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Abstract

In this paper, we propose and construct a direct measure of investors' divergence of opinion based on auction bids data of the private placements in China. We find that the firms with higher bids dispersion generate lower long-run stock returns after the issuance of private placements. This effect is economically significant and robust when controlling for market discount, earnings management, analysts forecast dispersion, and self-selection bias. Moreover, this negative relation is stronger for stocks with more stringent short-sale constraints. Our findings therefore provide strong evidence in support of the Miller (1977)'s divergence of opinion hypothesis.

JEL classification: D44, G12, G14.
Keywords: Private placement; Divergence of opinion; Long-run stock returns; Short-sale constraint; Auction

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Abstract

In this paper, we propose and construct a direct measure of investors' divergence of opinion based on auction bids data of the private placements in China. We find that the firms with higher bids dispersion generate lower long-run stock returns after the issuance of private placements. This effect is economically significant and robust when controlling for market discount, earnings management, analysts forecast dispersion, and self-selection bias. Moreover, this negative relation is stronger for stocks with more stringent short-sale constraints. Our findings therefore provide strong evidence in support of the Miller (1977)'s divergence of opinion hypothesis.

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1 Introduction

Miller (1977) hypothesizes that divergence of opinion can lead to asset over-valuation and subsequent market under-performance, when pessimistic investors do not take adequate short positions, for institutional or behavioral reasons.[1] In contrast, the risk theory of Williams (1977) introduces heterogeneous beliefs into the Capital Asset Pricing Model (CAPM) and predicts a positive relation between divergence of opinion and expected returns.[2] Using different measures of divergence, prior empirical work has not yet generated convincing evidence for or against Miller's (1977) hypothesis in different settings. In this study, we shed new light on this debate by proposing a novel measure of divergence of opinion based on auction data. With this new measure, we document strong evidence in support of Miller's (1977) hypothesis.

One of the main reasons for this ambiguity is that we only have indirect measures for divergence of opinion (Garfinkel, 2009), which might overlap with other risk factors and contain substantial measurement errors. The most commonly used measure is dispersion of analyst forecasts. Consistent with Miller's (1977) hypothesis, Diether et al. (2002) find stocks with highly dispersed analyst forecasts have lower future returns than stocks with less dispersed analyst forecasts. However, there are drawbacks of using analyst forecast dispersion to measure investors' divergence of opinion. First, it is based on forecasts towards earnings, rather than valuations. Second, investors' decisions may not follow analyst forecasts; thus, analyst dispersion may not fully reflect market participants' divergence of opinion. Third, it is contaminated by the effect of uncertainty in individual forecasts (Barron et al., 1998; Sheng and Thevenot, 2012). In line with these concerns, Doukas et al. (2006) document a positive relation between divergence of opinion and future returns after removing the effect of uncertainty in analyst forecasts. Johnson (2004) shows that the findings in Diether et al.

[1] As summarized by Hong and Stein (2007), there are three mechanisms driving divergence of opinion: gradual information flow, limited attention, and heterogeneous priors.

[2] Varian (1985) reaches the same conclusion that heterogeneous beliefs is a risk factor in the Arrow-Debreu framework. More recently, Veronesi (2000) shows that higher information quality increases expected returns, supporting Miller's (1977) hypothesis; while consistent with Williams (1977), Epstein and Schneider (2008) prove that there is an information ambiguity premium for stocks with low information quality.

(2002) can be explained by the effect of financial leverage. The other widely used measures, such as idiosyncratic volatility, turnover, unexplained trading volumes, bid-ask spreads, are also indirect proxies, which are endogenous to stock prices, and potentially contaminated by other risk factors. The empirical evidence that relies on these measures is also mixed and inconclusive.[3]

These drawbacks make it difficult to conclude whether evidence rejecting (or supporting) Miller's (1977) hypothesis is due to the theory itself, or the proxy used. In this study, we revisit Miller's (1977) hypothesis and propose a *direct* measure of investor opinion regarding firm value. Our measure is constructed using auction data of private placements in China. There are two pricing schemes for private placements in the Chinese market: a fixed price set by the board of directors, and an auction price from uniform sealed bids. The former is used when the issuance targets are internal investors; that is, controlling shareholders and block holders. The latter is used when the issuance targets are mainly external investors; that is, institutional investors including mutual funds, trusts, private funds, and asset management companies, and individual investors.[4] All the auction bids information will be publicly released on the private placement completion announcements. As suggested by Cammack (1991) and Liu et al. (2001), the divergence of the auction bids would *directly* reflect investors' heterogeneous beliefs on valuations.[5]Therefore, this measure largely overcomes the problems with the existing measures. Our measure is in line with the measure proposed by Garfinkel (2009), who uses proprietary data on investors' limit and market orders in individual stocks to *directly* measure their private valuations. However, in contrast to Garfinkel's (2009) measure, our auction based measure is publicly available for a much longer time period.[6]

[3]For example, Ang et al. (2006) and Guo and Qiu (2014) find a negative relation between idiosyncratic volatility and returns. However, Bali and Cakici (2008) find no robust relation between idiosyncratic volatility and stock returns,based on different tests. Fu (2009) even documents a positive relation between these two variables when the expected idiosyncratic volatility is used. Goetzmann and Massa (2005) and Garfinkel and Sokobin (2006) reach different conclusions when trading volume is used as the measure of divergence of opinion.

[4]See Section 4.2 of this paper for more details on the institutional background of private placements in China.

[5]The generalized auction model of Milgrom and Weber (1982a,b) proves that bidders have incentives to gather extra information to increase their profits in a sealed auction. For a comprehensive review of auction theory and its applications in corporate finance, we refer readers to Dasgupta and Hansen (2008).

[6]Garfinkel (2009) uses data in a narrower sample period from January 2002 to March 2002. In Garfinkel

One empirical setting that potentially suits the same testing approach is Initial Public Offering (IPO) auctions. It is possible to construct a dispersion measure based on the bids data of IPO auctions. However, although the IPO auction has historically been applied in more than 25 markets, it is currently only available in the U.S., where the usage is rare, as well as in Vietnam and possibly Israel, where there are restrictions preventing the use of book building (Jagannathan et al., 2015). More importantly, bids data of IPO auctions is not publicly available. In contrast, bids data for private placements in China is released with the completion announcements. Besides auction data, bids data in the book building processes of IPO and seasonal offering (including private placements) could also potentially reflect investors' private information. Unfortunately, the book building data is also proprietary and unavailable to public. Overall, to the best of our knowledge, the auction data on private placement in China is the only publicly available source that can be used to *directly* measure investors' divergence of opinions on firm valuations with a large sample size.

To empirically construct this measure, we manually collect 10,425 bid records from 411 private placement auctions, from 2007 to 2015. For each auction, we construct the dispersion of bids by two measures. One is the quantity-weighted absolute distance. The other is the quantity-weighted standard deviation. We then test Miller's (1977) hypothesis by investigating the relation between the divergence of bids and the long-term performance of the stock. Our sample fits Miller's (1977) theoretical assumptions since most Chinese firms face stringent short-sale constraints (Chang et al., 2014).

We summarize the empirical findings of the current study as follows. First, consistent with the hypothesis in Miller (1977), we find a significantly negative relation between the divergence of bids and subsequent one-year stock returns for all the four return measures (raw returns, matched sample returns, market model adjusted, and CAPM adjusted). This negative relation is robust when controlling for the discount rate of issuing price to the market price, the scale of the private placement issuance, firm size, market-to-book ratio, cash holding, ROA, firm age, book leverage, earnings management, year fixed effect, and industry

(2009), the author also has not studied the relation between his divergence of opinion measure and future stock returns.

fixed effect. Besides statistical significance, we find that the effect of bids dispersion on long-term return is also economically significant: one standard deviation increase in the bids dispersion — quantity-weighted absolute distance (quantity-weighted standard deviation) decreases the one-year-ahead raw return, matched sample return, market model adjusted return, and CAPM adjusted return adjusted return by 7.65% (7.85%), 5.66% (5.72%), 5.18% (5.21%) and 4.08% (4.10%) respectively.

Second, we test whether our measures of bids dispersion overlap that of analyst forecast dispersion. We find that controlling for analyst forecast dispersion does not affect the significance of the bids dispersion, both qualitatively and quantitatively. Hence, our measure of bids dispersion contains new information regarding future long-run stock returns.

