval avoiding firms are less distressed and have higher sophisticated ownership than approval seeking firms. Also the regressions support MH by showing that approval avoiding firms issue at higher discounts and have lower managerial ownership than approval seeking firms.

Now, I rerun the logit regressions using wider sample ranges. Regressions (3) and (4) expand the sample range from 15% to 25%, and regressions (5) and (6) expand the sample from 10% to 30%. In all four regressions, approval avoiding firms are still less distressed and have more sophisticated ownership holding majority shares than approval seeking firms. The magnitude of the coefficients for *CHS,* Distress_{High} and $I_{Sophisticated\ Ownership>50\%}$, however, are smaller in the wider sample ranges. Moreover, the coefficients for Discount, Managerial ownership, Number of Buyers, and $I_{Acquisition}$ are smaller and are statistically insignificant in the wider ranges. These results show that firms below and above the proximity of the 20% threshold have larger differences in level of distress, sophisticated ownership, discounts, managerial ownership, and number of buyers. Thus, observations closest to the 20% threshold play an essential role in driving my results.[27]

Figure 3 shows mean variable distribution with a fitted fourth-order polynomial to better understand the patterns of significant variables of Table 2 in various sample ranges.[28] Initially, Panel A and B show that the distress level generally increases as a larger fraction is placed, but decreases just below the 20% threshold. Panel C shows that sophisticated ownership holding

[27] As an exception, there is a negative statistically significant coefficients for I_{Debt} (-0.67 [t-stat $= -1.92$]) in regression (3). This coefficient suggests that firms that avoid approval have less debt-related use of proceeds than firms that seek approval, which is opposite to the prediction of CAH2. I do not, however, put much weight on the interpretation of I_{Debt} because the coefficient is not statistically significant in any other regression.

[28] Fitting a higher order polynomial makes it difficult to observe patterns for firms above 20%, due to the limited sample size above the 20% threshold.

majority shares generally decreases with the fraction placed, but increases at less than, but in the proximity of, the 20% threshold. These results suggest that the difference in distress and sophisticated ownership could be the result of the general trend in wider samples, but the difference closest to the 20% threshold is driven by the firms just below 20%, corroborating earlier interpretation of misaligned firms that avoid approval. This result also suggests that the smaller sample (i.e., 17.5% to 22.5%), which consists of about 15% of the total sample less than the 20%, is most appropriate in identification and evaluation of the hypotheses.[29]

Panel D shows that the difference in discount is insignificant even around the 20% threshold, which is consistent with the earlier interpretation of the difference driven by controlling for the lower distress levels of approval avoiding firms. Next, Panel E shows that the managerial ownership difference is driven both by the decreases below and close to the 20% threshold and increases just above the 20% threshold. These patterns suggest that managers who share the cost of dilution with shareholders (i.e., higher managerial ownership) tend to seek approval in order to separate their placements from possible pooling with misaligned placements. Finally, the number of buyers in Panel F shows that firms that issue less than 20% have increasing number of investors as the placement fraction increases, while firms above 20% do not seem to have a clear pattern. These patterns suggest that the placements below 20% may not necessarily have required more investors when placing larger amounts, but that the managers may have purposely placed to many dispersed investors to avoid monitoring from new investors.[30]

In sum, Table 2 and Figure 3 do not find support for CAH. The lower distress level of firms that avoid shareholder approval rejects CAH1, and the higher sophisticated ownership holding majority shares for approval avoiding firms rejects CAH2. These results are driven by observations in the region just below the 20% threshold, but as the fraction of placements falls further down, one should be less certain of this assertation. On the other hand, firms that avoid shareholder approval issue at a higher discount after controlling for distress, have

[29] I find similar results and larger coefficients for the sample of 19% to 21% in a logit regression on the decision to avoid approval.

[30] I put less weight on the interpretation of the number of investors, however, because we do not observe a change in the general pattern just below the 20% threshold.

less managerial ownership, but have higher number of buyers in the sample closest to the 20% threshold, which are all consistent with MH. All in all, these results suggest that it is not because the cost of approval is high, but because the placements are not in the best interests of shareholders, that managers purposely avoid the need for shareholder approval.

5.2. Announcement day returns and dilution by shareholder approval

This section presents the announcement day returns and cost of dilution by shareholder approval. The market response will be an indication of whether or not avoiding shareholder approval is viewed by the market as a value decreasing transaction. If avoidance behavior is motivated by misalignment of principal-agent interests, firms that avoid the need for approval should have negative returns lower than the ones for the firms that do not. If avoiding shareholder approval is in the best interests of shareholders, on the other hand, firms that avoid the need for approval would have non-negative market responses similar to the ones that seek shareholder approval.

I find the announcement dates for this paper by searching news articles around the announcement and closing dates provided by PlacementTracker. A detailed description of the search process can be found in Appendix C.[31] I use 3-day Cumulative Abnormal Return (CAR) as the announcement day return for this paper where returns are market-adjusted.[32] I also adjust returns for delisting biases documented in Shumway (1997), and Shumway and Warther (1999), if a company delists during the accumulation window.

I further use dilution and discount-adjusted returns to study the costs and benefits associated

[31] I also verify that there are insignificant returns on the actual shareholder meeting dates I find, which suggests that the approval itself is a non-event because the market anticipates the placement to be approved. I find that all proxy votes in my limited sample pass, supporting the conjecture that the market anticipates votes to pass once managers decide to seek approval. These results are consistent with Listokin (2008) who shows that manager-proposed votes pass easily, and Cuñat, Gine, and Guadalupe (2012) who show that the market responds to the voting dates only when the results are not anticipated.

[32] I use market-adjusted returns because of the fact that previous literature on private placements show systematic price movements before the private placements, which could cause possible biases due to using previous period estimation of coefficients on factors over the pre-announcement period. Note, however, that I find similar results adjusting returns by the market model, Fama and French 3-factor model, and Carhart (1997) 4-factor model. Also, the use of a 5-day window yields similar results.

with the discounted placement, in addition to the announcement day *CAR*s. I follow Wruck (1989), and Hertzel and Smith (1993) to adjust returns by

$$Discount - adjusted\ CAR_{i,t} = [1/(1-\alpha)]CAR_{i,t} + [\alpha/(1-\alpha)]Discount_{i,t}, \qquad (1)$$

where α is the fraction of equity placed. Discount-adjusted *CAR*s can be interpreted as the additional market value generated by the private placement after considering the changes in equity value due to dilution.

Table 3 presents announcement day returns and dilution by fraction of equity placed. Panel A first looks at mean announcement 3-day *CAR*s, dilution, and discount-adjusted *CAR*s in bins created around the 20% shareholder approval threshold. The first four columns present bins formed from 20% and below, while the next four columns present bins formed from 20% and above. In the first row, the announcement day *CAR*s exhibit mean negative abnormal returns for all bins formed below the 20% threshold in the first four columns. The magnitude of mean *CAR*s becomes larger as the bins are formed for ranges closer to the 20% threshold from the lower side (i.e., from -0.34% [t-stat $= -1.26$] for the 0% to 20% bin, to -1.30% [t-stat $= -1.90$] for the 17.5% to 20% bin). These results suggest that the action of issuing discounted equity without shareholder approval affects shareholder value negatively, which is consistent with MH.

Observations of the bins with fractions larger than 20%, on the other hand, have positive announcement day abnormal returns. Mean *CAR*s for the bin formed closest to the 20% threshold have statistically significant positive returns of 3.07% (t-stat $= 2.13$). The non-negative returns for observations of the bins that issue more than 20% show that, once shareholder approval is required, the market evaluates approval-seeking private placements as increasing firm value. As the upper bound of bin range increases for firms that issue more than 20%, the mean of the returns decreases in magnitude but the t-statistics increases achieving statistical significance at the 1% level. These return patterns suggest that firms that issue closest to

the 20% threshold should be most relevant in finding differences between the two groups, but balance is required in forming the sample around the threshold due to the fact that the narrower the bin range is, the weaker the statistical power becomes.

In the next two rows, I look at dilution and discount-adjusted *CAR*s to study the costs and benefits of the placement and to understand the pattern in announcement day returns. In the second row of Panel A, dilution increases monotonically from 1.53% to 3.06% for the first four columns, and increase monotonically from 2.73% to 4.05% for the last four columns. The increase in dilution results from taking averages of dilution of placements that issue at higher fractions. In the third row of Panel A, we can see that all discount-adjusted *CAR*s are positive, but they are larger in magnitude for bins formed above 20%. The magnitudes of discount-adjusted *CAR*s do not vary much among bins formed above 20%, and also among bins formed below 20%. This positive discount-adjusted *CAR*s suggests that, after considering the cost of dilution, the private placement does not necessarily destroy value.

As argued by MH, agency issues in distress do not necessarily have to be interpreted as the result of managers' active entrenchment actions, but could be as that of their conservative actions which decrease shareholder value, considerting the cost shareholders pay. Comparing discount-adjusted *CAR*s to the cost of dilution in the previous row, discount-adjusted *CAR*s are larger than cost of dilution only for firms that issue more than 20%. These cost-benefit patterns suggest that approval-seeking placements generate enough benefits to outweigh the costs, while the costs outweigh the benefits for firms that issue less than 20%, generating the negative *CAR*s observed in the first row.

In the next panel, I test the difference in returns and dilution between the firms that issue below 20% and those that issue above 20%. Panel B presents the mean differences (issuing below 20% minus issuing above 20%) of announcement day *CAR*s, dilution and discount-adjusted *CAR*s. Samples are created from 0% to 40%, 2.5% to 37.5%, and so on, by reducing the sample range each time by 2.5% below and above the 20% threshold. The resulting pattern confirms the pattern observed in Panel A. Thus, the significant difference in announcement day *CAR*s

seems to be driven by the difference in benefits (discount-adjusted CAR) of issuance rather than the difference in costs of dilution which is insignificant for issuances close to the 20% threshold.

In sum, the patterns of announcement day CARs, dilution, and discount-adjusted CARs above and below the 20% approval threshold presented in Table 3 suggest that private issuances of the firms that seek approval benefit shareholders more than those of the firms that avoid the need for approval. These results are consistent with MH, and inconsistent with CAH. For robustness, I check whether the difference in discount-adjusted announcement day returns from private placements can be attributed to other characteristics relevant in making the decision to issue either below or above the 20% threshold. The results are presented in Appendix F. I find that announcement day returns difference is robust with or without self-selection correction, and with regard to many other control variables including distress, strategic alliance, one buyer, and acquisition-related placement.[33]

To further explore the market responses for firms avoiding approval and firms seeking approval, I run regressions of discount-adjusted returns *within sample* in Table 4. Regressions for the approval avoiding group (i.e., placements with fractions less than 20%) are presented in regressions (1) through (3), and those for the approval seeking group (i.e., placements with fractions more than 20%) are presented in regressions (4) through (6).

To interpret my results, I rely on two hypotheses from the private placement literature that attempt to explain the positive announcement day returns of private placements. First, Wruck (1989) posits the 'monitoring hypothesis', suggesting that the positive announcement day returns of private placement are due to investors providing monitoring through board positions and concentrated ownership. Second, Hertzel and Smith (1993) explain the positive announcement day returns by the 'certification hypothesis', suggesting that placement discounts are related to the information costs, and discounts are a form of compensation for new investors producing valuable information that the company is undervalued (perhaps by distress), and

[33] I also look at announcement returns of placements that are planned to be voted in a special meeting to address the concern that other issues in a regular annual meeting might affect my results. I find that these announcement day returns are also positive in magnitude (5.41 [t-stat = 1.65]), but statistically insignificant due to the small sample size.

certifying that the placement will improve the situation.

To this end, I first focus on the commonalities for both approval avoiding group and seeking group. The coefficient for Distress_{High} is significant only in regressions (3) and (5) although all coefficients are positive. These results suggest that distress level explains some dispersion in returns, consistent with the 'certification hypothesis' even within sample. In addition, we can observe a statistically significant positive relationship between board representation and discount-adjusted returns in all regressions. These results are consistent with the 'monitoring hypothesis'. But, board representation by new placement investors are found in less than 3% of the sample, and found to be only insignificantly different in the two groups as shown in Table 1. These results show that a robust monitoring effect exists, but is not the main source of the difference in announcement day returns by each group.

I next focus on the differences between regressions on the two groups. When focusing on the approval avoiding group in the first three regressions, the coefficient for the indicator function of the firms that state a specific use of proceeds is statistically significant at the 10% level for all regressions. This coefficient suggests that the market is not clear about the purpose of the costly private placement, but is mainly concerned if the proceeds will be used to simply finance losses when firms avoid shareholder approval; so it seems important for them to state the use of proceeds for announcement returns.[34]

Significant coefficients found in firms that seek shareholder approval, on the other hand, suggests different patterns. For one thing, the coefficients for sophisticated ownership holding majority shares are statistically significant for regressions (5) and (6). This result suggests that when existing shareholders approve (or are expected to approve) a discounted placement, it signals to the market that the benefit (i.e., discount-adjusted returns) is large enough to overcome the cost (i.e., dilution) for existing shareholders. Thus, seeking shareholder approval

[34] Additionally, the coefficient for a single investor that issue less than 20% is significantly negative (-4.13 [t-stat $= -1.83$]) when avoiding approval in regression (1). This result suggests that the market reacts negatively when managers avoid approval where the placement could result in change in control. It should be noted, however, that this result is statistically insignificant for regressions (2) and (3), limiting the generalization of this result.

signals that the true price is at least as high as the current market price. The positive coefficient suggests that this certification effect is larger when the quality of the certification improves as existing ownership becomes more sophisticated. Notice that the coefficient for sophisticated ownership is insignificantly negative for the approval avoiding group. This difference suggests that sophisticated ownership plays an important certification role when shareholder approval is sought, but the role of certification is lost when it is avoided.

For the other, the coefficients for discount are significant in regressions (4) and (5), which is consistent with the interpretation that discount is compensation for new placement investors verifying the value of the company, as argued by the 'certification hypothesis' posited by Hertzel and Smith (1993). The coefficients for the approval avoiding group are positive but insignificant. These coefficient patterns for discount coupled with earlier results of approval avoiding group issuing at higher discounts while being less distressed, suggests that managers who avoid shareholder approval seem to issue placements at high discounts that are not followed by matching benefits, as opposed to managers who seek approval.

In sum, Table 4 shows that stating a specific use of proceeds is important in explaining the lower returns for approval avoiding firms. For approval seeking firms, on the other hand, the quality of existing shareholders and the discount amount is important in explaining discount-adjusted returns. Thus, the certification effect of existing and outside shareholders drive higher positive announcement day returns of the shareholders of approval seeking firms. Other control variables do not explain the variation in higher returns of approval seeking firms.