Third, Miller's (1977) prediction depends on the presence of short-sale constraints (Boehme et al., 2006). As a result, we expect that the negative relation between bids divergence and long-term return would be stronger for firms with more stringent short-sale constraints, *ceteris paribus*. This further helps us evaluate whether the relation is relevant to Miller's (1977) prediction or merely a spurious correlation resulting from the use of proxy variables. We construct a measure of firm-level short-sale constraints for our sample firms, based on the institutional features of Chinese stock market. Consistent with Miller's (1977) hypothesis, we find that the negative relation is more prevalent for firms with higher magnitude of short-sale constraints.

Finally, there is a potential selection bias in examining a sample of firms that choose to refinance using private placements and targeting on external investors. To address this issue, we adopt the sample selection correction procedure in Heckman (1979). We first fit a probit model to differentiate firms refinaced with private placements and a random sample of firms that have not refinanced. We then use the inverse Mills ratio from the probit regression as an additional control variable. We also distinguish the firms conducted private placements with the auction price scheme and ones with the fixed price scheme, and control for the corresponding inverse Mills ratio. The estimation results show that the negative relation between bids dispersion and long-run return is still robust under these two settings, suggesting that selection bias is not the driving force.

Our study contributes to two strands of literature. First, this paper complements and extends the tests on Miller's (1977) hypothesis, both methodologically and substantively. We construct a novel and direct measure of divergence of opinion based on auction bids data, in the unique institutional setting of private placements in China. This measure overcomes the short-comings of existing proxies in the literature. We document consistent and strong evidence in support of Miller's (1977) hypothesis.

Second, our paper contributes to the literature on long-run underperformance of private placements. Different factors and theories have been proposed to explain this phenomenon, including the overvaluation hypothesis (Hertzel et al., 2002), agency problems (Barclay et al., 2007), and the overoptimism hypothesis Marciukaityte et al. (2005). Our paper sheds new light on the overvaluation hypothesis of (Hertzel et al., 2002) by identifing the role of divergence of opinion in driving overvalution and subsequent long-run underperformance.

The rest of the paper proceeds as follows. We provide the institutional background in Section 2. In Section 3, we describe the variable construction methods and outline our data. In Section 4, we present the empirical results. Concluding remarks are given in Section 5.

2 Institutional Background

Private placements is a relatively new, but popular, refinancing method. It has been widely used in many markets since the 1990s, including the U.S., the U.K., Singapore, and New Zealand (Wruck and Wu, 2009; Armitage, 2010; Chen et al., 2002b; Anderson et al., 2006).[7] In terms of China, until 1998, rights issues were the only refinancing mode available. In 1998, public offering of seasoned equity (SEO) was introduced. Starting from May 2000, SEO became an option for most listed firms when the China Securities Regulation Committee (CSRC) issued the "Tentative Regulation on Listed Firms Issuing Shares to the Public" (Bo et al., 2011). In 2005, the split-share structure reform made private placements the

[7] One reason driving the emerging popularity of private placements since 1990s is the change of regulatory environment. For instance, in April 1990 the Securities and Exchange Commission (SEC) approved Rule 144A, which permits immediate sale and re-sale of private placements to "qualified institutional buyers". This rule significantly improved the liquidity of private placements as investors were previously required to either register the securities from private placements with SEC or hold them for at least 1 year.

predominant equity issue mode, and many controlling shareholders used private placement as a way to compensate non-tradable shareholders when converting their shares to tradable (Huang et al., 2016a). The use of private placement has surged since May 2006, when the CSRC published "Regulatory Measures of Securities Issuance for Listed Companies", and it has now become the dominating tool for refinancing in China. For instance, as shown in Table 1, from 2014 to 2015, the percentages of proceeds from private placements in total refinancing capacity were both over 97%. In 2015, there were 857 cases of private placements, no case of SEO, and only five cases of rights issues. In comparison, Chen et al. (2010b) report that from 1996 to 2006, there are 148 traditional private placements, 1780 PIPEs and 1734 SEOs in the U.S. market. One reason for the popularity of private placements in China is that, unlike other refinancing modes, the CSRC does not impose requirements regarding profit sustainability on firms applying to use private placements.[8]

[Insert Table 1 here]

Figure 1 shows the timeline for a private placement in China, from announcement by the board of directors, and approval by the shareholder meeting, and regulatory approval by the CSRC, to the transaction itself, and the announcement of its completion. The lengthy regulatory process means that a private placement will take more than one year on average from initial announcement to final execution (Song, 2014; Fonseka et al., 2014).

[Insert Figure 1 here]

There are three distinctive institutional features of private placements in China. First, the CSRC requires that the offering/bidding price be no less than 90% of the average stock price for the 20 days prior to the benchmark date. In practice, firms tend to set the benchmark date as the day the announcement is made by boards of directors, although shareholder meeting date or the date of the subscription invitation letter could also be adopted (Fonseka et al., 2014). Second, there are two different pricing schemes: fixed price and auction. The

[8]For instance, firms applying for rights issues must demonstrate persistent positive profits for the latest three years. For SEO and convertible bond issues, firms must have a weighted average of return on net assets of no less than 6% for the latest three years.

price of the equities is determined by the board of directors when the issuance targets of the private placements are strategic investors, controlling shareholders and block holders (Top 10 shareholders), or investors seeking to become controlling shareholders through private placements. The price of the equities is set by a uniform sealed bid auction when the issuance targets are mainly external investors. In the later scheme, controlling shareholders and block holders can still be involved in a private placement, but they cannot participate in the auction and can only purchase the predetermined amount of shares with the auction price. Third, the locking period is 36 months for all internal investors (in both fixed price scheme and auction scheme), and 12 months for external investors.

In this paper, we focus on samples using the auction pricing scheme. Figure 1 shows that firms announce the transaction details in the last phase of the private placement. In the case of using the sealed auction pricing scheme, the details on the bids are also reported. Table 2 shows the example of the private placement deal bidding book of the Xibang Company (002536.SZ). The table is copied and translated from the completion announcement announced by the company on June 1, 2015. The table shows that each bid records the identity of the bidder, and the price and quantity of the bid. We can see that participants include mutual funds, trusts, asset management companies, and individual investors. The bidding prices vary widely, ranging from 23.00 to 37.58. With this comprehensive records of bids, we can measure to what what extent the bidding prices are divergent, which reflects investors' heterogeneous beliefs regarding firm value (Cammack, 1991; Liu et al., 2001).

[Insert Table 2 here]

3 Data and Variable Definitions

3.1 Data sources and sample attributes

We manually collected all the bids data from announcements made by listed companies that successfully issued private placements from January 2, 2007 to December 31, 2015. All the announcements are downloaded from the WIND database. There are 672 private placement

deals using the sealed bid auction during this time period.[9] We exclude "ST" (special treatment) or "PT" (particular transfer) firms which are particularly monitored due to their poor performances.[10] We also exclude firms with long trading halts within two years from the completion date of a private placement. We are finally left with 411 auction cases with 10,425 bids in total. We obtain data on financial information, stock returns, and analyst forecasts from the China Stock Market and Accounting Research Database (CSMAR) created by the Guotaian Information Technology Company (GTA).

3.2 Variables construction

We use the dispersion of the auction bidding prices to measure investors' divergence of opinion. To construct the bidding price dispersion, we first follow Liu et al. (2001) and use the quantity-weighted standard deviation of the bidding prices, scaled by the weighted average price. We denote this variable as SD. We also construct another dispersion measure WAD, which is the quantity weighted absolute distance of the bidding prices, scaled by the weighted average price.

The dependent variable for our empirical study is the post-private placement long-run stock performance. Our main analysis focuses on one year performance to be consistent with the locking period, while two years performance is also considered for a robustness check. To measure the long-run performance, we use four kinds of returns with different benchmarks. The first return is raw, which is measured by the holding period return of the stock from one day after the private placement completion announcement date to one year later. As a robustness check, we exclude the first month following the private placement announcement date to rule out the short-term announcement effect. The second return is $matched$, which is constructed by the difference between raw and the holding period return of a matched

[9] There are 1810 private placements wtih the fixed price scheme from 2007 to 2015.