Barclay, Holderness, and Sheehan (2007) sort out the 'monitoring hypothesis', 'certification hypothesis', and 'managerial entrenchment hypothesis', arguing that many other firm and issuance characteristics are consistent with 'managerial entrenchment hypothesis', with an exception of the positive announcement day returns. Although I find monitoring effects in announcement returns, the overall pattern suggests that the positive return of approval seeking firms is from certification by existing and new shareholders, while the negative return of approval avoiding firms is consistent with misalignment of manager-shareholder interests. Hence, my

findings suggest that even the positive announcement day returns of private placement may be misleading in representing private placements,[35] lending additional support to the 'managerial entrenchment hypothesis' of private placements.

5.3. Delisting rates, cash holding, and change in profitability

In this section, I look at post-placement delisting rates, cash holdings, and change in profitability to further study the behavior of the firms that avoid shareholder approval. In section 5.1, I showed the results stating that approval avoiding firms are less distressed, which leads to the rejection of CAH1. These lower distress levels suggest that approval avoiding firms would have lower delisting rates after the placements. Whether or not approval avoiding firms eventually delist less than approval seeking firms, however, still needs verification.

5.3.1. Delisting rates

I first investigate post-placement delisting rates in Table 5. Panel A presents delisting due to performance reasons defined by Shumway (1997) and Shumway and Warther (1999). Looking at the sample range of 17.5% to 22.5%, I find that approval avoiding firms delist within the first six months at a rate less than 1%, while approval seeking firms delist at a higher 4.88% rate. The difference is statistically significant, being consistent with the earlier finding that approval seeking firms are more distressed at the time of announcement than approval avoiding firms.

For one year after the issuance, 3.21% of the approval avoiding firms delist, and 9.76% of approval seeking firms delist. Again, the difference is statistically significant. Although approval avoiding firms delist less than approval seeking firms, a 3.21% one-year delisting rate is still a high rate, considering that the average cross-sectional annual financial failure rate (i.e.,

[35] In untabulated results, I find that the sample including both discounted and premium observations have statistically significant positive announcement returns as generally documented by the placement literature. The full discounted sample (i.e. placements with fraction from 0% to 40%) of this paper, on the other hand, has positive but statistically insignificant returns. The premium placements, which the 20% rule doesn't directly apply, are more related to strategic alliance (18%) and one buyer transactions (59%) on top of the fact that they add value (through the premium) to shareholders, compared to the discounted sample which has more representative characteristics of private placements (i.e., unrelated discounted transactions placed to large number of investors).

delisting or receiving a credit rating D) is less than 2%.[36] For two years after the issuance, 8.57% of approval avoiding firms delist, while 19.51% of approval seeking firms delist.

When expanding the samples to the wider ranges of 15%−25% and 10%−30%, I find slightly smaller differences with higher t-statistics for all sample periods. Estimating the difference in delisting below and above the 20% threshold controlling for other variables, especially high distress, with or without using self-selection correction, as presented in Appendix F, does not affect my results. These results suggest that approval avoiding firms delist due to performance reasons less often, on top of the fact that they were less distressed at the time of issuance.

Panel B presents delisting due to reasons other than performance, which are mainly by mergers and acquisitions. The first row of Panel B shows that there are non-performance delisting within 6 months only for the widest sample of 10% to 20%. The non-performance delisting increases for longer horizons, but the differences between below and above 20% are all statistically insignificant. Not having any non-performance delisting within 6 months, and the insignificant differences in delisting, suggests that non-performance reasons such as mergers and acquisitions do not seem to affect either the decision to avoid the need for shareholder approval or their lower announcement day returns.

The interpretation of the lower performance delisting rate of approval avoiding firms could differ depending on the view of managers. On one hand, one could argue that benevolent managers of approval avoiding firms have lower delisting rates because managers efficiently use cash to prevent default, so that the company recovers by investing in positive NPV projects. On the other hand, one could also predict that approval avoiding firms delist at lower rates, but that these lower rates are achieved at the cost of shareholders through dilution, even when liquidation is optimal for shareholders.[37] The question remains whether or not keeping the company from delisting by issuing costly placements is beneficial for shareholders. To sort out

[36] See Campbell, Hilscher, and Szilagyi (2008) for the rate of bankruptcy and financial failure per year.

[37] Later in Table 7, I show that within the sample of 17.5% to 22.5%, firms that seek approval have higher (but statistically insignificant) post-placement abnormal returns (including Shumway (1997) and Shumway and Warther (1999) delisting bias corrections) than firms that avoid approval despite their higher delisting rates. These results suggest that delisting is not always value destroying for shareholders.

these two views, I further investigate post-placement cash holdings and changes in profitability.

5.3.2. Post-placement excess cash holdings and change in profitability

This section investigates whether managers efficiently use the proceeds from the placement. Generally, the empirical literature on principal-agent problem is concerned about empire-building managers (Jensen (1986, 1993)) inefficiently increasing capital expenditure and acquisitions (see, for example, Harford, Mansi, and Maxwell (2008)).[38] The major agency concern in distress situations, on the other hand, is whether or not keeping the company from termination is itself a positive NPV project for shareholders. For instance, DeAngelo, DeAngelo, and Wruck (2002) show, through the example of L.A. Gear, how asset liquidity (including excess cash) can provide a distressed firm manager the discretion to subsidize losing operation, thus negatively affecting shareholder value over a long period (i.e., six years) before the firm finally defaults. Schultz (1993) also discusses how managers invest in negative NPV projects and further decrease profitability, rather than liquidate the firm and give up their jobs.

Following these agency views of distressed firms, I study post-placement cash holdings and change in profitability. Assuming benevolent managers and considering the cost of dilution, cash should be used efficiently, and profitability should be non-decreasing after the placement for both approval avoiding and approval seeking firms. If the approval avoiding placement is motivated by managers' self-interests, on the other hand, cash holdings should be inefficiently higher and profitability should decrease on average after the placement.

I measure excess cash holdings ($CASHMTA$) by cash holdings minus normal cash holdings. Following DeAngelo, DeAngelo, and Stulz (2010), normal cash holdings is estimated by the median of firms in the two-digit standard industrial classification within nine groups formed by a double sorting of all CRSP/COMPUSTAT firms by three book size bins and three book-to-market ratio bins for the given quarter. Change in profitability is measured by the difference of average net income ($\Delta NIMTAAVG$) from one quarter before the placement to

[38] In untabulated results, I find there is only insignificant differences between the firms that issue below and above the 20% threshold in the levels of (or changes in) post-placement capital expenditure and acquisitions.

four and eight quarters after the placement.[39]

Table 6 presents the results. Panel A presents excess cash holdings. I find that the pre-placement excess cash holdings are generally insignificant for all three sample ranges. For four quarters after the placement, however, excess cash holdings are highly positive (5.45 [t-stat = 4.94]) for approval avoiding firms, while firms that issue more than 20% have insignificant excess cash holdings (1.24 [t-stat = 1.01]) for the sample closest to the 20% threshold. Firms that issue less than 20% have significantly higher excess cash holdings than firms that issue more than 20% for all three sample groups. For eight quarters after the placement, the difference in cash holdings is significant for samples with ranges of 17.5%−22.5% and 15%−25%, but statistically insignificant for the wider range of 10%−30%.

The cash holding results suggest that firms clustering just below the 20% threshold are on average not those firms of which managers have specific objectives to spend cash, but decreased the fraction just below 20% to avoid shareholder approval. Furthermore, the firms clustering below 20% can also be those firms that should have issued fewer shares, but increased the fraction to the maximum amount where shareholder approval is not required, thus further diluting share value. This result is consistent with the earlier result that approval avoiding placements have benefits (i.e., positive discount-adjusted returns), but not enough to overcome the cost of dilution. The result is also consistent with the lower announcement returns of approval avoiding firms when a specific use of proceeds is not stated, suggesting that the market is somewhat concerned about the inefficient use of proceeds.

I next present the change in profitability in Panel B. Focusing on the sample of 17.5% to 22.5%, we can observe that the profitability decreases significantly by –0.82 (t-stat = –2.17) in four quarters and –2.00 (t-stat = –3.84) in eight quarters for firms that issue less than 20% in column (1). For firms that issue more than 20%, on the other hand, the coefficients are positive but statistically insignificant. Taking the difference of average change in profitability,

[39] Unlike when included to construct the distress measure (i.e., *CHS*), *CASHMTA* and *NIMTAAVG* are not replaced by cross-sectional means when missing, or winsorized. Instead, I replace missing variables with the company's most recent available data, including firms that delist to prevent survivorship bias in the results.

we can observe that the difference is negative but marginally insignificant for four quarters, but statistically significant at the 5% level in eight quarters. The increase in differences is driven by the decreasing profitability of approval avoiding firms and the slightly improving profitability of approval seeking firms. The insignificant difference in four quarters seems to be the result of smaller decrease in profitability of firms that avoid approval, and the weaker power of test by the small sample size of the bin close to the 20% threshold.

The statistical significance pattern is similar for wider samples but the magnitude of the difference decrease, suggesting that firms close to the 20% from below consist of firms that have stronger deterioration in profitability. I note that my results of differences both in excess cash holdings and change in profitability do not change even after estimating the difference below and above the 20% threshold, including other control variables with or without using self-selection correction as presented in Appendix F.

It is difficult to argue agency problems by simply showing *ex post* deterioration of profitability for a single firm, because a turnaround for distress firms may often fail even when the *ex ante* expected outcome is positive. The fact that the average profitability decreases for a relatively large sample size as this paper shows, however, suggests that even the *ex ante* expected NPV of projects (or keeping the company going itself) was negative at the time of placement for these approval avoiding firms.

These post-placement results coupled with the shareholder approval avoidance behavior suggest that managers anticipate that shareholders would not have approved of the costly private placement given the non-positive NPV investment opportunity set. Yet, many managers still bypass the shareholder approval process and finance the firm, generating an agency problem for distressed firms. The negative announcement day returns to the approval avoiding placements also suggest that the market anticipates the possibility of this agency problem. Overall, the empirical patterns of the firms that avoid shareholder approval are consistent with the literature, which suggests that it is extremely difficult, if not impossible, to stop distressed firm managers from financing a failing operation even when it is not in the best interest of shareholders.

6. Alternative Hypotheses

In this section, I discuss alternative hypotheses that might be able to explain managers' behavior regarding the avoidance of shareholder approval.

Market Timing Hypothesis:

Managers avoid shareholder approval to keep information private to sell overpriced equity.

The Market Timing Hypothesis posits that managers avoid approval so that a manager can sell equity at a level that is higher than its true price, as argued by Baker and Wurgler (2002). Seeking approval could possibly trigger information leakage about the bad state of the company and make it difficult to sell equity even at a discounted price. Thus, managers would avoid shareholder approval to keep information about the true price of equity unrevealed.

The discount in private placements in contrast to public Seasoned Equity Offerings (SEOs), makes it more appropriate for the Market Timing Hypothesis to be tested against the discounted price rather than the current market price as in SEOs. Thus, the first prediction of the Market Timing Hypothesis is that discount-adjusted returns need to be negative to verify whether managers are selling overpriced equity. The first prediction is rejected by revisiting discount-adjusted returns in Panel A of Table 3. Discount-adjusted returns for all bins formed below the 20% threshold are positive and statistically significant, showing that firms that avoid shareholder approval issue at a price equal or less than the market price.[40]

Second prediction of the Market Timing Hypothesis is that pre-announcement returns should be higher and post-announcement returns should be lower for approval avoiding firms compared to approval seeking firms, since managers' concern is that approval seeking placements allow negative information leakage about the true price. Table 7 presents the difference in cumulative abnormal returns (issuing below 20% minus issuing above 20%) for pre-announcement and

[40] In unreported results, discount-adjusted returns for firms that issue less than 20% is not negative even for longer horizons up to six months.

post-announcement periods. We can observe that pre-announcement returns are mostly negative and statistically insignificant in Panel A. These negative differences suggest that there could have been a small positive, rather than the predicted negative, leakage of information for firms that seek approval. Panel B presents post-announcement CARs. All return differences except for two samples (i.e., the one month, 10% to 30% sample and 12.5% to 27.5% sample) are statistically insignificant.[41] Overall, the insignificant differences of other various samples, as well as the patterns in pre-announcement returns and discount-adjusted announcement returns do not support the Market Timing Hypothesis.

Fiduciary Duties (Debt-equity Conflict) Hypothesis:

Managers avoid shareholder approval because of their fiduciary duties to creditors.

Like the Misalignment Hypothesis, Fiduciary Duties Hypothesis argues that private placement is misaligned with shareholders, but it suggests that managers are motivated by their fiduciary duties to creditors, rather than by their own private benefit. In distress, equity issuance would decrease distress cost and thus benefit creditors. However, equity holders often do not approve of such action because of the value transfer from equity holders to creditors (i.e., Myers' (1977) debt overhang problem), creating the debt–equity conflict.[42] It is possible that managers avoid seeking shareholder approval and issue privately to satisfy fiduciary duties to debt holders that equity holders would not approve of.[43]

The Fiduciary Duties Hypothesis would have similar predictions as CAH1, which predict

[41] The insignificant differences in pre-announcement and post-announcement returns also lend support to the validity of the announcement day search. The insignificant differences suggest that information regarding the decision to avoid approval is concentrated on the searched announcement dates. Also, notice that the regulation that bans public advertisement of placements restricts information leakage in private placements.

[42] For example, Becker and Stromberg (2012) study a legal ruling changing corporate fiduciary duties limiting managers' incentives to take actions that favor equity over debt for distressed firms. Affected distressed firms respond by increasing equity issuance and reducing risk.

[43] As a result, shareholder value would decrease but debt value would increase enough so as to maintain or increase total firm value (i.e., sum of the market values of debt and equity). Ideally, announcement day returns for debt and equity would help measure the total firm value created from the private placement. It is, however, difficult to directly measure how much creditors benefit from the private placement because only sparse market debt data are available for firms that issue privately in my database.

that managers would avoid the need for approval more often when firms are more distressed, they mention debt-related use of proceeds more often, and debt covenants are triggered. Most notably among these variables, debt covenant violations should strongly affect managers' action towards creditors. The predictions of CAH1, however, were not supported in Table 2, thus for the same reason, the Fiduciary Duties Hypothesis is also not supported.

Monetary Costs Hypothesis:

Managers avoid shareholder approval because of the monetary costs of the process.

One direct cost of obtaining shareholder approval is the monetary cost of the shareholder approval process. For example, contacting and opening a special meeting could be expensive, although a meeting is not required for approval. The Monetary Costs Hypothesis posits that managers avoid shareholder approval because of these monetary costs that might occur through the shareholder approval process. The returns might be still lower for firms that avoid shareholder approval because managers are unable to issue at the optimal fraction that maximizes shareholder value, in order to avoid the high monetary costs. If managers still need to issue equity, they will choose equity value decrease, over even higher monetary costs.

A quick approximation of the announcement day return effect, however, show that the monetary costs have to be extremely large to justify the announcement day return of approval avoiding firms. The average market equity size of a company in the sample just below 20% is \$148 million in Table 1. In Table 3, the mean negative announcement day return for approval avoiding firms is 1.30%, which would approximate an average devaluation of \$1.92 million. If one considers the return difference from approval seeking firms, the estimates would amount to a devaluation of \$6.47 million. Since it seems difficult to argue that the monetary cost would come even close to these estimates, the Monetary Cost Hypothesis is not supported.

Uncertainty Hypothesis:

Managers avoid approval because of uncertainty in the prospects of the company.

The Uncertainty Hypothesis posits that managers may avoid the need for approval because of uncertainty in the company's current or future prospects. Uncertainty can make it difficult for managers to communicate whether or not a private placement is in shareholders' best interests (i.e., positive NPV). Managers may avoid shareholder approval, since managers do not want to risk the chance of the shareholders rejecting the placement.

I test the hypothesis by using the volatility in stock prices prior to the private placement as the proxy for uncertainty in the prospects of the company. I use $SIGMA$, which is the annualized 3-month volatility of daily stock returns. Replacing CHS in regressions by $SIGMA$ results in statistically significant negative coefficients for $SIGMA$ in all sample ranges.[44] These results suggest that the uncertainty of approval avoiding firms is less than that of approval seeking firms, rejecting the Uncertainty Hypothesis.

Dynamic Learning Hypothesis:

Firms dynamically learn the bad state of the firms that repeatedly issue private placements.

Floros and Sapp (2012) argue that the fact that firms repeatedly issue private placements signals the true state of the company. As it becomes clear that the main motivation for repeated placements is the urgent need for financing, the announcement day return decreases as the market dynamically learns about the true bad state of the company.

I test the Dynamic Learning Hypothesis by including the sequence number of placement in the logit regression in Table 2. I find that coefficients for the sequence of private placements is significantly negative for all sample ranges, which suggests that the sequential placements are concentrated above 20%, rather than below 20%. This result does not support the Dynamic Learning Hypothesis.

Overall, I do not find support for any of the alternative hypotheses stated in this section.

[44] I replace the CHS distress measure by $SIGMA$ in the regressions because $SIGMA$ is included in the distress measure and can cause multicollinearity issues. Including both $SIGMA$ and CHS in all three regressions result in negative but statistically insignificant coefficients for $SIGMA$, while CHS has negative and statistically significant coefficients as before.

7. Conclusion

This paper uses the 20% rule as a novel identification to study agency problem in private placements, and finds that many managers avoid shareholder approval by manipulating the issuance fraction to be just below the 20% threshold. Using the two groups that are naturally formed around the threshold, I further find that both announcement day return patterns and firm characteristics are consistent with the Misalignment Hypothesis. Moreover, post-placement patterns of delisting rates, cash holdings, and change in profitability together reinforces the view that behavior of the managers avoiding shareholder approval is consistent with the agency view of distressed firms.

Most European and Asian companies require rights offerings before a manager seeks outside funding, thus preventing unnecessary shareholder dilution and corporate governance problems. Although the speedy procedure of private issuances in the United States has its benefits, the paper suggests that the high threshold allowed for shareholder approval waiver may have been abused by many managers.

Since my paper shows that the shareholder approval rule plays a disciplinary role for managers' actions for the firms that issue more than 20%, lowering the approval threshold level could help reduce potential principal-agent problems. At a lower approval threshold, approval avoiding managers would dilute share value less even when there is only limited benefits from the placements, consequently alleviating the agency problem at hand. Moreover, if the exceptions to the current 20% rule such as financial viability exception and approval by written consent etc. remain available, even a lower approval threshold would not restrain firms from maintaining timely financing, when the financing is actually the means of firms' last resort. The paper leaves open, as for future research, the question of what is the optimal threshold level to balance out the benefits of distressed financing and the cost of agency problems in private placements.

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Table 1: Summary Mean Statistics

The table presents summary mean statistics of discounted common equity issuance, their issuer, and investor characteristics. Column (1) summarizes the full discounted sample of issuance fractions from 0% to 40%. Columns (2) to (7) summarize the statistics of the samples, which fall below (even columns) and above (odd columns) the 20% threshold with classified ranges from 17.5% to 22.5%, 15% to 25%, and 10% to 30% issuance fraction. Size is market equity measured in 100 millions of dollars winsorized above and below at the 1% level, and *MB* is the market-to-book measure. *TLMTA, NIMTAAVG,* and *CASHMTA* are total liabilities, geometrically decreasing average of quarterly net income, and cash plus short-term investments, respectively, over market equity plus total liabilities. Discount is the difference in issuance price relative to the price on the day previous to the close of the placement contract. Fraction Placed is the amount issued calculated to apply the 20% rule. Use of proceeds is divided into debt-related, acquisition, and specific use, which are denoted by indicator functions I_{Debt}, $I_{Acquisition}$, and $I_{Specific}$, respectively. *CHS* is the distress measure from Campbell, Hilscher, and Szilagyi (2008). Distress_{High} is an indicator functions that is one if the firm is in the highest distress quartile, and zero otherwise. $I_{Covenant\ Violation}$ is an indicator function that is one if debt covenants are triggered, and zero otherwise. Managerial Ownerships is the proportion of managerial ownership. Active Inst. Ownership is the institutional ownership by active institutions (i.e., institutions classified as independent investment advisors or investment companies) and Passive Inst. Ownership is the ownership by non-active institutions. Inst. Ownership and Sophisticated Ownership are the proportion of institutional ownership (both active and passive), and managerial plus institutional ownerships, respectively. $I_{Inst.\ Ownership>50\%}$ and $I_{Sophisticated\ Ownership>50\%}$ are indicator functions that are one if Inst. Ownership and Sophisticated Ownership are, respectively, more than 50% of existing shares. Number of Buyers is the number of investors in the private placement. $I_{One\ Buyer}$ is an indicator function that is one if the number of buyers is one, and zero otherwise. $I_{Board\ Representation}$ is an indicator function that is one if the placement investors achieve a board representation, and zero otherwise. $I_{Strategic\ Alliance}$ is an indicator function that is one if the private placement is part of a strategic alliance between the investor and the placement company. $I_{CEO-Chairman}$ is an indicator function that is one if the chairman of the board of directors is also the CEO of the company, and zero otherwise. Independent Directors is the proportion of independent directors on the board of directors. *G*-Index is the governance index from Gompers, Ishii, and Metrick (2003). The statistical significance of mean differences of characteristics below and above the 20% fraction are presented at the 10%, 5%, and 1% levels which are denoted by *, **, and ***, respectively. The difference and t-statistics are omitted due to space limitations.

Variables \ Range	0%–40%	17.5%–22.5%			15%–25%			10%–30%		
	Full	<20%	20%≦	Sig. Diff.	<20%	20%≦	Sig. Diff.	<20%	20%≦	Sig. Diff.
	(1)	(2)	(3)	(2)-(3)	(4)	(5)	(4)-(5)	(6)	(7)	(6)-(7)
I. *Firm Characteristics*										
Size (100MM)	2.94	1.48	1.66		1.66	1.98		2.19	1.79	
MB	3.62	3.37	3.57		3.45	3.61		3.52	3.57	
TLMTA (%)	21.92	22.75	20.66		22.87	19.82		22.05	20.25	
NIMTAAVG (%)	-3.43	-3.83	-5.58	*	-3.65	-5.25	***	-3.52	-5.59	***
CASHMTA (%)	9.40	12.17	10.66		11.57	10.63		10.41	10.73	
II. *Placement Characteristics*										
Discount	0.15	0.17	0.15		0.17	0.16		0.15	0.16	
Fraction Placed (%)	13.66	19.12	21.21	***	17.74	22.42	***	14.94	24.41	***
I_{Debt}	0.09	0.09	0.10		0.09	0.11		0.09	0.09	
$I_{Specific}$	0.42	0.47	0.45		0.47	0.45		0.47	0.46	
$I_{Acquisition}$	0.05	0.05	0.09		0.06	0.08		0.06	0.06	
III. *Distress*										
CHS	-6.70	–6.67	-6.24	***	-6.64	-6.25	***	-6.69	-6.25	***
$Distress_{High}$	0.25	0.26	0.41	**	0.28	0.42	***	0.24	0.43	***
$I_{Covenant\ Violation}$	0.06	0.08	0.05		0.07	0.06		0.06	0.08	
IV. *Ownership Information*										
Managerial Ownership (%)	2.88	2.65	3.27		3.11	2.58		2.86	2.33	
Active Inst. Ownership (%)	3.31	3.16	2.85		3.22	2.48		3.13	2.30	**
Passive Inst. Ownership (%)	13.22	14.44	7.48	***	13.80	7.99	***	13.93	7.77	***
Inst. Ownership (%)	16.53	17.60	10.33	***	17.02	10.47	***	17.06	10.06	***
Sophisticated Ownership (%)	19.41	20.28	13.60	***	20.13	13.05	***	19.92	12.40	***
$I_{Inst.\ Ownership>50\%}$	0.07	0.08	0.01	***	0.07	0.01	***	0.08	0.02	***
$I_{Sophisticated\ Ownership>50\%}$	0.09	0.09	0.02	***	0.09	0.02	***	0.09	0.02	***
V. *Buyer Characteristics*										
Number of Buyers	7.22	10.88	5.74	***	10.16	7.41	***	8.81	8.56	
$I_{One\ Buyer}$	0.35	0.21	0.33	**	0.23	0.29		0.26	0.28	
$I_{Board\ Representation}$	0.03	0.01	0.02		0.02	0.03		0.03	0.02	
$I_{Strategic\ Alliance}$	0.04	0.01	0.04		0.01	0.03		0.02	0.03	
Number of Observations	2,466	280	82	362	534	157	691	1,126	266	1,392
VI. *Limited Availability*										
Board Characteristics										
$I_{CEO-Chairman}$	0.35	0.34	0	***	0.38	0	***	0.36	0.14	***
Independent Directors	0.59	0.60	0.64		0.61	0.58		0.60	0.56	
Number of Observations	391	41	5	46	74	14	88	148	29	177
G-Index	8.60	8.52	10.00		8.69	10.29		8.55	8.73	
Number of Observations	202	23	2	25	35	7	42	76	15	91

Table 2: Logit Regression of Firms Issuing Without Seeking Approval

The table presents the results of logit regressions predicting privately issued equity avoiding shareholder approval by issuing less than 20% of existing shares. The lefthand-side variable is one if the fraction of equity placed is less than 20% (i.e., seeking shareholder approval is avoided), and zero otherwise. Observations with fraction of equity placed between 17.5% and 22.5% are used for regressions (1) and (2), between 15% and 25% for regressions (3) and (4), and between 10% and 30% for regressions (5) and (6). The righthand-side variables include measures of characteristics of the placement firm, investor, and the placement. Distress measure *CHS* is from Campbell, Hilscher, and Szilagyi (2008). Distress_{High} is an indicator function that is one if the firm is in the highest distress quartile, and zero otherwise. $I_{Covenant\ Violation}$ is an indicator function that is one if debt covenants are triggered, and zero otherwise. Debt-related, acquisition, and specific use of proceeds are denoted by indicator functions I_{Debt}, $I_{Acquisition}$, and $I_{Specific}$, respectively. $I_{Sophisticated\ Ownership>50\%}$ is an indicator function that is one if the sum of institutional ownership and managerial ownership is more than 50% of existing shares, and zero otherwise. Discount is the difference in issuance price relative to the day previous to the close of the placement contract. Managerial Ownership is the proportion of managerial ownership, and Active Inst. Ownership is the proportion of active institutional ownership. Number of Buyers is the number of investors in the private placement. $I_{Board\ Representation}$ is an indicator function that is one if the placement investors achieve a board representation, and $I_{Strategic\ Alliance}$ is an indicator function that is one if the private placement is part of a strategic alliance between the investor and the placement company. $I_{One\ Buyer}$ is an indicator function that is one if the number of buyers is one. The statistical significance at the 10%, 5%, and 1% levels is denoted by *, **, and ***, respectively, and the t-statistics are presented in parentheses.

Variables \ Range	$\text{Logit}(I_{\text{Fraction}(i)<20\%_{,,}}) = \alpha + X_i B + \epsilon_i$					
	17.5%–22.5%		15%–25%		10%–30%	
	(1)	(2)	(3)	(4)	(5)	(6)
Distress (*CHS*)	-0.54***		-0.40***		-0.43***	
	(-3.55)		(-4.04)		(-5.76)	
Distress_{High}		-0.82***		-0.64***		-0.81***
		(-2.77)		(-3.15)		(-5.38)
$I_{Covenant\ Violation}$	0.59	0.42	0.43	0.28	-0.04	-0.12
	(0.98)	(0.71)	(1.07)	(0.71)	(-0.13)	(-0.42)
I_{Debt}	-0.69	-0.43	-0.67*	-0.51	-0.25	-0.14
	(-1.31)	(-0.86)	(-1.92)	(-1.51)	(-0.95)	(-0.54)
$I_{Specific}$	-0.03	0.01	-0.02	0.01	-0.03	-0.01
	(-0.11)	(0.03)	(-0.10)	(0.03)	(-0.16)	(-0.06)
$I_{Sophisticated\ Ownership>50\%}$	1.77**	1.72**	1.52**	1.51**	1.34***	1.37***
	(2.04)	(2.00)	(2.35)	(2.34)	(2.78)	(2.86)
Discount	3.35**	2.98**	1.59*	1.42	0.32	0.20
	(2.42)	(2.18)	(1.74)	(1.56)	(0.50)	(0.31)
Managerial Ownership	-0.03*	-0.03*	-0.00	-0.00	0.01	0.01
	(-1.74)	(-1.79)	(-0.24)	(-0.17)	(0.48)	(0.58)
Active Inst. Ownership	0.00	0.00	0.01	0.01	0.02	0.02
	(0.08)	(0.05)	(0.48)	(0.61)	(1.06)	(1.18)
No. of Buyers	0.07***	0.07***	0.02*	0.03**	-0.01	-0.01
	(2.97)	(3.16)	(1.81)	(2.09)	(-1.06)	(-0.63)
$I_{Board\ Representation}$	0.26	0.19	0.03	0.02	0.38	0.37
	(0.26)	(0.20)	(0.04)	(0.03)	(0.76)	(0.76)
$I_{Strategic\ Alliance}$	-1.61	-1.62	-1.04	-1.08	-0.67	-0.70
	(-1.59)	(-1.64)	(-1.55)	(-1.64)	(-1.42)	(-1.49)
$I_{One\ Buyer}$	0.12	0.13	0.05	0.08	-0.12	-0.10
	(0.33)	(0.37)	(0.22)	(0.31)	(-0.65)	(-0.54)
$I_{Acquisition}$	-1.20**	-1.09*	-0.78**	-0.68*	-0.45	-0.39
	(-2.11)	(-1.95)	(-2.03)	(-1.80)	(-1.44)	(-1.26)
No. of Obs.	362	362	691	691	1,392	1,392
Pseudo R^2	0.13	0.12	0.06	0.05	0.04	0.04

Table 3: Announcement Day Returns and Dilution by Fraction of Equity Placed

The table presents announcement day returns, dilution, and discount-adjusted announcement day returns of firms issuing discounted private placement by bins of different issuance fraction. The cumulative abnormal return (CAR) is the sum of the ± 1 day announcement abnormal returns where returns are adjusted market returns. Dilution is the placement discount multiplied by the fraction of equity placed. Discount-adjusted CAR is the CAR adjusted for dilution by accounting for the discounts and fraction of equity placed. Panel A presents mean announcement day cumulative abnormal return (CAR), dilution, and discount-adjusted CAR for bins by fractions centered on the 20% shareholder approval threshold. Panel B presents the mean difference of the announcement day CAR, dilution, and discount-adjusted CAR between issuances above and below the 20% threshold. Returns and dilution are presented in percentages. The t-statistics are calculated using robust standard errors clustered at the firm level and the statistical significance at the 10%, 5%, and 1% levels is denoted by *, **, and ***, respectively. The t-statistics are presented in parentheses.