[10] In the Chinese stock markets, a firm that has negative profits for two consecutive years will be designated as "ST" firm. If an "ST firm continues to generate losses for one more year, it will be designated as "PT" firm and will be delisted if it cannot have a positive profit within another year. The shares of ST firms are traded with a 5% price change limit every day, compared to the 10% limit for normal firms. The semi-annual financial reports of "ST firms must be audited. The shares of PT firms can only be traded on Fridays, with a maximum 5% upside limit to last Fridays closing price, but there is no limit on the downside (Jia et al., 2013).

firm for the same period. Firms are matched on size, book-to-market ratio, and industry, following Barber and Lyon (1997). The third return is *market*, which is the raw return minus the market index return of the same period. The fourth return is *capm*, which is the α from the CAPM model.

We also include several variables concerning the characteristics of the private placement deals and the fundamentals of the issuing firms in our empirical study. The auction deal characteristics are *percentage* and *discount*. *percentage* is the number of issuing shares in the private placement over the firm's total shares outstanding. It reflects the relative size of the private placement deal, or the dilution level of the deal. As in Chen et al. (2015), *discount* is the discount rate of the issuing price compared to the market price of the firm one day before the issuance announcement. The fundamentals of the firm include firm size $log(value)$, Tobin's Q, cash holding $cash$, $firmage$, and book leverage lev. $log(value)$ is the log of market value of the firm. Q is the market-to-book ratio of the firm.[11] $cash$ is the cash and cash equivalent over the total asset. $firmage$ is the age of the firm. lev is the total debt over the total asset. We use the values of these control variables in the financial year covering the private placement completion dates in the empirical tests.

Besides these variables, our study also includes two important control variables. The first one is *dispersion*, which is the standard deviation of analyst earnings forecasts in the previous year, scaled by the book value per share. It is the most commonly used proxy for divergence of opinion (Diether et al., 2002; Johnson, 2004; Doukas et al., 2006; Sadka and Scherbina, 2007). The second one is *em*, which is a proxy for earnings management. Chi and Gupta (2009) propose that overvaluation-induced income-increasing earnings management leads to lower future stock return, and Chen et al. (2010a) confirm this relation in the context of private placements. We construct *em* following the adjusted Jones Model by Dechow et al. (1995):

$$TA_t/Asset_{t-1} = \alpha_1 \frac{1}{Asset_{t-1}} + \alpha_2 \frac{\Delta REV_t}{Asset_{t-1}} + \alpha_3 \frac{PPE_t}{Asset_{t-1}} + \epsilon_t \quad (1)$$

[11] Following Han and Pan (2016), we measure the market value of stocks as the market value of tradable shares due to the concern that it is hard to measure the market value of nontradable shares accurately.

$$em = TA_t/Asset_{t-1} - [\hat{\alpha_1}\frac{1}{Asset_{t-1}} + \hat{\alpha_2}\frac{\Delta REV_t - \Delta REC_t}{Asset_{t-1}} + \hat{\alpha_3}\frac{PPE_t}{Asset_{t-1}}] \quad (2)$$

where TA is the total accruals; ΔREV is the change of revenues; PPE is the gross property plant and equipment; $Asset$ is the total asset; ΔREC is the change of net receivables. We first employ equation (1) to estimate α_1, α_2, and α_3. Then we construct the earnings management measure em by equation (2). In addition, $short.c$ is a dummy variable which is equal to 0 if the firm is in the margin trading list or in the CSI300 index list, and 1 otherwise. It is a proxy for short-sale constraint.

3.3 Summary Statistics

Table 3 presents summary statistics. Panel A reports the characteristics of the bids. The total number of bids is 10,425. The mean (median) bidding price is 17.112 (14.200). The mean (median) quantity of each bid is 31,130 thousand (7,000 thousands). The mean (median) dollar value of each bid is 8,941 thousand (2,556 thousands). Panel B reports the descriptive statistics at the firm level. The total number of deals in 411. The mean (median) value of the dispersion of bidding price WAD is 0.081 (0.044). The mean (median) value of the other dispersion measure of bidding price SD is 0.098 (0.053). On average, the winning bids percentage per auction is 64.7%. We note that the 75% quantile of this variable is 1, indicating that at least 25% of the private placement auctions were with only a single bidder or multiple bidders with the exact same bid. To alleviate the efect of these observations, we exclude the private placement cases with less than 5 bidders as a robustness check. The mean (median) discount rate of the issuing price is 16.678% (16.740%). The mean (median) quantity of issuing shares is 154,980 thousands (53,640 thousands). The mean (median) percentage of issuing shares over the total shares outstanding is 1.4%(1.2%). Only 22.2% of the firms in our sample are in the margin trading list or in the CSI300 index list, confirming the argument in Chang et al. (2014) that Chinese stock market has stringent short-sale constraints.

[Insert Table 3 here]

In Table 4, we report descriptive statistics and t statistics of one year long-run performance variables. *raw* has a mean (median) of -5.5% (-8.6%). *matched* has a mean (median) of -6.2% (-8.3%). *market* has a mean (median) of -3.8% (-5.2%). *capm* has a mean (median) of -10.4% (-10.3%). Overall, the mean and median of the four variables are all significantly negative. This is consistent with the phenomena of long-run underperformance of private placements in U.S. (Hertzel et al., 2002) and China (Huang et al., 2016a).[12]

[Insert Table 4 here]

4 Empirical results

In this section, we first analyze the effect of bidding price dispersion on the stock long-run performance. We also control for the most commonly used proxy for divergence of opinion — the dispersion of analyst earnings forecasts. Furthermore, we examine the effect of short-sale constraint on the relation between bidding price dispersion and long-run returns. We then address the potential selection bias by performing the Heckman (1979) sample selection correction procedure. Finally, we conduct several robustness checks.

4.1 Baseline regressions

We perform regressions of the long-run performance on bidding price dispersion. The dependent variables are four return measures described in Section 3.2 . The independent variables are the dispersion of bidding prices WAD or SD, the percentage of shares issuing over total shares outstanding $percentage$, the firm size $log(value)$, Tobin's Q measure Q, the discount rate of the issuing price to the market price $discount$, the cash holding ratio $cash$, the return to asset ratio ROA, the age of the firm $firmage$, the book leverage lev. We also include year-fixed effect and industry-fixed effect to control for overall macroeconomic factors over time and industry characteristics. Industry is defined based on the 22 industries classified by the CSRC.

[12] As reported in Table 3, the mean value of discount rate is 16.67%. Henceforth, the negative long-run performance does not indicate that the participants in the auctions would suffer a loss on average.

We report the results in Table 5. The coefficients of WAD and SD are all significantly negative. Specifically, the coefficients of WAD (SD) are -0.612 (-0.510), -0.453 (-0.372), -0.414 (-0.338), and -0.327 (-0.266) for the four return variables, respectively. The results are consistent with the prediction of Miller (1977), that the higher the divergence of opinion, the worse the long-run performance. The coefficients of Tobin's Q are all positive and significant at the 1% level, indicating that private placement deals are more valuable for firms with higher investment opportunities. *discount* is measured as the discount rate of the issuing price to the market price. There is a significantly negative relation between *discount* and all four return measures. This result is in line with the empirical findings in Bajaj et al. (2001),Krishnamurthy et al. (2005), and Barclay et al. (2007), and is consistent with the argument provided by Hertzel et al. (2002) that private placement discount reflects overvaluation. In contrast to Chen et al. (2010a) who document a significant negative relation between earnings management and long-run private placement return in the U.S. market, we fail to find any significant relation in our context. This difference could be due to fact that in China a private placement takes on average more than one year to complete. The valuation effect of earnings management would diminish in such a long term period. Moreover, the participants in the priveate placements are sophisticated investors who would be able to detect the earnings management in a reasonablely long time period.

In terms of economic significance, an increase of one standard deviation of our key variable WAD (SD) will decrease the long-run return *raw* by 7.65% (7.85%), *matched* by 5.66% (5.72%), *market* by 5.18% (5.21%) and *capm* by 4.08% (4.10%) respectively. The magnitudes of the economic significance are relatively large, compared to the mean values of the long-run returns (-8.6%, -8.3%, -5.2%, -10.3%).

Overall, we find a significantly negative relation between the bidding price dispersion and the long-run stock performance. Our findings support Miller (1977)'s prediction.

[Insert Table 5 here]

4.2 Control for analyst forecast dispersion

The most commonly used proxy for divergence of opinion in the extant literature is the dispersion of analyst earnings forecasts. For example, Diether et al. (2002) find a negative relation between the dispersion of analyst earnings forecasts and future stock returns, while Doukas et al. (2006) draw the opposite conclusion. To test if our key measure provides additional information beyond the dispersion of analyst forecasts, we add it as an additional control variable in the baseline regressions. The forecast dispersion is constructed by the standard deviation of analyst's earning forecasts in the previous year, scaled by the book value per share of the firm. The analyst dispersion measure is positively correlated with our bids dispersion measures with moderate correlation magnitudes (0.094 with WAD and 0.113 with SD).

Table 6 reports the regression results. The coefficients of WAD and SD remain significantly negative. The magnitudes of the coefficients are close to those in the baseline regressions. The coefficients of the analyst earnings forecasts are all negative, but not statistically significant. Henceforth, the results suggest that the information of our key measures for divergence of opinion is not covered by the dispersion of analyst earnings forecasts.

[Insert Table 6 here]

4.3 Short-sale constraint

Miller (1977) hypothesizes that stock price subject to high differences of opinion and short-sale constraints are biased upward. Our previous empirical tests show that dispersion of opinion drives the stock price to be overvalued. However, short-sale constraints is another critical condition for Miller (1977)'s hypothesis (Boehme et al., 2006).[13] We predict that if the short-sale constraint of a stock is more binding, the price will be more overvalued, given the same level of differences in opinion. To test this prediction, we perform regressions by interacting the dispersion measure WAD (SD) with the short-sale constraint measure $short.c$.

[13] Chen et al. (2002a) prove that Miller (1977)'s hypothesis holds in practice, as long as there is a high short-sale cost or other trading frictions.

In Chinese stock markets, a stock can be shorted in two ways (Gu et al., 2016). The first is to borrow stocks from brokers. However, only those stocks appearing in a margin trading and short-selling list selected by the CSRC are available to borrow.[14] Therefore, we expect that stocks in the list incur fewer short-sale constraints. We obtain the list from the CSRC website. The second way to short the stock is to short the CSI300 (China Securities Index 300) index futures, if the stock is one of the 300 underlying stocks, and long the remaining stocks in the CSI 300 index list.[15] We therefore expect that stocks in the CSI 300 list also face less stringent short-sale constraint. We source the CSI 300 index compositions information from the China Securities Index Corporation (`http://www.csindex.com.cn`). Based on these institutional features, our short-sale constraint proxy ($short.c$) is defined as a dummy variable which is equal to zero if the stock is in the margin trading and short selling list or in the CSI 300 list, and one otherwise.

Table 7 reports the regression results. We can see that the coefficients of the interaction term are all negative for the four returns and are statistically significant for $market$, $matched$ and $capm$. The coefficients of the dispersion measures WAD and SD remain negative for all four returns measures. Considering the results in combination, we can conclude that $short.c$ strengthens the negative relation between divergence of opinion and long-run stock returns. This is consistent with our prediction that if a stock faces stronger short-sale constraint, its price will be more overvalued given the same level of divegence of opinion.

[Insert Table 7 here]

4.4 Sample selection bias

Two kinds of potential selection bias can arise when examining a sample of firms issuing private placements by the auction method. The first is that firms self-select to issue a private placement or not. The second is that firms which issue private placements self-select the issuing method, that is, auction or fixed price. Heckman (1979) proposes a solution

[14] The short-selling and margin trading scheme was launched in March 2010 (Chang et al., 2014; Gu et al., 2016).

[15] The China Financial Futures Exchange introduced index futures against the CSI 300 index on April 16, 2010 (Han and Pan, 2016).

to mitigate sample selection bias by using his sample selection correction. This involves a first-step probit regression to differentiate between selected firms and unselected firms. Following Bo et al. (2011), Huang et al. (2016b), and Huang et al. (2016a), we use Tobin's Q measure(Q), firm size ($log(value)$), firm age ($firmage$), cash holding ratio ($cash$), book leverage (lev), profitability as measured by the ratio of earnings before interest over total asset ($profitability$), investment as measured by the capital expenditure over total asset ($investment$), industry dummies and year dummies as the determinants of the firm's private placement decision. Hence, we run the following probit regression:

D(Firm=1,0)=f($log(value)$,Q, $firmage$, $cash$, $profitability$, $investment$, lev, industry dummies, year dummies)

To address the selection bias, we conduct the first stage of Heckman two-stage regressions with different sample settings. In the first setting, our selected firms are those issuing private placement by both fixed price and auction methods, and our unselected firms are those not refinanced in the same period. It is notable that during our sample period, private placements is the dominating refinancing mode in China. As a result, we have not investigated firms' choice between private placements and SEO as in Cronqvist and Nilsson (2005) and Chen et al. (2010b) among others. In the second setting, our selected firms are those issuing private placements by the auction method, but our unselected firms are the firms issuing private placements by the fixed price method.

The first stage estimation results are presented in Table 8. Panel A shows the result for the first setting. Consistent with Huang et al. (2016a), we find that firms with higher Tobin's Q are more likely to issue private placements, suggesting that Chinese firms time the market and use private placements to issue overpriced shares. We also find that firms with larger size, higher profitability and investment are more likely to conduct private placements, either because they have more refinancing needs or because CSRC are more likely to approve the applications of such firms (Bo et al., 2011; Huang et al., 2016b). In Panel B, we explore firms' decision to adopt the acution method in contrast to the fixed price method. It is noteworthy that the coefficient of Tobin's Q turns to be negative. This confirms again the market timing hypothesis of Huang et al. (2016a) as compared to the fixed price method, it

is more difficult for firms to control the offering price in the auction method.

[Insert Table 8 here]

Step two of the Heckman (1979) sample selection correction uses the inverse Mills ratio from the probit regression as an independent variable in the baseline regressions. The second stage regression results for these two settings are presented in Table 9 and Table 10. From the tables, we can see that the coefficients of WAD and SD are significantly negative, with similar magnitudes as shown in the baseline regressions. Collectively, our results suggest that the negative relation between bids dispersion and future long-run return is not driven by the sample selection bias.

[Insert Table 9 here]

[Insert Table 10 here]

4.5 Robustness Checks

In our previous results, we define the long-run performance as the returns from one day after the announcement date to one year later. To show that our results are robust to different time horizons, we recalculate all four returns in two ways.

The first is to recalculate all four returns from one month after the completion announcement date to one year later to rule out the short-term announcement effect. We report the regression results in Table 11. The coefficients of WAD and SD remain significantly negative. The magnitudes are close to those in the baseline regressions.

[Insert Table 11 here]

The second way is to use two years long-run performance from one day after the announcement date to two years later. We report the regression results in Table 12. The coefficients of WAD and SD remain negative and statistically significant. The magnitudes are also close to those in the baseline regressions.

[Insert Table 12 here]

Besides using other definitions for long-run performances, we conduct an additional robustness check by excluding the auctions with less than five bidders. We conduct this robustness check to address the concern that the a small number of bidders would affect the effectiveness of our dispersion measures. However, as we find in Table 13, this experiment has not altered our estimation results both qualitatively and quantitatively.

[Insert Table 13 here]

5 Conclusion

Existing studies provide mixed evidence on the relation between investors' heterogeneous beliefs and future stock returns. The current study advances the literature by proposing a novel measure of divergence of opinion, based on auction data for private placements. Our measures are the first to *directly* reflect investors' private information regarding firm value based on publicly available data. In this way, we overcome the concerns about the existing *indirect* measures in the literature. Based on this measure, we document that the long-term performance of stock returns is negatively related to the divergence of opinion. This relation is economically meaningful, and robust when controlling for other firm characteristics, earnings management, analyst forecast dispersion, and self-selection bias. Further, we find that the effect of divergence of opinion is more prevalent for firms with more stringent short-sale constraints. Overall, our evidence supports Miller (1977) overvaluation hypothesis rather than Williams (1977) risk theory. Our findings, together with the facts that the auction bids data is publicly available and our measures are easy to construct, also offer practitioners in the secondary private placements market an appealing means to predict the returns.