	Panel A. Mean Returns by Fraction of Equity Placed Centered On the 20% Threshold							
Mean \ Range (%)	0–20	10–20	15–20	17.5–20	20–22.5	20–25	20–30	20–40
CAR	-0.34	-0.81**	-1.00*	-1.30*	3.07**	2.73**	2.76***	2.52***
	(-1.26)	(-2.09)	(-1.76)	(-1.90)	(2.13)	(2.36)	(3.08)	(3.13)
Dilution	1.53***	2.17***	2.76***	3.06***	2.73***	3.05***	3.24***	4.05***
	(41.12)	(40.95)	(32.89)	(24.79)	(11.64)	(15.60)	(18.86)	(20.27)
Discount-adjusted *CAR*	1.12***	1.24***	1.60**	1.55*	6.42***	6.39***	6.68***	7.13***
	(3.76)	(2.78)	(2.41)	(1.88)	(3.57)	(4.45)	(6.06)	(6.97)
No. of Obs.	2,060	1,126	534	280	82	157	266	406

	Panel B. Difference in Returns for Issuances Below Minus Above the 20% Threshold							
Difference \ Range (%)	0–40	2.5–37.5	5–35	7.5–32.5	10–30	12.5–27.5	15–25	17.5–22.5
CAR	-2.86***	-2.59**	-2.67**	-3.30***	-3.57***	-3.40***	-3.73***	-4.38**
	(-3.44)	(-3.10)	(-3.04)	(-3.44)	(-3.67)	(-3.19)	(-2.93)	(-2.75)
Dilution	-2.52***	-2.14***	-1.84***	-1.45***	-1.06***	-0.79***	-0.29	0.33
	(-12.45)	(-11.24)	(-9.85)	(-7.97)	(-6.03)	(-4.08)	(-1.39)	(1.26)
Discount-adjusted *CAR*	-6.01***	-5.30***	-5.09***	-5.46***	-5.44***	-4.91***	-4.79***	-4.88**
	(-5.74)	(-5.08)	(-4.66)	(-4.62)	(-4.60)	(-3.80)	(-3.06)	(-2.48)
No. of Obs.	2,466	2,318	2,058	1,721	1,392	1,041	691	362

Table 4: Discount-adjusted Returns by Approval Avoiding and Seeking Group

The table presents the ordinary least square regression of discount-adjusted announcement returns of firms by firms that avoid seeking shareholder approval (i.e., fraction of discounted equity placed less than 20%, column (1) through (3)) and firms that seek shareholder approval (i.e., fraction of discounted equity placed more than 20%, column (4) through (6)). The lefthand-side variable is the 3-day discount-adjusted announcement day cumulative abnormal return (*CAR)* where returns are adjusted market returns. The righthand-side variables include measures of characteristics of the firm and the issuance. Distress_{High} is an indicator function that is one if the firms are in the highest distress quartile. $I_{Covenant\ Violation}$ is an indicator function if debt covenants are triggered. Debt-related, acquisition, and specific use of proceeds are denoted by indicator functions I_{Debt}, $I_{Acquisition}$, and $I_{Specific}$, respectively. $I_{Sophisticated\ Ownership>50\%}$ is an indicator function that is one if the sum of institutional ownership and managerial ownership is more than 50% of existing shares, and zero otherwise. Discount is the difference in issuance price relative to the day previous to the close of the placement contract. Managerial Ownership is the proportion of managerial ownership, and Active Inst. Ownership is the proportion of active institutional ownership. Number of Buyers is the number of investors in the private placement. $I_{Board\ Representation}$ is an indicator function that is one if the placement investors achieve a board representation and $I_{Strategic\ Alliance}$ is an indicator function that is one if the private placement is part of a strategic alliance between the investor and the placement company. $I_{One\ Buyer}$ is an indicator function that is one if the number of buyers is one. The t-statistics are calculated using robust standard errors clustered at the firm level and are presented in parentheses. The statistical significance at the 10%, 5% and 1% levels is denoted by *, **, and ***, respectively.

	Discount-adjusted $CAR_i = \alpha + X_i B + \epsilon_i$					
Groups by Approval	Approval Avoiding Group			Approval Seeking Group		
Variables \ Range	17.5%–20%	15%–20%	10%–20%	20%–22.5%	20%–25%	20%–30%
	(1)	(2)	(3)	(4)	(5)	(6)
Distress_{High}	2.12	3.16	2.51*	4.53	6.45*	2.41
	(1.06)	(1.55)	(1.95)	(0.97)	(1.97)	(1.05)
$I_{Covenant\ Violation}$	-4.37	-2.47	-0.90	4.57	-2.33	-4.70
	(-0.94)	(-0.85)	(-0.48)	(0.89)	(-0.28)	(-1.03)
I_{Debt}	1.95	0.70	0.77	-0.05	1.20	-1.22
	(0.86)	(0.35)	(0.62)	(-0.01)	(0.25)	(-0.35)
$I_{Specific}$	3.05*	2.70*	1.69*	4.43	3.64	3.45
	(1.66)	(1.75)	(1.65)	(1.02)	(0.97)	(1.40)
$I_{Sophisticated\ Ownership>50\%}$	-0.10	-0.07	-0.07	18.67	16.44*	19.21***
	(-0.05)	(-0.04)	(-0.05)	(1.19)	(1.90)	(3.26)
Discount	13.63	8.98	7.76	49.72***	28.39**	10.71
	(1.58)	(1.29)	(1.61)	(2.79)	(2.27)	(1.26)
Managerial Ownership	0.01	0.11	0.07	-0.14	0.00	-0.07
	(0.11)	(1.09)	(0.96)	(-0.57)	(0.01)	(-0.50)
Active Inst. Ownership	-0.07	-0.05	0.01	-0.09	-0.05	-0.07
	(-0.63)	(-0.56)	(0.11)	(-0.32)	(-0.25)	(-0.45)
No. of Buyers	0.07	0.07	0.02	0.12	-0.01	0.12
	(0.96)	(1.36)	(0.58)	(0.47)	(-0.06)	(1.05)
$I_{Board\ Representation}$	14.71**	14.47***	7.59***	18.11*	16.75*	15.06**
	(2.29)	(3.39)	(3.07)	(1.70)	(1.85)	(2.06)
$I_{Strategic\ Alliance}$	-1.30	-0.22	0.20	1.73	12.48	7.45
	(-0.44)	(-0.06)	(0.11)	(0.28)	(1.45)	(1.47)
$I_{One\ Buyer}$	-4.13*	-0.74	-0.12	4.35	0.58	2.41
	(-1.83)	(-0.45)	(-0.11)	(0.91)	(0.17)	(0.89)
$I_{Acquisition}$	0.55	-0.51	0.02	-0.69	-1.70	-0.50
	(0.19)	(-0.25)	(0.01)	(-0.19)	(-0.53)	(-0.14)
No. of Obs.	280	534	1,126	82	157	266
R^2	0.09	0.04	0.02	0.17	0.13	0.09

Table 5: Rate of Delisting Following Private Placements

The table presents the proportion of firms that delist after a private placement. Panel A presents the proportion of delisting due to performance reasons and Panel B presents proportion of delisting due to other reasons. The periods of (0, +180), (0, +365), and (0, +730) denote the period of six months, one year, and two years after the private placement. The table presents the rate of delisting below and above the 20% fraction issued for ranges from 17.5% to 22.5%, 15% to 25%, and 10% to 30%. The mean differences of the rate of delisting below and above the 20% fraction are presented with statistical significance at the 10%, 5%, and 1% levels which are denoted by *, **, and ***, respectively. The t-statistics are calculated using robust standard errors clustered at the firm level and presented in parentheses.

	17.5%–22.5%			15%–25%			10%–30%		
Period \ Range	<20%	20%≦	Diff	<20%	20%≦	Diff	<20%	20%≦	Diff
	Panel A. Percentage of Delisting due to Performance Reasons								
(0, +180)	0.36	4.88	-4.52***	0.56	3.82	-3.26**	0.53	3.01	-2.47***
	(1.00)	(2.06)	(-3.12)	(1.73)	(2.50)	(3.19)	(2.45)	(2.92)	(3.65)
(0, +365)	3.21	9.76	-6.54**	2.43	8.92	-6.48***	2.40	6.77	-4.37***
	(3.05)	(2.67)	(-2.48)	(3.64)	(3.65)	(-3.72)	(5.25)	(4.21)	(3.64)
(0, +730)	8.57	19.51	-10.94***	8.43	19.11	-10.68***	9.41	16.92	-7.50***
	(4.91)	(4.27)	(-2.80)	(6.81)	(5.89)	(-3.82)	(9.92)	(7.00)	(-3.55)
	Panel B. Percentage of Delisting due to Reasons Other than Performance								
(0, +180)	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.26
	(-)	(-)	(-)	(-)	(-)	(-)	(1.73)	(-)	(0.84)
(0, +365)	2.14	2.44	0.30	1.31	3.18	-1.87	1.51	2.25	-0.75
	(2.47)	(1.42)	(0.16)	(2.67)	(2.29)	(-1.58)	(4.15)	(2.49)	(-0.86)
(0, +730)	7.14	3.66	3.48	6.18	6.37	-0.19	5.60	5.26	0.33
	(4.60)	(1.75)	(1.14)	(5.61)	(2.77)	(-0.09)	(7.67)	(3.21)	(0.21)
No. of Obs.	280	82	362	534	157	691	1,126	266	1,392

Table 6: Post-placement Cash Holdings and Change in Profitability

The table presents post-placement cash holdings and change in profitability. Cash holdings are measured by *CASHMTA,* which is constructed by cash plus short-term investments over market equity plus total liabilities. Profitability is measured by *NIMTAAVG,* which is constructed by the geometrically decreasing average of quarterly net income over market equity plus total liabilities. Panel A presents excess *CASHMTA* for 1 quarter before, 4 quarters after, and 8 quarters after the private placement, where excess *CASHMTA* is measured by actual *CASHMTA* minus normal *CASHMTA.* Normal *CASHMTA* is estimated by sorting all CRSP/COMPUSTAT firms into nine groups based on three equal sized groups on book assets, and three equal book-to-market ratios. Within each of the nine groups, normal *CASHMTA* is measured as the median ratio among all firms in the industry for the given quarter for each two-digit standard industrial classification. Panel B presents change in *NIMTAAVG* from 1 quarter before the placement to 4 quarters after, and to 8 quarters after the private placement. The table presents variables below and above the 20% fraction issued for ranges from 17.5% to 22.5%, 15% to 25%, and 10% to 30%. The mean differences of the rate of cash holdings and change in profitability below and above the 20% fraction are presented with statistical significance at the 10%, 5%, and 1% levels, each denoted by *, **, and ***, respectively. The t-statistics are calculated using robust standard errors clustered at the firm level and presented in parentheses.

Period \ Range	17.5%–22.5%			15%-25%			10%-30%		
	<20%	20%≦	Diff	<20%	20%≦	Diff	<20%	20%≦	Diff
	(1)	(2)	(1)-(2)	(3)	(4)	(3)-(4)	(5)	(6)	(5)-(6)
	Panel A. Excess *CASHMTA*								
1 quarter before placement	1.28	0.27	1.01	0.66	0.06	0.61	-0.42	0.50	-0.92
	(1.83)	(0.23)	(0.73)	(1.28)	(0.07)	(0.66)	(-1.33)	(0.65)	(-1.17)
4 quarters after placement	5.45	1.24	4.21**	4.91	1.91	3.01**	2.93	2.13	0.80
	(4.94)	(1.01)	(2.55)	(6.70)	(1.99)	(2.57)	(6.23)	(2.82)	(0.93)
8 quarters after placement	6.99	3.33	3.65*	6.27	3.00	3.27**	4.25	3.82	0.43
	(5.71)	(2.00)	(1.77)	(7.42)	(2.62)	(2.35)	(7.84)	(3.74)	(0.41)
	Panel B. Change in Profitability (Δ*NIMTAAVG*)								
4 quarter after placement	-0.82	0.39	-1.21	-0.52	-0.03	-0.49	-0.50	0.40	-0.91**
	(-2.17)	(0.56)	(-1.52)	(-1.98)	(-0.08)	(-0.91)	(-2.55)	(1.17)	(-2.33)
8 quarters after placement	-2.00	0.84	-2.84**	-1.62	0.15	-1.77**	-1.42	0.01	-1.52***
	(-3.84)	(0.77)	(-2.35)	(-4.15)	(0.24)	(-2.38)	(-5.11)	(0.20)	(-2.77)
No. of Obs.	280	82	362	534	157	691	1,126	266	1,392

Table 7: Pre-announcement and Post-announcement Day Returns

The table presents mean difference of cumulative abnormal returns ($CARs$) of firms issuing discounted common equity private placement below and above the 20% threshold by bins of different issuance fraction. Panel A presents the mean difference of one-month and one-week pre-announcement day cumulative abnormal returns between issuances below and above the 20% threshold. Panel B presents the mean difference for one-week, one-month, six-month, and one-year post-announcement day CARs between issuances below and above the 20% threshold. The CAR is the sum of the abnormal returns where returns are adjusted market returns. Discounted common equity private placement observations are from PlacementTracker. The t-statistics are calculated using robust standard errors clustered at the firm level and are presented in parentheses. The statistical significance at the 10%, 5%, and 1% levels is denoted by *, **, and ***, respectively.

	Mean Difference of CARs for Issuances Below Minus Above the 20% Threshold							
Days \ Range (%)	0–40	2.5–37.5	5–35	7.5–32.5	10–30	12.5–27.5	15–25	17.5–22.5
	Panel A. Pre-announcement CAR							
(–30, -2)	-2.91*	-3.02	-2.22	-1.95	-2.08	-1.44	0.06	-2.51
	(-1.67)	(-1.60)	(-1.13)	(-0.94)	(-0.89)	(-0.61)	(0.02)	(-0.71)
(–7, -2)	-0.89	-0.96	-0.82	-0.67	-0.31	0.23	0.73	-0.73
	(-0.96)	(-0.96)	(-0.78)	(-0.59)	(-0.25)	(0.22)	(0.55)	(-0.42)
	Panel B. Post-announcement CAR							
(+2, +7)	-0.38	-0.30	-0.40	-0.37	-0.60	-0.62	-0.45	-0.20
	(-0.60)	(-0.44)	(-0.56)	(-0.49)	(-0.72)	(-0.66)	(-0.39)	(-0.13)
(+2, +30)	-1.18	-1.35	-1.00	-2.07	-3.07*	-3.99*	-3.60	-0.93
	(-0.83)	(-0.88)	(-0.64)	(-1.25)	(-1.68)	(-1.91)	(-1.46)	(-0.26)
(+2, +180)	1.29	2.28	1.61	-1.53	-1.50	0.42	1.10	-1.76
	(0.36)	(0.61)	(0.40)	(-0.35)	(-0.32)	(0.08)	(0.19)	(-0.21)
(+2, +365)	-4.39	-0.23	-0.68	-4.28	-4.50	-4.13	-1.59	-3.02
	(-0.91)	(-0.05)	(-0.13)	(-0.77)	(-0.74)	(-0.61)	(-0.21)	(-0.28)
No. of Obs.	2,466	2,318	2,058	1,721	1,392	1,041	691	362

Figures

Figure 1: Distribution of Privately Issued Equity

The scatter plot presents common equity issuance by the fraction of equity placed and the premium/discount at issuance. The horizontal axis represents the fraction of newly placed shares to existing shares. The vertical axis represents the discount/premium of issuance price of the private placement contract compared to market closing price on the day before the private placement contract. Histograms for each 0.25% width are presented toward the left and bottom of the scatter plot in percentages. The common equity issuance data are from the PlacementTracker database for the period from 1995 to 2010.

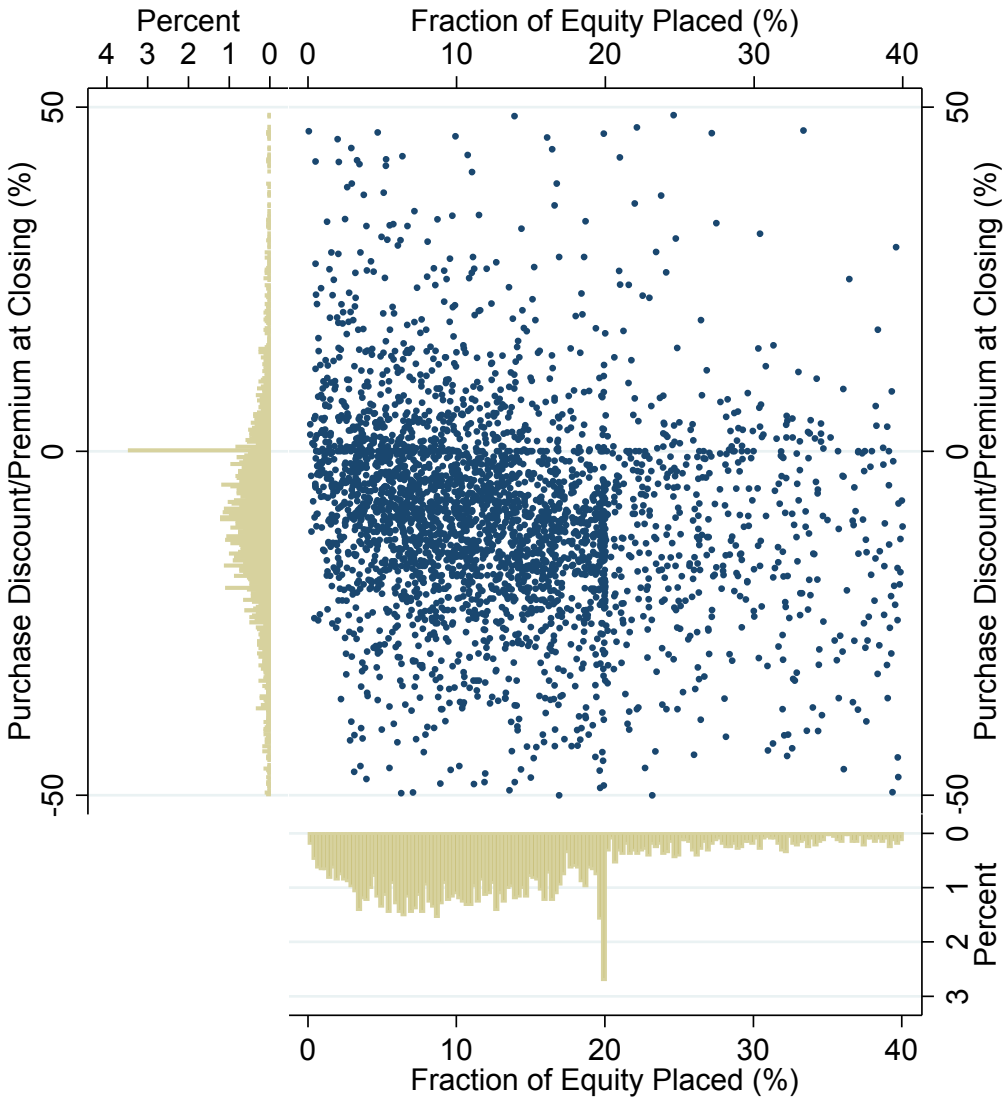


Figure 2: Distribution of Privately Issued Equity by Fraction of Equity Placed

The figure presents the cumulative distribution function and the histogram of discounted common equity issuance by the fraction of newly placed shares to existing shares. Histograms for each 0.25% width are presented in the bottom panel in percentages. The common equity issuance data are from the PlacementTracker database for the period from 1995 to 2010.

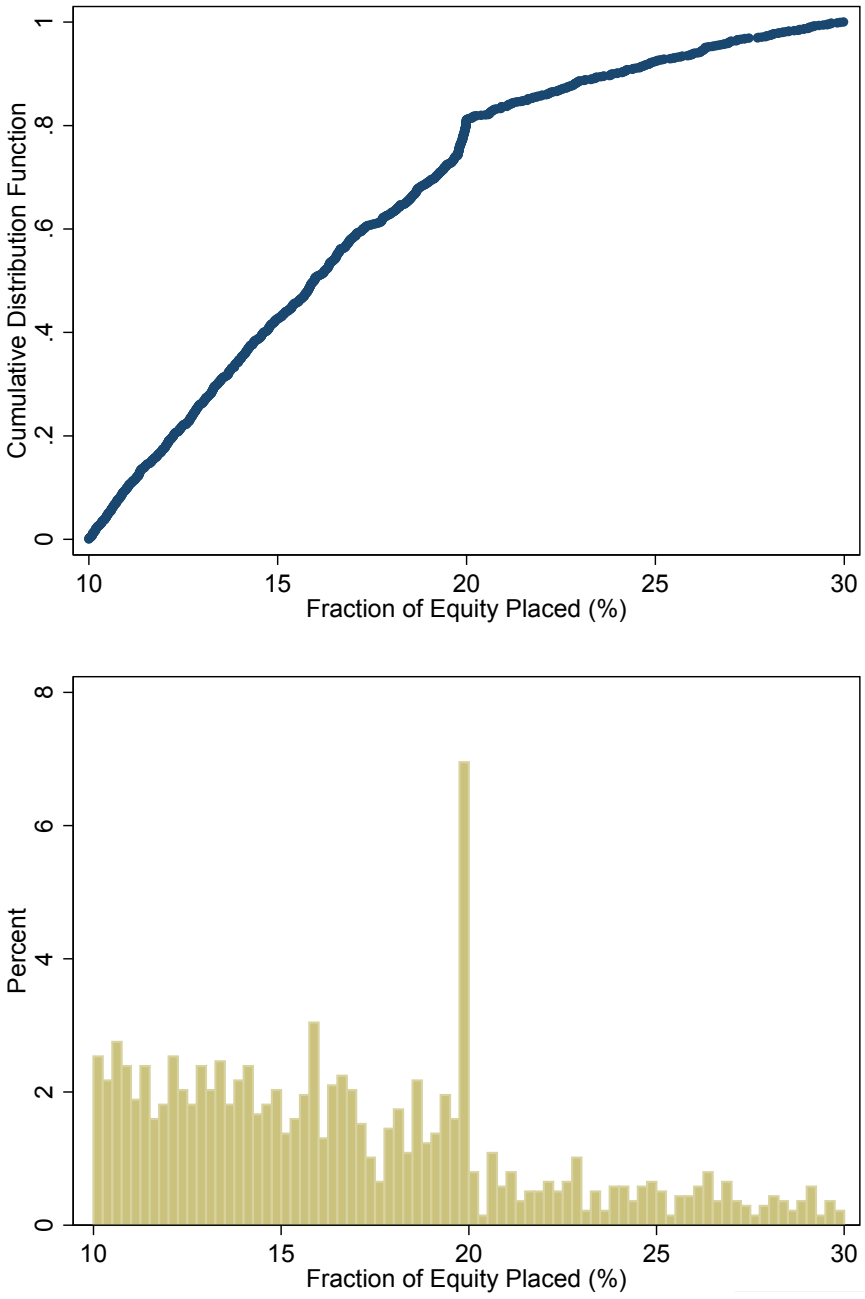
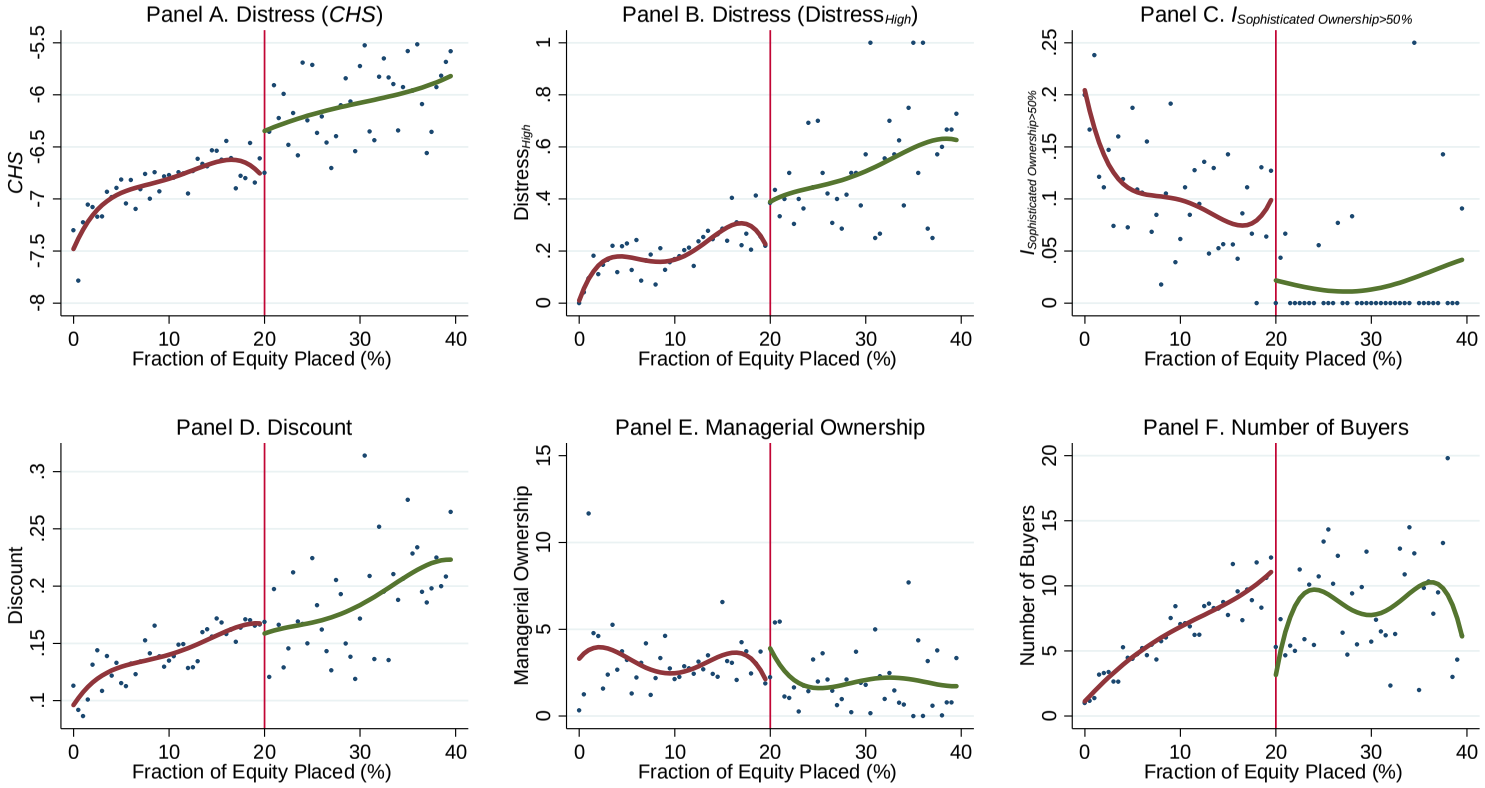


Figure 3: Variable Distributions around the 20% Threshold

The figure presents the distribution of mean variables by fraction of equity placed. Panel A. presents *CHS*, which is the distress measure from Campbell, Hilscher, and Szilagyi (2008). Panel B. presents Distress_{High} which is an indicator functions that is one if the firm is in the highest distress quartile, and zero otherwise. Panel C. presents $I_{Sophisticated\ Ownership>50\%}$ which is an indicator function that is one if the sum of Managerial and Institutional Ownership is more than 50% of existing shares. Panel D. presents Discount which is the difference in issuance price relative to the price on the day previous to the close of the placement contract. Panel E. presents Managerial Ownership and Panel F. presents Number of Buyers. Each variable is averaged in a 0.5% width bin from the range of 0% to 40% fraction issued. I plot the estimated distribution using a flexible fourth-order polynomial on either side of the 20% threshold for each variable. Data are from the PlacementTracker database for discounted common equity issuance for the period from 1995 to 2010.