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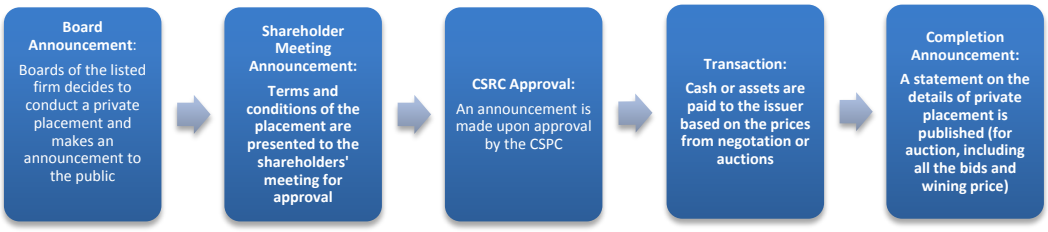
Figure 1 Timeline of Private Placements in China

This figure shows the process a private placement is carried out in China. The upper figure details the 5 phases and the lower figure lists the correspond time of a randomly selected firm Xibang Company who conducted the private placement from 2014 to 2015.



Example: Xibang Company (002536.SZ)

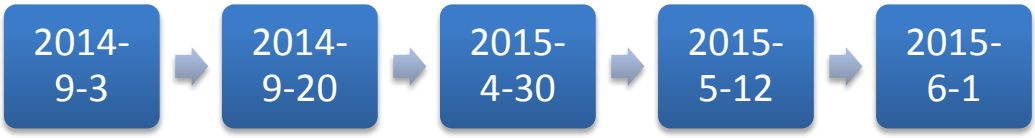


Table 1 A Comparison of Refinancing Modes in China: 2007-2015

This table reports the frequency and proceeds (in billion CNY) of three main refinancing modes in China: private placement, seasoned offering (SEO) and rights issues. The time period is from 2007 to 2015. The data is collected from the WIND database.

Year	No. of Private Placement	Proceeds	No. of SEO	Proceeds	No. of Rights Issues	Proceeds	Percentage of Private Placement (Proceeds)
2007	149	274.46	29	66.43	7	23.09	75.41%
2008	105	170.24	27	45.89	8	13.65	74.09%
2009	117	256.64	13	23.19	9	10.08	88.52%
2010	160	313.63	10	37.72	21	14.98	62.57%
2011	171	346.48	10	28.88	12	34.72	84.49%
2012	156	361.12	6	11.55	7	6.87	95.15%
2013	281	344.02	5	7.02	13	45.70	86.71%
2014	486	681.85	1	0.37	14	13.74	97.97%
2015	857	1372.21	0	0	5	15.50	98.83%

Table 2 Bidding book example: Xibang Company (002536.SZ)

This table reports the bidding book of the private placement by Xibang Company (002536.SZ). The winning price in this auction is 36.02.

Order	Bidder	Price	Quantity(thousand)
1	Gongqingchenghuafu Investment Partner	30.20	110,000
2	Gongqingchenghuafu Investment Partner	28.20	220,000
3	Gongqingchenghuafu Investment Partner	24.60	330,000
4	Jianxing Fund Management Company	26.00	130,000
5	Shangyinruijin Capital Management Company	26.30	55,000
6	Beijing Qianshichuangfu Capital Management Company	28.00	55,000
7	Beijing Qianshichuangfu Capital Management Company	25.00	55,000
8	Beijing Qianshichuangfu Capital Management Company	23.00	60,000
9	Cantong Fund Management Company	33.77	115,100
10	Cantong Fund Management Company	32.41	188,620
11	Cantong Fund Management Company	33.77	115,100
12	Donghai Fund Management Company	31.05	70,000
13	Donghai Fund Management Company	30.51	140,000
14	Huafu Fund Management Company	37.50	200,000
15	Huabao Trust Company	37.58	78,000
16	Zhang Huaibin	32.15	55,000
17	Zhang Huaibin	30.15	60,000
18	Zhang Huaibin	28.65	65,000
19	Zhaoshang Wealth Asset Management Company	34.66	165,000
20	Zhaoshang Wealth Asset Management Company	34.01	165,000
21	Zhaoshang Wealth Asset Management Company	33.51	165,000
22	Chuangjinhexin Fund Company	37.28	65,240
23	Chuangjinhexin Fund Company	32.13	120,240
24	Chuangjinhexin Fund Company	31.21	176,040
25	Guohuarenshou Insurance Company	35.05	56,000
26	Huitianfu Fund Company	36.02	55,000
27	Huitianfu Fund Company	34.22	70,000
28	Huitianfu Fund Company	32.22	100,000
29	Xinzheng Security Asset Management Company	30.00	75,000
30	Pingandahua Fund Company	36.00	90,000
31	Nuoan Fund Company	37.00	138,190
32	Nuoan Fund Company	34.50	148,200
33	Nuoan Fund Company	34.40	148,630
34	Shenwanlinxin Shanghai Asset Management Company	32.13	110,000
35	Xingye Wealth Asset Management Company	31.00	55,180
36	Xingye Wealth Asset Management Company	30.00	55,500
37	Xingye Wealth Asset Management Company	29.00	58,000

Table 3 Summary Statistics

This table reports summary statistics on the 411 private placements and 10,425 bids in our sample. In Panel A, *price* is the price of the bid. *quantity* is the number of shares of the bid. *winprice* is the lowest price to win the shares. *totaldollar* is the dollar value of the bid. In Panel B, WAD is the quantity weighted absolute distance, scaled by the weighted average of bidding price. SD is the quantity weighted standard deviation of all bidding price for one private placement deal, scaled by the weighted average of the bidding price. *winpercentage* is the number of wining bids over the number of all bids for the private placement deal. *discount* is the discount rate of the issuing price compared to the market price. *totalquantity* is the total number of the bidding shares for the private placement deal. *percentage* is the number of the issuing shares in the private placement over the total shares outstanding of the firm. *shareoutstand* is the total shares outstanding of the firm. *marketvalue* is the market value of the firm. Q is the market to book ratio of the firm. *bookvalue* is the book value of the firm. *cash* is the cash and cash equivalent over total assets. ROA is return on assets. $firmage$ is the age of the firm. *lev* is the total debt over total assets. *short.c* is a dummy variable which equals 0 if the firm is in the margin trading list or in the CSI300 index, and 1 otherwise. *dispersion* is the standard deviation of analyst earninsg forecasts, scaled by the book value per share. *em* is a proxy for earnings management, which is calculated from the adjusted Jones Model.

Statistic	N	Mean	St. Dev.	Pctl(25)	Median	Pctl(75)
			Panel A: Bid level			
price	10,425	17.112	12.365	8.900	14.200	21.320
quantity(thousand)	10,425	31,130	615,607	3,500	7,000	15,000
winprice	10,425	18.211	13.497	9.210	15.100	22.910
totaldollar(thousand)	10,425	8,941	132,416	1,237	2,556	5,464
			Panel B: Firm Level			
WAD	411	0.081	0.125	0.012	0.044	0.102
SD	411	0.098	0.154	0.014	0.053	0.126
winpercentage	411	0.647	0.340	0.301	0.714	1.000
discount(%)	411	16.678	15.739	8.565	16.740	25.115
totalquantity(thousand)	411	154,980	937,108	25,470	53,640	106,660
percentage	411	0.014	0.010	0.007	0.012	0.019
sharesoutstand(million)	411	804	1,674	297	463	807
marketvalue(million)	411	11,496	15,003	4,257	7,185	13,580
Q	411	2.526	1.993	1.228	1.953	3.215
bookvalue(million)	411	8,357	35,021	2,000	3,350	6,600
cash	411	0.199	0.128	0.097	0.172	0.273
ROA	411	0.041	0.041	0.018	0.038	0.060
$firmage$	411	13.489	4.921	10	13	16
lev	411	0.429	0.183	0.291	0.418	0.571
short.c	411	0.778	0.416	0	0	0
dispersion	365	0.069	0.061	0.032	0.051	0.083
em	411	0.047	0.170	-0.020	0.020	0.091

Table 4 Long-run performance

This table reports the summary statistics and t statistics of the long-run performance day 1 after the announcement to one year later. *raw* is the one year holding period return of the stock. *matched* is *raw* minus the matched firm's return of the same period. *market* is *raw* minus the market index return of the same period. *capm* is the abnormal return adjusted by CAPM model. The returns are winsored at 1% to rule out outliers.

Statistic	N	Mean	St. Dev.	Median	t statistic
raw	411	-0.055	0.317	-0.086	-3.280
matched	411	-0.062	0.351	-0.083	-3.378
market	411	-0.038	0.270	-0.052	-2.650
capm	411	-0.104	0.302	-0.103	-6.553

Table 5 Bids dispersion and long-run performance

This table reports the results of regressions of one year performance on bids dispersion of private placements. The one year performance is proxied by four variables. *raw* is the one year holding period return of the stock. *matched* is *raw* minus the matched firm's return of the same period.*market* is *raw* minus the market index return of the same period. *capm* is the abnormal return adjusted by CAPM model.WAD is the quantity weighted absolute distance, scaled by the weighted average of bidding price. SD is the quantity weighted standard deviation of all bidding price for one private placement deal, scaled by the weighted average of the bidding price. *percentage* is the number of the issuing shares in the private placement over the total shares outstanding of the firm. $log(value)$ is log of market value of the firm. Q is the market to book ratio of the firm. *cash* is the cash and cash equivalent over total assets. ROA is return on assets. $firmage$ is the age of the firm. *lev* is the total debt over total assets. *discount* is the discount rate of the issuing price compared to the market price. *em* is a proxy for earning management, which is calculated from adjusted Jones Model. We report the t-statistics in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level, respectively.

	raw		*matched*		*market*		*capm*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WAD	-0.612^{***}		-0.453^{**}		-0.414^{**}		-0.327^{**}	
	(-3.015)		(-2.162)		(-2.330)		(-2.077)	
SD		-0.510^{***}		-0.372^{**}		-0.338^{**}		-0.266^{**}
		(-3.078)		(-2.173)		(-2.331)		(-2.064)
percentage	4.110	4.140	3.255	3.286	2.120	2.150	1.706	1.733
	(1.634)	(1.648)	(1.254)	(1.267)	(0.963)	(0.977)	(0.874)	(0.888)
$log(value)$	-0.086^{**}	-0.086^{**}	-0.092^{**}	-0.092^{**}	-0.071^{**}	-0.071^{**}	-0.094^{***}	-0.095^{***}
	(-2.488)	(-2.496)	(-2.580)	(-2.588)	(-2.330)	(-2.339)	(-3.518)	(-3.527)
Q	0.081^{***}	0.082^{***}	0.097^{***}	0.097^{***}	0.076^{***}	0.076^{***}	0.073^{***}	0.073^{***}
	(4.359)	(4.395)	(5.040)	(5.056)	(4.685)	(4.702)	(5.057)	(5.068)
discount	-0.008^{***}	-0.008^{***}	-0.007^{***}	-0.007^{***}	-0.006^{***}	-0.006^{***}	-0.005^{***}	-0.005^{***}
	(-5.437)	(-5.414)	(-4.856)	(-4.840)	(-4.971)	(-4.955)	(-3.953)	(-3.940)
cash	-0.196	-0.202	-0.088	-0.092	0.037	0.034	0.100	0.097
	(-0.928)	(-0.955)	(-0.401)	(-0.420)	(0.202)	(0.181)	(0.609)	(0.591)
ROA	1.149^{*}	1.165^{*}	0.454	0.464	0.590	0.599	0.531	0.537
	(1.761)	(1.786)	(0.674)	(0.689)	(1.034)	(1.049)	(1.049)	(1.061)
$Firmage$	0.012^{***}	0.012^{***}	0.014^{***}	0.013^{***}	0.007^{*}	0.007^{*}	0.007^{*}	0.007^{*}
	(2.614)	(2.609)	(2.738)	(2.735)	(1.752)	(1.749)	(1.843)	(1.841)
lev	0.209	0.212	0.234	0.236	0.347^{**}	0.349^{**}	0.302^{**}	0.303^{**}
	(1.201)	(1.217)	(1.305)	(1.314)	(2.280)	(2.289)	(2.238)	(2.245)
em	-0.042	-0.042	0.060	0.060	-0.072	-0.072	-0.020	-0.020
	(-0.324)	(-0.321)	(0.446)	(0.450)	(-0.637)	(-0.632)	(-0.203)	(-0.198)
Constant	0.331	0.331	0.479	0.480	0.576	0.577	1.115^{***}	1.116^{***}
	(0.604)	(0.604)	(0.847)	(0.849)	(1.202)	(1.204)	(2.624)	(2.626)
year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	411	411	411	411	411	411	411	411
R^2	0.417	0.418	0.322	0.322	0.224	0.224	0.210	0.210
Adjusted R^2	0.366	0.367	0.263	0.263	0.156	0.156	0.141	0.141

Table 6 Bids dispersion and long-run performance (control analyst dispersion)

This table reports the results of regressions of one year performance on bids dispersion of private placements controlling for analyst dispersion.The one year performance is proxied by four variables. *raw* is the one year holding period return of the stock. *matched* is *raw* minus the matched firm's return of the same period.*market* is *raw* minus the market index return of the same period. *capm* is the abnormal return adjusted by CAPM model.WAD is the quantity weighted absolute distance, scaled by the weighted average of bidding price. SD is the quantity weighted standard deviation of all bidding price for one private placement deal, scaled by the weighted average of the bidding price. *percentage* is the number of the issuing shares in the private placement over the total shares outstanding of the firm. $log(value)$ is log of market value of the firm. Q is the market to book ratio of the firm. *cash* is the cash and cash equivalent over total assets. ROA is return on assets. $firmage$ is the age of the firm. *lev* is the total debt over total assets. *discount* is the discount rate of the issuing price compared to the market price. *em* is a proxy for earning management, which is calculated from adjusted Jones Model. *dispersion* is the standard deviation of analyst earning forecasts, scaled by the book value per share. We report the t-statistics in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level, respectively.

	raw		*matched*		*market*		*capm*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WAD	-0.637^{***}		-0.470^{**}		-0.427^{**}		-0.319^{*}	
	(-3.030)		(-2.167)		(-2.299)		(-1.958)	
SD		-0.529^{***}		-0.388^{**}		-0.350^{**}		-0.261^{*}
		(-3.080)		(-2.188)		(-2.306)		(-1.954)
percentage	4.963	5.004^{*}	4.167	4.202	3.480	3.515	2.991	3.019
	(1.636)	(1.651)	(1.330)	(1.341)	(1.298)	(1.312)	(1.270)	(1.283)
$log(value)$	-0.093^{**}	-0.094^{**}	-0.091^{**}	-0.091^{**}	-0.080^{**}	-0.081^{**}	-0.101^{***}	-0.102^{***}
	(-2.511)	(-2.523)	(-2.372)	(-2.381)	(-2.447)	(-2.458)	(-3.516)	(-3.527)
Q	0.093^{***}	0.094^{***}	0.103^{***}	0.104^{***}	0.084^{***}	0.084^{***}	0.081^{***}	0.081^{***}
	(4.389)	(4.412)	(4.718)	(4.730)	(4.476)	(4.486)	(4.911)	(4.917)
discount	-0.007^{***}	-0.007^{***}	-0.007^{***}	-0.007^{***}	-0.006^{***}	-0.006^{***}	-0.004^{***}	-0.004^{***}
	(-4.683)	(-4.658)	(-4.315)	(-4.296)	(-4.336)	(-4.318)	(-3.397)	(-3.382)
cash	-0.172	-0.178	-0.125	-0.129	0.061	0.057	0.092	0.089
	(-0.754)	(-0.781)	(-0.530)	(-0.549)	(0.302)	(0.282)	(0.519)	(0.503)
ROA	1.499^{**}	1.521^{**}	0.527	0.543	0.890	0.903	0.914	0.924
	(1.982)	(2.010)	(0.675)	(0.694)	(1.331)	(1.350)	(1.557)	(1.573)
$Firmage$	0.016^{***}	0.016^{***}	0.015^{***}	0.015^{***}	0.010^{**}	0.010^{**}	0.009^{**}	0.009^{**}
	(3.067)	(3.068)	(2.900)	(2.901)	(2.219)	(2.220)	(2.238)	(2.239)
lev	0.271	0.273	0.152	0.153	0.390^{**}	0.390^{**}	0.336^{**}	0.337^{**}
	(1.397)	(1.405)	(0.758)	(0.763)	(2.272)	(2.276)	(2.231)	(2.234)
em	-0.129	-0.127	-0.014	-0.013	-0.108	-0.107	-0.056	-0.056
	(-0.798)	(-0.788)	(-0.084)	(-0.077)	(-0.762)	(-0.754)	(-0.451)	(-0.444)
dispersion	-0.267	-0.249	-0.180	-0.166	-0.150	-0.137	-0.363	-0.354
	(-0.590)	(-0.550)	(-0.385)	(-0.356)	(-0.375)	(-0.343)	(-1.036)	(-1.009)
Constant	0.378	0.379	0.486	0.488	0.594	0.596	1.162^{**}	1.164^{**}
	(0.642)	(0.645)	(0.800)	(0.802)	(1.142)	(1.145)	(2.544)	(2.548)
year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	365	365	365	365	365	365	365	365
R^2	0.414	0.415	0.338	0.338	0.224	0.225	0.227	0.227
Adjusted R^2	0.356	0.356	0.272	0.272	0.147	0.147	0.150	0.150