Appendices

A. Data Selection and Equity Issuance Fraction

To match the PlacementTracker database with unique permnos, I first match all types of private placements with the trading symbol at closing and the current six-digit cusip to the CRSP database each year-month from January 1995 to June 2010. I keep permno matches if the observations match either symbol or cusip, or if the observations have matches with both that agree. When I have multiple matches from either symbol or cusip, I use the permno that agrees with both, or the permno that matches the symbol. When I have multiple permnos that do not agree, I use the smallest permno. Finally, I recheck all matches by comparing company names from PlacementTracker against the matched company name from CRSP.

For the purposes of this study, I keep only common equity issuances, including the ones that have attached warrants (5,118 observations). The Frequently Asked Question ("FAQ") section on the NASDAQ website clarifies different situations in applying the shareholder approval rule and calculating the number of shares placed at a discount. The treatment of warrants and aggregation of transactions are important in determining the number of shares placed at a discount. I follow the guidelines provided by NASDAQ to calculate the discount amount and the shares placed. Premiums and discounts are calculated relative to market price at closing. NASDAQ historically assigns a value of \$0.125 over the warrant's exercise price to compare to market price. I include shares of warrants that can be exercised at less than \$0.125 above the closing price.

NASDAQ might also look back six months to aggregate similar transactions to determine whether the 20% threshold has been triggered. But timing alone is not necessarily a determining factor, and there is no definitive time period as to whether transactions are aggregated. Generally, if there are no other linkage factors present, transactions more than six months apart would not be aggregated. Other considerations in the aggregation of issuances include whether the

company was already planning the subsequent transaction, and commonality of investors, contingencies between the issuances or transactions, commonality as to the use of the proceeds. When transactions are aggregated, the calculation of fraction of shares issued is based on the total shares outstanding on the closing of the first issuance.

Following this procedure, I aggregate discounted common equity shares that have been placed in the past six months to calculate the total shares of equity placed when the fraction placed is less than 20%. However, I use the non-aggregated fraction placed when calculating discount-adjusted abnormal returns. I drop common equity issuances with past discounted convertibles or preferred shares placed at sample selection because of the possibility of aggregation and the difficulty of calculating the aggregate fraction of equity placed from the convertibles (422 observations). Keeping these observations does not affect the main results of the paper.

To calculate the fraction of equity placed, I find the shares outstanding at the time of closing using the CRSP-adjusted COMPUSTAT quarterly database. I first use the number of shares outstanding from the COMPUSTAT quarterly database. I adjust the shares outstanding if there is an update in the number of shares from the CRSP daily database after the COMPUSTAT report date and before the closing.

Since many issuances are at fractions very close to the 20% threshold, there are possible errors due to additional shares placed between the last filing and the closing date. To be careful, I compare the calculated CRSP-adjusted COMPUSTAT shares outstanding with PlacementTracker. PlacementTracker collects shares outstanding data from the company's most recent 10-K or 10-Q file prior to the closing date. I also look at the first shares outstanding change from CRSP after the issuance and subtract the shares issued to generate shares outstanding before the issuance. I use the CRSP-adjusted COMPUSTAT quarterly database for the reported shares outstanding and calculation of fraction of equity placed. I then drop observations if the shareholder approval categorization in terms of the 20% threshold does not agree with the categorization calculated by PlacementTracker or CRSP share change (567 observations). Again, these observations do not affect my main results.

Additionally, I drop observations that PlacementTracker indicates as including secondary offerings, because these issuances do not count toward newly issued equity (29 observations). NASDAQ might require shareholder approval of private placements to insiders (NASDAQ Rule 5635 (c)). Therefore, I also drop shareholder approved issuances with issuance fraction below 20% (45 observations) and manager participating issuances (215 observations). These screens are for cautionary purposes and do not affect the main results of the paper.

I also drop observations that do not have CRSP/COMPUSTAT data to calculate accounting ratios for the distress measure (348 observations), observations that do not have ownership information (62 observations) and firms that issue more than 40% of existing shares (277 observations). I end up with 3,253 total observations; among which 2,466 observations are discounted placements which are used for the analysis of my paper. Within the 2,466 observations I use subgroups by fraction of placement of 10% to 30% (1,392 observations), 15% to 25% (691 observations), and 17.5% to 22.5% (362 observations).

B. Constructing the *CHS* measure

This section discusses the construction of the Campbell, Hilscher, and Szilagyi (2008) distress measure. The explanatory variables included in the measure are constructed as follows:

$$\begin{aligned}
NIMTA_{it} &= \frac{Net\ Income_{it}}{(ME_{it}+Total\ Liability_{it})} \\
TLMTA_{it} &= \frac{Total\ Liability_{it}}{(ME_{it}+Total\ Liability_{it})} \\
CASHMTA_{it} &= \frac{Cash\ and\ Short\text{-}term\ Investments_{it}}{(ME_{it}+Total\ Liability_{it})} \\
RSIZE_{it} &= \log\left(\frac{ME_{it}}{Total\ S\&P500\ Market\ Value_{it}}\right) \\
EXRET_{it} &= \log(1+R_{it}) - \log(1+R_{S\&P500,t}) \\
MB_{it} &= \frac{ME_{it}}{BE_{it}},
\end{aligned}$$

where ME_{it} is price times shares outstanding and book equity (BE_{it}) is initially constructed as Cohen, Polk, and Vuolteenaho (2003) have done. Following Campbell, Hilscher, and Szilagyi (2008), I then adjust book equity by adding the 10% difference between market and book equity.

For firms that still have negative values for book equity, I assign positive values of \$1 to ensure that they are in the right tail of market-to-book distribution rather than in the left tail. The volatility measure is the annualized 3-month return standard deviation, calculated by

$$SIGMA_{i,t-1,t-3} = \left(252 \times \frac{1}{N-1} \sum_{k \in \{t-1,t-2,t-3\}} r_{i,k}^2\right)^{1/2}$$

$SIGMA$ is coded as missing if less than five nonzero observations exist over the 3-month period. In this case, it is replaced with its cross-sectional mean. Campbell, Hilscher, and Szilagyi (2008) construct a geometrically decreasing average of $NIMTA$ and $EXRET$,

$$\begin{aligned} NIMTAAVG_{t-1,t-12} &= \frac{1-\phi^3}{1-\phi^{12}}\left(NIMTA_{t-1,t-3} + ... + \phi^9 NIMTA_{t-10,t-12}\right) \\ EXRETAVG_{t-1,t-12} &= \frac{1-\phi}{1-\phi^{12}} EXRET_{t-1} + ... + \phi^{11} NIMTA_{t-12}, \end{aligned}$$

where the coefficient $\phi = 2^{-\frac{1}{3}}$. When the variables are missing, past $NIMTA$ and $EXRET$ are also replaced with the cross-sectional means in calculating the average measures $NIMTAAVG$ and $EXRETAVG$. However, the distress measure requires leverage, profitability, excess return, and market capitalization to be valid. All explanatory variables are cross-sectionally winsorized above and below the 5% level in order to eliminate outliers, except for $PRICE$ (where the value is winsorized above \$15). I do not use fill in or winsorize observations when $CASHMTA$ and $NIMTAAVG$ are used directly in the paper. I use the coefficients of the logit model that predicts the 12-month-ahead financial failure as Campbell, Hilscher, and Szilagyi (2008). The distress measure is constructed as follows:

$$\begin{aligned} CHS = &-20.26 NIMTAAVG + 1.42 TLMTA - 7.13 EXRETAVG + 1.41 SIGMA \\ &-0.045 RSIZE - 2.13 CASHMTA + 0.075 MB - 0.058 PRICE - 9.16, \end{aligned}$$

C. Announcement days

Finding the announcement day for private placements is critical for this paper, because it is the first day that information about the terms of the issuance is publicly announced. Generally,

the proceeds, price of issuance, and use of proceeds are announced. This information is essential in evaluating whether or not the issuance requires shareholder approval. The contract closing day is also important because the evaluation of whether the issuance is at a premium or discount is relative to the market price at closing. The PlacementTracker (PT) defines the closing day as either the date when the purchase agreement/subscription agreement for the transaction was signed by both parties and/or the date when the actual funding of the private placement took place, depending on what information was provided by the company in its public filing. On the other hand, PT defines the announcement day ("PT announcement day") as the date when the transaction was first announced to the public. This is usually taken from the initial press release but can also be taken from SEC filings. Since PT starts to rigorously document the announcement dates only after 2003, while PT closing dates are available for all placements, many PT announcement dates are missing before 2003; and for this reason I search announcement dates for all observations. Out of 5,118 common equity issuance observations from the PT database, 2,973 have PT announcement days. To have a better picture of the relative distribution of announcement dates, I compare PT announcement day to PT closing days. Out of 2,973 observations, 1,043 are on the closing day, 612 are on the day after the closing day, 29 are on the day before the closing day. Out of 2,973 observations, 2,058 are within three days of the closing day, 2,363 are within five days, and 2,812 are within 30 days.[45]

Based on this distribution of announcement and closing dates from PT, I refine the announcement dates by searching all news article sources in the LexisNexis database for public announcements. I need to either use additional screens for the searches when using a wider window, or search without any additional screens using a narrow window, because there are too many news articles for each company. I use a mix of these search methods in three steps to search and refine announcement days.

Firstly, I search within one month before and after the closing day for all observations. If

[45] All numbers in this section are from the original PlacementTracker database for common equity issuance only. Observations are required to have variables from CRSP and COMPUSTAT to be included in the final sample for this paper.

overlapping windows exist for firms with multiple issuances, I search up to the midpoint of each issuance. Since the search window is relatively wide, I restrict my searches with ("private" or "PIPE") and ("issue" or "offer" or "placement") in the same paragraph to make the search manageable. I find 3,040 announcement dates out of the initial 5,118.

Secondly, I redo the search within two days before and after the PT announcement days for observations for which I did not initially find an announcement date or for which the initially searched announcement date is after the announcement date given by PT. I search without any word screens other than the company name since I use a narrower search window. Out of 1,493 observations, I find 1,180 announcement dates. These announcement days were not found in the initial search because the announcement did not use the words that match the screens used in the first step. Many articles refer a private placement to simply an investment, offering, funding, selling common equity, etc., and sometimes even refer private placements to public offerings.

Finally, I redo the search within two days before and after the closing day for observations for which I have not yet found an announcement day or for which the PT announcement day is after the closing date. I find 467 out of 3,215 observations. Most of the observations I do not find have announcements outside of this $\pm$2-day window. After these three searches, I use the earliest date as the refined announcement date for the paper. I end up with 4,271 announcement days out of the 5,118 observations.

Next, I compare the relative distribution of searched announcement dates to PT announcement days and closing day to see if it is reasonable to fill in missing announcement days with the PT announcement day or closing day. For firms with PT announcement days, 90% of the searched announcement date are within one day of the given announcement day from PT. In comparing announcement dates to closing dates, I find that for 4,271 searched announcement dates found, 1,381 are on the PT closing date, 2,651 are within one day of the closing date, 2,827 are within two days of the closing date, and 3,504 is within five days of the closing date. These distributions suggest that PT announcement and closing day is a good estimation of

the announcement day. Of 847 observations for which I do not find an announcement date, I replace 215 observations with the PT announcement day. To maximize observations, I use the closing day as the announcement day for the 632 observations that do not have even PT announcement days. Having more observations helps identify distribution discontinuity, and the above distribution shows that announcements are centered on the closing date. Not filling in the announcement dates with the closing dates reduces the power of the tests but does not affect the main results of the paper. Also, expanding the announcement day cumulative abnormal return 3-day window to a 5-day window makes my results (i.e., return difference below and above the 20% threshold) even stronger.

To address the concern that (preliminary) proxy statements could be prior to the placement announcement date and reveal information, I additionally search for filings regarding the 20% rule through the SEC EDGAR system. Among available observations that issue more than 20%, the announcement of the private placements generally occur before the shareholder approval process. For a small number of cases (17 observations), there are proxy statements filed before the announcement of the private placement. I adjust the announcement dates to the earliest proxy filing date in these cases for the event study of this paper.

D. Statistical test of distribution discontinuity

I formally test the distribution discontinuity around the 20% approval rule, which has been observed graphically in the main text. I measure the extent of the distribution discontinuity using techniques in the regression discontinuity literature (e.g., see Keys, Mukherjee, Seru, and Vig (2010)). I count the number of discounted common equity private placements and estimate the equation using a flexible seventh-order polynomials on each side of the 20% threshold.

$$Y_i = \alpha + \beta I_{fraction \geqq 20\%} + \theta I_{fraction<20\%} f(Fraction(i)) + \delta I_{fraction \geqq 20\%} f(Fraction(i)) + \epsilon_i,$$

where Y_i is the number of observations for each bin and the $f(Fraction(i))$ is a seventh-order polynomial on each side of the distribution discontinuity. I vary the range of the estimation

centered on 20% (i.e., 0%−40%, 10%−30%, 15%−25%, and 17.5%−22.5%) as well as the bin width (i.e., 0.1% and 0.25%) to count the number of observations. The data are re-centered so that *Fraction* (20%) corresponds to 0, and thus the cutoffs of the polynomials are evaluated at 0 just below and above the threshold. This allows β to be interpreted as the discontinuity at 20%.

Figure A1 plots the estimated results for the case of 0.1% width bins for different ranges. For all different ranges a clear discontinuity can be observed by the estimates on each side of the 20% threshold. For closer ranges (i.e., 17.5%−22.5% and 15%−25%) to the threshold, the estimates reach the number of observations in the 19.9% bin. For wider ranges (i.e., 10%−30% and 0%−40%), on the other hand, the estimations underestimate the number of observations for bins that approach the 20% threshold from below. This is due to the sudden increase of observations that cannot be predicted even with a smooth seventh-order polynomials binding at different points in a wider range.

Table A1 shows the results of the test of distribution discontinuity. For all ranges and bin widths the sign for βs are negative and statistically significant at the 1% level. As observed from Figure A1, the magnitude of β become smaller as the range becomes wider. This is also the case for the 0.25% width bin estimates. The estimates are twice as big as for the 0.1% bin because of the increase of the bin width.

I conduct a final permutation test of the distribution discontinuity by treating every value of a discontinuity as a potential discontinuity from the range of 0% to 40%, excluding the top and bottom 1%. I exclude the bottom and top 1% because a seventh-order polynomial would be predicted on less than 10 observations making the estimates extremely unreliable. After estimating the βs for each 0.1% fraction, I use the distribution to test whether the estimate of β at 20% can be the mean of the 380 possible discontinuities. The permutation test gives a t-statistic of –127.93, confirming that the distribution discontinuity at the 20% threshold is extremely unlikely to happen by simple chance. Moreover, the estimate of β is the largest absolute value with the largest t-statistic among all 380 discontinuity points.

E. Robustness check: logit regression

In this section, I check robustness of the logit regression presented in Table 2. In particular, I discuss the pros and cons of using different specifications for sophisticated ownership, and rerun the logit regressions using these specifications. I also look at dispersion in institutional ownership and board characteristics as robustness check.

E.1. Alternative specifications for sophisticated ownership

I first discuss two concerns that might arise on the specification of ownership variables used to test Costly Approval Hypothesis 2 (CAH2) and Misalignment Hypothesis (MH). The first concern is that sophisticated ownership might be interpreted as a proxy for better corporate governance (MH), rather than for CAH2, and managerial ownership and active institutional ownership could be interpreted as a proxy for lowering the cost of false rejection (CAH2), rather than for better governance (MH).[46]

Because of these concerns, I argue that the original specification of including sophisticated ownership with managerial and active institutional ownership would make the interpretation cleaner. Controlling for managerial and active institutional ownership would make the remaining variation in sophisticated investors be interpreted as investors who are passive in improving governance, but still sophisticated enough to correctly vote for value increasing placements. This interpretation is consistent with the fact that many passive institutions rely on ISS's Proxy Advisory Service and/or Proxy Voting Service for proxy voting, but would not engage in active monitoring of management in regular times.[47] Also, controlling for sophisticated ownership makes the interpretation of managerial and active institutional ownership cleaner as

[46] I follow Brickley, Lease, and Smith (1988), Almazan, Hartzell, and Starks (2005), and Chen, Harford, and Li (2007) by dividing institutional investors into an active group and a non-active group. Chen, Harford, and Li (2007) argue that the total institutional ownership is not a good proxy for better corporate governance because most institutions such as banks and insurance companies do not participate in active monitoring, while investment companies or independent investment advisors do.

[47] Also in Table 1, I have shown that the difference in higher sophisticated ownership of firms that avoid approval is almost entirely driven by the higher passive institutional ownership, rather than managerial and active ownership.

proxies for better governance because the contribution they make for lowering the cost of false rejection would be controlled by sophisticated ownership. Therefore, the main specification of including sophisticated ownership, managerial ownership and active institutional ownership is important for statistical inference and interpretation for testing hypotheses.

The second concern is that a continuous variable might be a better specification than the originally used threshold variable, $I_{Sophisticated\ Ownership>50\%}$. I use $I_{Sophisticated\ Ownership>50\%}$ to test CAH2 in the original specification because it seems to be a cleaner measure than sophisticated ownership for two reasons. Firstly, the discrete variable, $I_{Sophisticated\ Ownership>50\%}$ should make a clear difference for the cost argued in CAH2, because it would eliminate the chance of false rejection of a placement even when all unsophisticated shareholders vote incorrectly. Secondly, the indicator function and the threshold at 50% would decrease the chance of possible multicollinearity with managerial and active institutional ownership variables.[48] On the other hand, using a continuous variable instead of $I_{Sophisticated\ Ownership>50\%}$ also has its benefits. A continuous variable as a proxy for CAH2 would help increase the variation in decrease of the cost related to CAH2, while it would also help increase the control for the incremental contribution that managerial and active institutional ownership make on the sophisticated ownership. I show the results of substituting $I_{Sophisticated\ Ownership>50\%}$ in turn with $I_{Inst.\ Ownership>50\%}$, sophisticated ownership, institutional ownership, and passive institutional ownership to show the effect of using alternative specifications to address these concerns.

I rerun the logit regressions predicting privately issued equity that avoids seeking shareholder approval by issuing less than 20% of existing shares as in Table 2. I include all variables as in regression (1), but only report coefficient for $I_{Sophisticated\ Ownership>50\%}$, managerial ownership, active institutional ownership, and additional alternative specifications. The results are reported in Table A2. Regression (1) is the baseline regression which is the same as regression (1) of Table 2. In regression (2), I replace $I_{Sophisticated\ Ownership>50\%}$ with the portion of institutional

[48] Replacing $I_{Sophisticated\ Ownership>50\%}$ with Sophisticated Ownership increases the correlation with managerial ownership from 0.21 to 0.31, and increases the correlation with active institutional ownership from 0.39 to 0.53.

ownership holding majority shares ($I_{Inst.\ Ownership>50\%}$). The coefficient on managerial ownership becomes statistically insignificant, while the coefficient for $I_{Inst.\ Ownership>50\%}$ is still statistically significant at the 10% level, rejecting CAH2. The statistical insignificance results from not properly controlling sophisticated ownership, as argued in the first concern.

In regression (3), I replace $I_{Sophisticated\ Ownership>50\%}$ with the continuous variable, sophisticated ownership. We observe that sophisticated ownership has statistically significant coefficient of 0.06 (t-stat = 3.54), while both managerial and active institutional ownerships have statistically significant negative coefficients. This result makes the argument for MH even stronger than that of regression (1). This stronger result could be viewed as a result of better controlling for the contribution towards sophisticated ownership using a continuous variable. But, one might also argue that this statistical significance is a result of multicollinearity. Therefore, I report the conservative result of using $I_{Sophisticated\ Ownership>50\%}$ in the original regression in Table 2.

In regressions (4) and (5), I replace sophisticated ownership with institutional ownership and passive institutional ownership, respectively. In regression (4), we observe that managerial ownership becomes statistically insignificant, while active institutional ownership and institutional ownership are still statistically significant. Moreover, the negative coefficient of active institutional ownership also becomes statistically insignificant, in regression (5). As discussed in the first discussion, these patterns show that properly controlling for the contribution made towards decreasing the chance of falsely disapproving a placement, is important for the statistical estimation of managerial and active institutional ownership coefficients.

The coefficient for passive institutional ownership is still statistically significant at the 1% level (0.06 [t-stat = 3.54]) in regression (5). This coefficient and its t-statistic are the same as those of sophisticated and institutional ownership in regression (3) and (4), respectively.[49] Thus, the positive coefficient for sophisticated and institutional ownership is driven mainly by passive institutional investors. Therefore, the first concern of sophisticated ownership as a

[49] Passive institutional investors have a correlation of 0.95 with institutional investors, while active-institutional investors have a correlation of 0.57 with institutional ownership. Sophisticated ownership, institutional ownership, and passive institutional ownership cannot be included in the same logit regression due to multicollinearity.

proxy for better governance is not justified, and CAH2 is robustly rejected.

In sum, regressions (1) through (5) show that controlling for decrease in the cost associated with CAH2 is important for the statistical inference and interpretation of managerial or active institutional ownership as proxies for better corporate governance. Also, the regressions show that sophisticated investors is correctly a proxy for CAH2, rather than a proxy for better governance. Finally, using the continuous variable of sophisticated ownership instead of the discrete variable ($I_{Sophisticated\ Ownership>50\%}$) makes my results even stronger, but suffers from possible multicollinearity issues.

E.2. Institutional ownership dispersion

Next, I include variables that could be relevant for testing whether the investor dispersion could affect the decision to avoid seeking shareholder approval. Contacting and convincing too many institutional investors for approval could be a difficult task for managers. Therefore, I proxy for this difficulty by using the Herfindahl-Hirschman Index of institutional ownership (Inst. Ownership HHI) to estimate investor dispersion.[50] I include sophisticated shares to control for the voting power of sophisticated ownership. This hypothesis would predict negative coefficients for institutional ownership HHI. I find statistically insignificant coefficients of -0.20 (t-stat $= -0.34$) for institutional ownership HHI in regression (6). This result shows that investors are not necessarily too disperse that firms need to avoid seeking approval.

E.3. Limited sample: board characteristics and G-index

Last, I include board of director characteristics and G-Index to proxy for better corporate governance using the limited sample. In particular, I include an indicator function ($I_{CEO-Chairman}$) that is one if the CEO is also the chairman of the board of directors, and zero otherwise. I also

[50] Replacing institutional ownership HHI by the number of institutional investors also results in statistically insignificant coefficients of -0.01 (t-stat $= -0.65$).

include the portion of independent directors on the board of directors.[51] MH predicts a positive coefficient for $I_{CEO-Chairman}$ and negative coefficients for the portion of independent directors. However, data availability is a problem for this specification. I can match less than 15% of the original sample observations with board information, although I have merged databases from both Corporate Library and Risk Metrics database. I could only run the logit regression for the wider range from 10% to 30%, because for smaller ranges all matched observations of CEO being chairmen are distributed below the 20% threshold, perfectly predicting avoidance. In any case, the coefficient for $I_{CEO-Chairman}$ is positive and statistically significant at the 10% level for the 10% to 30% sample in regression (7). This result suggests that firms that avoid seeking shareholder approval have weaker corporate governance, thus consistent with MH. The sample size, however, is reduced from 1,392 observations to 177, making it difficult to generalize the results to the original sample level.

I include the Governance Index (G-Index) as a proxy for better governance in regression (8). I have even less matches (91 observations) than board characteristics, and the coefficient for the G-Index is statistically insignificant. Again, it is difficult to generalize these results to the original sample level.

F. Self-selection Correction

This section checks robustness of the difference in discount-adjusted announcement day returns, post-placement delistings, excess cash holdings, and change in profitability of firms that issue privately below and above the 20% threshold as presented in the main text.

I first run regressions of ordinary least square regression of discount-adjusted announcement returns of firms on the decision to issue less than 20% both with and without Heckman selection correction to see whether the differences in discount-adjusted returns are the result of any self-selection characteristics shown earlier, and whether other control variables can explain the

[51] Core, Holthausen, and Larcker (1999) and Goyal and Park (2002) provide examples where CEO being the chairman of the board indicates bad governance. Weisbach (1988) and Brickley, Coles, and Terry (1994) provide examples where more independent board indicates better corporate governance.

difference. I use the logit regression (2) of Table 2 for the first-stage selection model for the Heckman selection correction. Results are presented in Table A3. Observations with fraction of equity placed between 17.5% and 22.5% are used for regressions (1) and (2), between 15% and 25% used for regressions (3) and (4), and between 10% and 30% for regressions (5) and (6). Odd number regressions use non-correction indicator function ($I_{Fraction(i)<20}$) and even number regressions use self-selection corrected selection ($I^{\perp}_{Fraction(i)<20}$). All other explanatory variables used in the logit regression Table 2 are included.

In regression (1), three variables are statistically significant. We observe that the decision to issue less than 20% ($I_{Fraction(i)<20}$) have statistically significant low returns (-5.26 [t-stat $= -2.68$]) consistent with earlier results in Table 3. In addition, firms that issue at higher discount have higher returns. This positive relationship between discounts and discount-adjusted returns is consistent with the certification hypothesis.

Nonetheless, the relationship between distress and returns are statistically insignificant (2.73 [t-stat $= 1.50$]). This insignificant coefficient is inconsistent with previous studies (see, for example, Hertzel and Smith (1993)) that provide evidence suggesting that firms facing greater financial distress have higher announcement period stock returns. Also, another concern is that it is not clear whether or not the statistically significant coefficient of $I_{Fraction(i)<20}$ and the statistically insignificant regression of Distress_{High} are merely due to self-selection of mangers choosing to issue less than 20% when firms are less distressed as observed earlier. Therefore, I run a regression with Heckman self-selection correction in regression (2).

In regression (2), we can observe that the coefficient for $I^{\perp}_{Fraction(i)<20}$ is still statistically significant with slightly smaller coefficients and t-statistics (-5.08 [t-stat $= -2.57$]) than regression (1). We can observe that the coefficient for Distress_{High} becomes statistically significant (3.48 [t-stat $= 1.87$]) now consistent with the literature. Other coefficients have the same statistical significance as in regression (1). These results suggest that the self-selection of less distressed firm managers issuing less than 20% partially explains some of their lower returns. A large part of the difference in announcement day returns, however, is still not explained by simple selection correction.

Other regressions for the wider sample range have similar results, but the coefficient for distress is statistically significant, even when self-selection is not corrected. In addition, stating a specific use of proceeds is also important for higher discount-adjusted announcement returns.

I next run the same self-selection specification for post-placement delistings, cash holdings and change in profitability in Table A4. Observations with fraction of equity placed between 17.5% and 22.5% are used for all regressions. The lefthand-side variable of 180-day performance related delisting is used in regressions (1) and (2), 4-quarter excess *CASHMTA* used for regressions (3) and (4), and 4-quarter $\Delta NIMTAAVG$ for regressions (5) and (6).

Consistent with the mean difference results in the main body of the paper, the results suggest that the difference in post-placement delistings, cash holdings, and change in profitability are all statistically significant with or without self-selection correction and many control variables.

Among control variables, higher distress levels and not stating a specific use (i.e., no statement or simply stating working capital) predict higher delistings. Higher managerial ownership and active institutional ownership significantly predict lower excess cash holdings, suggesting that managerial ownership and active institutions have a disciplinary role of efficiently using proceeds after private placements. Finally, the coefficients of sophisticated ownership holding majority shares are significant for predicting change in profitability, supporting the certification role of existing shareholders shown earlier. Covenant violation is statistically significant in all regressions. However, covenant violation was shown to be insignificantly different between below and above 20%, which do not largely affect earlier interpretations.

Other variables including indicator functions of strategic investors, single investor, and use of proceeds related to acquisition is not statistically significant in any of the regressions in both Table A3 and Table A4. These results suggest that other motivations to place privately do not largely affect the results in discount-adjusted returns, post-placement delistings, cash holdings, and change in profitability.