Table 7 Counting for short-sale constraints

This table reports the results of regressions of one year performance on bids dispersion of private placements counting for short-sale constraints. The one year performance is proxied by four variables. *raw* is the one year holding period return of the stock. *matched* is *raw* minus the matched firm's return of the same period.*market* is *raw* minus the market index return of the same period. *capm* is the abnormal return adjusted by CAPM model.WAD is the quantity weighted absolute distance, scaled by the weighted average of bidding price. SD is the quantity weighted standard deviation of all bidding price for one private placement deal, scaled by the weighted average of the bidding price. *percentage* is the number of the issuing shares in the private placement over the total shares outstanding of the firm. $log(value)$ is log of market value of the firm. Q is the market to book ratio of the firm. *cash* is the cash and cash equivalent over total assets. ROA is return on assets. $firmage$ is the age of the firm. *lev* is the total debt over total assets. *discount* is the discount rate of the issuing price compared to the market price. *em* is a proxy for earning management, which is calculated from adjusted Jones Model. *dispersion* is the standard deviation of analyst earning forecasts, scaled by the book value per share. *short.c* is a dummy variable which is equal to 0 if the firm is in the margin trading list or in the CSI300 index list, and 1 otherwise. We report the t-statistics in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level, respectively.

	raw		*matched*		*market*		*capm*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WAD	-0.618^{***}		-0.385^{*}		-0.307		-0.179	
	(-2.834)		(-1.722)		(-1.619)		(-1.051)	
$WAD{*}short.c$	-0.427		-1.028^{**}		-0.848^{*}		-0.747^{*}	
	(-0.843)		(-1.974)		(-1.919)		(-1.919)	
SD		-0.505^{***}		-0.315^{*}		-0.244		-0.141
		(-2.863)		(-1.736)		(-1.600)		(-1.029)
$SD{*}short.c$		-0.379		-0.873^{**}		-0.722^{**}		-0.636^{**}
		(-0.899)		(-2.014)		(-1.965)		(-1.965)
$short.c$	-0.090	-0.086	0.020	0.024	-0.083	-0.079	-0.061	-0.058
	(-1.021)	(-0.972)	(0.223)	(0.264)	(-1.076)	(-1.027)	(-0.903)	(-0.855)
$percentage$	3.920	3.962	3.158	3.165	2.519	2.527	2.483	2.481
	(1.307)	(1.322)	(1.024)	(1.027)	(0.965)	(0.968)	(1.077)	(1.076)
$log(value)$	-0.063^{*}	-0.064^{*}	-0.084^{**}	-0.085^{**}	-0.045	-0.046	-0.064^{**}	-0.065^{**}
	(-1.687)	(-1.708)	(-2.177)	(-2.201)	(-1.378)	(-1.404)	(-2.232)	(-2.257)
Q	0.009^{***}	0.009^{***}	0.010^{***}	0.010^{***}	0.008^{***}	0.008^{***}	0.008^{***}	0.008^{***}
	(4.332)	(4.354)	(4.879)	(4.893)	(4.609)	(4.619)	(4.935)	(4.940)
$discount$	-0.007^{***}	-0.007^{***}	-0.007^{***}	-0.007^{***}	-0.006^{***}	-0.006^{***}	-0.004^{***}	-0.004^{***}
	(-4.558)	(-4.538)	(-4.385)	(-4.379)	(-4.281)	(-4.278)	(-3.309)	(-3.311)
$cash$	-0.100	-0.105	-0.103	-0.104	0.019	0.019	0.073	0.074
	(-0.488)	(-0.508)	(-0.488)	(-0.490)	(0.106)	(0.105)	(0.463)	(0.468)
ROA	1.604^{**}	1.622^{**}	0.584	0.592	0.763	0.768	0.770	0.771
	(2.142)	(2.165)	(0.759)	(0.769)	(1.170)	(1.177)	(1.337)	(1.338)
$Firmage$	0.016^{***}	0.016^{***}	0.015^{***}	0.015^{***}	0.011^{**}	0.011^{**}	0.009^{**}	0.009^{**}
	(3.084)	(3.090)	(2.914)	(2.924)	(2.443)	(2.454)	(2.300)	(2.312)
lev	0.390^{**}	0.392^{**}	0.256	0.257	0.359^{**}	0.360^{**}	0.318^{**}	0.319^{**}
	(2.202)	(2.211)	(1.403)	(1.411)	(2.330)	(2.336)	(2.336)	(2.341)
$dispersion$	-0.375	-0.357	-0.293	-0.281	-0.319	-0.309	-0.537	-0.531
	(-0.852)	(-0.813)	(-0.647)	(-0.622)	(-0.833)	(-0.808)	(-1.589)	(-1.571)
em	-0.157	-0.156	-0.049	-0.048	-0.140	-0.139	-0.096	-0.095
	(-0.987)	(-0.981)	(-0.301)	(-0.292)	(-1.008)	(-0.999)	(-0.785)	(-0.776)
Constant	0.024	0.029	0.416	0.425	0.231	0.240	0.738^{*}	0.746^{*}
	(0.042)	(0.051)	(0.707)	(0.722)	(0.464)	(0.481)	(1.676)	(1.694)
year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	365	365	365	365	365	365	365	365
R^2	0.426	0.427	0.351	0.351	0.254	0.254	0.253	0.253
Adjusted R^2	0.365	0.366	0.282	0.282	0.174	0.175	0.173	0.174

Table 8 Heckman two stage for sample selection: stage 1

This table reports the first stage results of Heckman two stage. The dependent variable PPL equals to 1 if a firm issues a private placement (either by fixed price or by auction) and 0 otherwise. AUC equals to 1 if a firm issues a private placement with the auction method and 0 if a firm issues a private placement with a fixed price method. $log(value)$ is log of market value of the firm. Q is the market to book ratio of the firm. $cash$ is the cash and cash equivalent over total assets. $firmage$ is the age of the firm. lev is the total debt over total assets. $profitability$ is the earning before interest over total asset. $investment$ is the capital expenditure over total asset. We report the t-statistics in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level, respectively.