Table A1: Distribution Discontinuity at the 20% Threshold

The table reports estimates from ordinary least square regressions that regress the number of observations (Y_i) of discounted privately placed equity in bin i using different equity issuance bin sizes (0.1% and 0.25%) for different ranges (0% to 40%, 10% to 30%, 15% to 25%, and 17.5% to 22.5%). I estimate seventh-order polynomials on either side of the 20% threshold, allowing a discontinuity at 20%. The magnitude of the discontinuity, β, is estimated by the difference in these two smoothed functions evaluated at the cutoff. The data are re-centered such that the 20% threshold corresponds to 0 so that the polynomials are evaluated both at 0 just above and below the 20% threshold. This allows β to be interpreted as the magnitude of the discontinuity compared to the mean, α, which is the estimate for the bin just below the 20% threshold. The permutation test allows for a discontinuity at every 0.1% increment from the 1% to 39% range. The permutation test tests the null hypothesis that the discontinuity at 20% is the mean of the 380 possible discontinuities from the 1% to 39% range. The discounted common equity private placement observations are from PlacementTracker for the period from 1995 to 2010. The statistical significance at the 10%, 5% and 1% levels is denoted by *, **, and ***, respectively, and the t-statistics are presented in parentheses.

$$Y_i = \alpha + \beta I_{fraction \geqq 20\%} + \theta I_{fraction < 20\%} f(Fraction(i)) + \delta I_{fraction \geqq 20\%} f(Fraction(i)) + \epsilon_i$$

Range (%)	Bin Size (%)	$I_{Fraction \geqslant 20\%}(\beta)$	t-statistics	No. Bins	Adj. R^2	Mean (α)
17.5–22.5	0.10	-43.96***	(-11.01)	50	0.87	49.01
	0.25	-84.96***	(-8.42)	20	0.87	95.87
15–25	0.10	-43.46***	(-11.15)	100	0.77	47.83
	0.25	-84.39***	(-9.23)	40	0.83	93.69
10–30	0.10	-34.39***	(-11.29)	200	0.74	38.25
	0.25	-72.27***	(-8.85)	80	0.80	81.66
0–40	0.10	-25.42***	(-11.50)	400	0.73	29.13
	0.25	-56.68***	(-9.41)	160	0.83	66.15
Permutation test (t-statistic)						
0–40	0.10		(-127.93)	380		

Table A2: Robustness Check: Logit Regression of Firms Issuing Without Seeking Approval

The table presents the results of logit regressions predicting privately issued equity avoiding seeking shareholder approval by issuing less than 20% of existing shares. The lefthand-side variable is one if the fraction of equity placed is less than 20% (i.e., seeking shareholder approval is avoided), and zero otherwise. Observations with fraction of equity placed between 17.5% and 22.5% are used for regressions (1) through (6), and between 10% and 30% for regression (7) and (8). The righthand-side variables include measures of characteristics of the firm and the issuance. Managerial and Inst. Ownerships are the proportion of managerial and institutional ownerships, respectively. Sophisticated Ownership is the sum of managerial and institutional ownerships. $I_{Sophisticated\ Ownership>50\%}$ is an indicator function that is one if Sophisticated Ownership is more than 50% of existing shares, and zero otherwise. Active Inst. Ownership is the institutional ownership by active institutions (i.e., institutions classified as independent investment advisors or investment companies), and Passive Inst. Ownership is institutional ownership of non-active institutions. $I_{Inst.\ Ownership>50\%}$ is an indicator function that is one if institutional ownership is more than 50%, and zero otherwise. Inst. Ownership HHI is the Herfindahl-Hirschman Index of institutional ownership. $I_{CEO-Chairman}$ is an indicator function that is one if the chairman of the board of directors is also the CEO of the company, and zero otherwise. Independent Directors is the proportion of independent directors on the board of directors. G-Index is the governance index from Gompers, Ishii, and Metrick (2003). All other variables in Table 2 Regression (1) are also included in the logit regressions as controls, but not reported in the table. The statistical significance at the 10%, 5%, and 1% levels is denoted by *, **, and ***, respectively, and the t-statistics are presented in parentheses.

Variables \ Range	$\text{Logit}(I_{\text{Fraction}(i)<20\%,,}) = \alpha + X_i B + \epsilon_i$							
	17.5%–22.5%						10%–30%	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$I_{Sophisticated\ Ownership>50\%}$	2.13**							
	(2.18)							
Managerial Ownership	-0.03*	-0.02	-0.07***	-0.01	-0.01	-0.06***	-0.06	0.34
	(-1.88)	(-1.04)	(-3.13)	(-0.53)	(-0.53)	(-2.84)	(-1.58)	(0.67)
Active Inst. Ownership	0.01	0.00	-0.06*	-0.06*	-0.00	-0.06*	-0.03	-0.16*
	(0.19)	(0.10)	(-1.85)	(-1.85)	(-0.08)	(-1.85)	(-0.70)	(-1.82)
$I_{Inst.\ Ownership>50\%}$		2.77**						
		(2.03)						
Sophisticated Ownership			0.06***			0.06***	0.03	0.09***
			(3.54)			(3.26)	(1.48)	(2.60)
Inst. Ownership				0.06***				
				(3.54)				
Passive Inst. Ownership					0.06***			
					(3.54)			
Inst. Ownership HHI						-0.20		
						(-0.34)		
$I_{CEO-Chairman}$							1.43*	
							(1.95)	
Independent Directors							2.17	
							(1.27)	
G-Index								0.09
								(0.53)
No. of Obs.	362	362	362	362	362	362	177	91
Pseudo R^2	0.13	0.14	0.16	0.16	0.16	0.16	0.25	0.36

Table A3: Discount-adjusted Announcement Returns

The table presents the ordinary least square regression of discount-adjusted announcement returns of firms on the decision to issue less than 20% both with ($I^{\perp}_{Fraction(i)<20}$) and without ($I_{Fraction(i)<20}$) Heckman self-selection correction. The first stage selection model is regression (2) of Table 2. Observations with fraction of equity placed between 17.5% and 22.5% are used for regressions (1) and (2), between 15% and 25% for (3) and (4), and between 10% and 30% for (5) and (6). The lefthand-side variable is the 3-day discount-adjusted announcement day cumulative abnormal return (CAR) in percentages where returns are adjusted by market returns. The righthand-side variables include measures of characteristics of the firm and the issuance. Distress_{High} is an indicator function that is one if the firms are in the highest distress quartile. $I_{Covenant\ Violation}$ is an indicator function that is one if debt covenants are triggered. Debt-related, acquisition, and specific use of proceeds are denoted by indicator functions I_{Debt}, $I_{Acquisition}$, and $I_{Specific}$, respectively. $I_{Sophisticated\ Ownership>50\%}$ is an indicator function that is one if the sum of institutional ownership and managerial ownership is more than 50% of existing shares. Discount is the difference in issuance price relative to the price on the day previous to the close of the placement contract. Managerial Ownership is the proportion of managerial ownership, and Active Inst. Ownership is the institutional ownership by active institutions. Number of Buyers is the number of investors in the private placement. $I_{Board\ Representation}$ is an indicator function that is one if the placement investors achieve a board representation, and $I_{Strategic\ Alliance}$ is an indicator function that is one if the private placement is part of a strategic alliance between the investor and the placement company. $I_{One\ Buyer}$ is an indicator function that is one if the number of buyers is one. The t-statistics are calculated using robust standard errors clustered at the firm level and are presented in parentheses. The statistical significance at the 10%, 5% and 1% levels is denoted by *, **, and ***, respectively.

	Discount-adjusted $CAR_i = \alpha + X_i B + \epsilon_i$					
Range	17.5%–22.5%		15%–25%		10%–30%	
Self-selection Correction	No	Yes	No	Yes	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)
$I_{\text{Fraction}(i)<20\%}$	-5.26***		-4.43***		-5.07***	
	(-2.68)		(-2.84)		(-4.32)	
$I^{\perp}_{\text{Fraction}(i)<20\%}$		-5.08**		-4.35***		-5.03***
		(-2.57)		(-2.79)		(-4.30)
Distress_{High}	2.73	3.48*	3.90**	4.43**	2.34**	3.03***
	(1.50)	(1.87)	(2.24)	(2.57)	(2.07)	(2.71)
$I_{Covenant\ Violation}$	-3.33	-3.70	-2.72	-2.94	-1.97	-1.87
	(-0.84)	(-0.93)	(-0.97)	(-1.05)	(-1.10)	(-1.05)
I_{Debt}	1.44	1.75	0.31	0.70	0.43	0.54
	(0.65)	(0.79)	(0.16)	(0.37)	(0.36)	(0.46)
$I_{Specific}$	2.53	2.52	2.65*	2.65*	2.04**	2.05**
	(1.55)	(1.54)	(1.85)	(1.85)	(2.13)	(2.14)
$I_{Sophisticated\ Ownership>50\%}$	1.16	0.18	1.44	0.73	1.34	0.74
	(0.52)	(0.08)	(0.80)	(0.41)	(0.98)	(0.55)
Discount	21.62***	19.02**	12.64**	11.55*	8.61**	8.49**
	(2.84)	(2.55)	(2.09)	(1.92)	(2.02)	(1.99)
Managerial Ownership	0.03	0.05	0.10	0.11	0.05	0.04
	(0.27)	(0.53)	(1.20)	(1.22)	(0.71)	(0.65)
Active Inst. Ownership	-0.10	-0.10	-0.05	-0.06	-0.02	-0.03
	(-0.90)	(-0.91)	(-0.68)	(-0.79)	(-0.23)	(-0.36)
No. of Buyers	0.09	0.05	0.06	0.05	0.04	0.04
	(1.24)	(0.74)	(1.31)	(1.01)	(0.97)	(1.06)
$I_{Board\ Representation}$	15.31***	15.17***	15.98***	15.98***	9.53***	9.29***
	(2.82)	(2.80)	(4.03)	(4.02)	(3.66)	(3.56)
$I_{Strategic\ Alliance}$	0.36	2.21	6.44	7.43	3.21	3.79
	(0.08)	(0.49)	(1.37)	(1.58)	(1.33)	(1.57)
$I_{One\ Buyer}$	-1.78	-1.67	-0.24	-0.25	0.50	0.58
	(-0.88)	(-0.82)	(-0.16)	(-0.17)	(0.50)	(0.58)
$I_{Acquisition}$	0.41	1.43	-1.31	-0.80	0.06	0.33
	(0.20)	(0.68)	(-0.74)	(-0.46)	(0.04)	(0.22)
No. of Obs.	362	362	691	691	1,392	1,392
R^2	0.10	0.09	0.07	0.07	0.05	0.05

Table A4: Post-placement Delistings, Cash Holdings, and Change in Profitability

The table presents the ordinary least square regression of post-placement delistings, cash holdings, and change in profitability on the decision to issue less than 20% both with ($I^{\perp}_{Fraction(i)<20}$) and without ($I_{Fraction(i)<20}$) Heckman self-selection correction. The first stage selection model is regression (2) of Table 2. Observations with fraction of equity placed between 17.5% and 22.5% are used for all regressions. The lefthand-side variable is the 180-day performance related delisting rate for regressions (1) and (2), 4-quarter excess cash holdings for regressions (3) and (4), and 4-quarter change in profitability for (5) and (6). The righthand-side variables include measures of characteristics of the firm and the issuance. Distress_{High} is an indicator function that is one if the firms are in the highest distress quartile. $I_{Covenant\ Violation}$ is an indicator function that is one if debt covenants are triggered. Debt-related, acquisition, and specific use of proceeds are denoted by indicator functions I_{Debt}, $I_{Acquisition}$, and $I_{Specific}$, respectively. $I_{Sophisticated\ Ownership>50\%}$ is an indicator function that is one if the sum of institutional ownership and managerial ownership is more than 50% of existing shares. Discount is the difference in issuance price relative to the price on the day previous to the close of the placement contract. Managerial Ownership is the proportion of managerial ownership, and Active Inst. Ownership is the institutional ownership by active institutions. Number of Buyers is the number of investors in the private placement. $I_{Board\ Representation}$ is an indicator function that is one if the placement investors achieve a board representation, and $I_{Strategic\ Alliance}$ is an indicator function that is one if the private placement is part of a strategic alliance between the investor and the placement company. $I_{One\ Buyer}$ is an indicator function that is one if the number of buyers is one. The t-statistics are calculated using robust standard errors clustered at the firm level and are presented in parentheses. The statistical significance at the 10%, 5% and 1% levels is denoted by *, **, and ***, respectively.

	$Y_i = \alpha + X_i B + \epsilon_i$					
Y_i	Delisting		Excess *CASHMTA*		Δ*NIMTAAVG*	
Self-selection Correction	No	Yes	No	Yes	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)
$I_{\text{Fraction}(i)<20\%}$	-4.00*		3.90*		-1.46*	
	(-1.75)		(1.82)		(-1.72)	
$I^{\perp}_{\text{Fraction}(i)<20\%}$		-3.84*		3.72*		-1.45*
		(-1.66)		(1.81)		(-1.75)
Distress_{High}	3.76**	4.33**	-1.57	-2.12	0.37	0.58
	(2.21)	(2.27)	(-0.77)	(-1.10)	(0.43)	(0.70)
$I_{Covenant\ Violation}$	-2.03*	-2.31*	-6.35**	-6.07**	-4.07*	-4.17*
	(-1.76)	(-1.88)	(-2.57)	(-2.50)	(-1.75)	(-1.79)
I_{Debt}	1.78	2.01	-2.23	-2.45	0.60	0.69
	(0.53)	(0.59)	(-0.84)	(-0.93)	(0.63)	(0.72)
$I_{Specific}$	-1.76*	-1.76*	-1.14	-1.13	-0.11	-0.11
	(-1.70)	(-1.70)	(-0.59)	(-0.58)	(-0.14)	(-0.15)
$I_{Sophisticated\ Ownership>50\%}$	-0.30	-1.05	2.59	3.32	3.73***	3.46**
	(-0.31)	(-0.93)	(1.17)	(1.50)	(2.66)	(2.44)
Discount	6.00	4.03	18.33	20.26	-1.12	-1.84
	(0.97)	(0.72)	(1.16)	(1.24)	(-0.26)	(-0.44)
Managerial Ownership	-0.02	0.00	-0.13**	-0.15**	-0.07*	-0.06
	(-0.63)	(0.18)	(-2.17)	(-2.40)	(-1.80)	(-1.58)
Active Inst. Ownership	-0.01	-0.01	-0.17*	-0.17*	0.02	0.02
	(-0.06)	(-0.06)	(-1.83)	(-1.83)	(0.33)	(0.33)
No. of Buyers	0.00	-0.02	0.12	0.15	0.00	-0.01
	(0.09)	(-0.62)	(1.24)	(1.49)	(0.11)	(-0.31)
$I_{Board\ Representation}$	-1.22	-1.33	-3.41	-3.30	0.95	0.91
	(-0.66)	(-0.74)	(-0.41)	(-0.40)	(0.73)	(0.70)
$I_{Strategic\ Alliance}$	-4.05	-2.64	32.18	30.80	-3.84	-3.33
	(-1.44)	(-1.13)	(1.01)	(0.98)	(-1.16)	(-1.02)
$I_{One\ Buyer}$	0.50	0.59	0.57	0.49	0.06	0.09
	(0.26)	(0.30)	(0.25)	(0.21)	(0.07)	(0.10)
$I_{Acquisition}$	0.42	1.20	-3.75	-4.51	-0.75	-0.46
	(0.59)	(1.56)	(-1.01)	(-1.22)	(-0.52)	(-0.32)
No. of Obs.	362	362	362	362	362	362
R^2	0.07	0.07	0.10	0.10	0.06	0.06

Figure A1: Number of Private Placement Observations by Fraction of Equity Placed

The figure presents the number of discounted privately placed equity by fraction of equity issued. The number of observations is counted in a 0.1% width bin for different ranges (17.5% to 22.5% in Panel A, 15% to 25% in Panel B, 10% to 30% in Panel C, and 0% to 40% in Panel D). I plot the estimated distribution using a flexible seventh-order polynomial on either side of the 20% threshold for each range. Data are from the PlacementTracker database for discounted common equity issuance for the period from 1995 to 2010.

$$Y_i = \alpha + \beta I_{fraction \geqq 20\%} + \theta I_{fraction<20\%} f(Fraction(i)) + \delta I_{fraction \geqq 20\%} f(Fraction(i)) + \epsilon_i$$