	Dependent variable:	
	PPL	AUC
	(1)	(2)
Q	0.070^{***}	-0.071^{***}
	(2.677)	(−4.784)
$cash$	0.372^{***}	0.468^{***}
	(2.901)	(2.738)
$Firmage$	0.007^{**}	-0.010^{**}
	(2.259)	(−2.272)
$leverage$	−0.054	-1.002^{***}
	(−0.537)	(−6.909)
$profitability$	2.202^{***}	0.284
	(6.620)	(0.533)
$investment$	1.509^{***}	2.233^{***}
	(5.526)	(6.357)
$log(value)$	0.234^{***}	0.242^{***}
	(14.349)	(9.478)
year dummies	Yes	Yes
industry dummies	Yes	Yes
Observations	14,498	2,815
Pseudo R^2	0.066	0.090

Table 9 Heckman two stage for sample selection: stage 2

This table reports the second stage results of the Heckman two stage regressions. The one year performance is proxied by four variables. *raw* is the one year holding period return of the stock. *matched* is *raw* minus the matched firm's return of the same period.*market* is *raw* minus the market index return of the same period. *capm* is the abnormal return adjusted by CAPM model.WAD is the quantity weighted absolute distance, scaled by the weighted average of bidding price. SD is the quantity weighted standard deviation of all bidding price for one private placement deal, scaled by the weighted average of the bidding price. *percentage* is the number of the issuing shares in the private placement over the total shares outstanding of the firm. $log(value)$ is log of market value of the firm. Q is the market to book ratio of the firm. *cash* is the cash and cash equivalent over total assets. ROA is return on assets. $firmage$ is the age of the firm. *lev* is the total debt over total assets. *discount* is the discount rate of the issuing price compared to the market price. *em* is a proxy for earning management, which is calculated from adjusted Jones Model. *dispersion* is the standard deviation of analyst earning forecasts, scaled by the book value per share. $IMR1$ is the inverse millers ratio from stage one probit regression in the first setting (Panel A of Table 8). We report the t-statistics in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level, respectively.

	raw		*matched*		*market*		*capm*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WAD	-0.621^{***}		-0.458^{**}		-0.423^{**}		-0.331^{**}	
	(-3.056)		(-2.183)		(-2.377)		(-2.099)	
SD		-0.517^{***}		-0.376^{**}		-0.345^{**}		-0.269^{**}
		(-3.116)		(-2.193)		(-2.375)		(-2.085)
percentage	3.476	3.511	2.882	2.918	1.511	1.547	1.422	1.453
	(1.330)	(1.345)	(1.068)	(1.082)	(0.661)	(0.677)	(0.701)	(0.716)
$log(value)$	-0.114^{**}	-0.114^{**}	-0.109^{**}	-0.109^{**}	-0.098^{**}	-0.098^{**}	-0.107^{***}	-0.107^{***}
	(-2.444)	(-2.446)	(-2.252)	(-2.254)	(-2.386)	(-2.388)	(-2.950)	(-2.952)
Q	0.085^{***}	0.085^{***}	0.099^{***}	0.099^{***}	0.080^{***}	0.080^{***}	0.075^{***}	0.075^{***}
	(4.448)	(4.483)	(5.024)	(5.040)	(4.786)	(4.801)	(5.043)	(5.052)
discount	-0.008^{***}	-0.008^{***}	-0.007^{***}	-0.007^{***}	-0.006^{***}	-0.006^{***}	-0.005^{***}	-0.005^{***}
	(-5.394)	(-5.372)	(-4.826)	(-4.811)	(-4.926)	(-4.910)	(-3.925)	(-3.912)
cahs	-0.180	-0.186	-0.078	-0.082	0.054	0.050	0.108	0.105
	(-0.845)	(-0.873)	(-0.354)	(-0.374)	(0.288)	(0.267)	(0.652)	(0.633)
ROA	1.374^{*}	1.389^{**}	0.587	0.595	0.806	0.814	0.632	0.637
	(1.965)	(1.986)	(0.812)	(0.824)	(1.318)	(1.330)	(1.163)	(1.172)
$Firmage$	0.013^{***}	0.013^{***}	0.014^{***}	0.014^{***}	0.008^{*}	0.008^{*}	0.007^{*}	0.007^{*}
	(2.676)	(2.671)	(2.768)	(2.764)	(1.825)	(1.822)	(1.877)	(1.874)
lev	0.293	0.295	0.284	0.285	0.428^{**}	0.429^{**}	0.340^{**}	0.341^{**}
	(1.481)	(1.493)	(1.390)	(1.396)	(2.473)	(2.478)	(2.214)	(2.217)
em	-0.042	-0.042	0.060	0.060	-0.073	-0.072	-0.021	-0.020
	(-0.325)	(-0.321)	(0.445)	(0.449)	(-0.638)	(-0.633)	(-0.203)	(-0.199)
$IMR1$	-0.142	-0.141	-0.084	-0.083	-0.137	-0.136	-0.064	-0.063
	(-0.895)	(-0.891)	(-0.510)	(-0.505)	(-0.983)	(-0.976)	(-0.517)	(-0.510)
Constant	1.056	1.052	0.920	0.916	1.267	1.264	1.440^{*}	1.437^{*}
	(1.072)	(1.068)	(0.905)	(0.901)	(1.471)	(1.466)	(1.882)	(1.878)
year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	411	411	411	411	411	411	411	411
R^2	0.418	0.419	0.323	0.323	0.226	0.226	0.211	0.211
Adjusted R^2	0.366	0.366	0.261	0.261	0.156	0.156	0.139	0.139

Table 10 Heckman two stage 2 (sub-sample with private placements)

This table reports the second stage results of the Heckman two stage regressions. The one year performance is proxied by four variables. *raw* is the one year holding period return of the stock. *matched* is *raw* minus the matched firm's return of the same period.*market* is *raw* minus the market index return of the same period. *capm* is the abnormal return adjusted by CAPM model.WAD is the quantity weighted absolute distance, scaled by the weighted average of bidding price. SD is the quantity weighted standard deviation of all bidding price for one private placement deal, scaled by the weighted average of the bidding price. *percentage* is the number of the issuing shares in the private placement over the total shares outstanding of the firm. $log(value)$ is log of market value of the firm. Q is the market to book ratio of the firm. *cash* is the cash and cash equivalent over total assets. ROA is return on assets. $firmage$ is the age of the firm. *lev* is the total debt over total assets. *discount* is the discount rate of the issuing price compared to the market price. *em* is a proxy for earning management, which is calculated from adjusted Jones Model. *dispersion* is the standard deviation of analyst earning forecasts, scaled by the book value per share. $IMR2$ is the inverse millers ratio from stage one probit regression in the second setting (Panel B of Table 8). We report the t-statistics in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level, respectively.

	raw		*matched*		*market*		*capm*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WAD	-0.623^{***}		-0.459^{**}		-0.424^{**}		-0.333^{**}	
	(-3.063)		(-2.187)		(-2.385)		(-2.106)	
SD		-0.519^{***}		-0.377^{**}		-0.346^{**}		-0.270^{**}
		(-3.124)		(-2.198)		(-2.383)		(-2.092)
percentage	3.449	3.483	2.860	2.895	1.486	1.521	1.381	1.411
	(1.319)	(1.334)	(1.059)	(1.073)	(0.650)	(0.666)	(0.680)	(0.696)
$log(value)$	-0.122^{**}	-0.122^{**}	-0.114^{**}	-0.114^{**}	-0.105^{**}	-0.105^{**}	-0.112^{***}	-0.112^{***}
	(-2.349)	(-2.352)	(-2.116)	(-2.118)	(-2.310)	(-2.312)	(-2.776)	(-2.778)
Q	0.085^{***}	0.085^{***}	0.099^{***}	0.099^{***}	0.080^{***}	0.080^{***}	0.075^{***}	0.075^{***}
	(4.456)	(4.491)	(5.037)	(5.052)	(4.795)	(4.810)	(5.065)	(5.074)
discount	-0.008^{***}	-0.008^{***}	-0.007^{***}	-0.007^{***}	-0.006^{***}	-0.006^{***}	-0.005^{***}	-0.005^{***}
	(-5.396)	(-5.373)	(-4.827)	(-4.812)	(-4.928)	(-4.912)	(-3.924)	(-3.911)
cash	-0.203	-0.209	-0.092	-0.096	0.031	0.027	0.097	0.094
	(-0.958)	(-0.986)	(-0.419)	(-0.438)	(0.167)	(0.147)	(0.588)	(0.570)
ROA	1.423^{**}	1.438^{**}	0.618	0.627	0.852	0.860	0.666	0.671
	(1.988)	(2.009)	(0.836)	(0.847)	(1.361)	(1.373)	(1.198)	(1.206)
$Firmage$	0.014^{***}	0.014^{***}	0.014^{***}	0.014^{***}	0.009^{**}	0.009^{*}	0.007^{*}	0.007^{*}
	(2.770)	(2.764)	(2.777)	(2.773)	(1.969)	(1.964)	(1.933)	(1.930)
lev	0.354	0.356	0.321	0.322	0.486^{**}	0.487^{**}	0.374^{**}	0.374^{**}
	(1.516)	(1.526)	(1.332)	(1.336)	(2.380)	(2.383)	(2.061)	(2.063)
em	-0.042	-0.042	0.060	0.060	-0.073	-0.072	-0.021	-0.020
	(-0.326)	(-0.322)	(0.444)	(0.448)	(-0.638)	(-0.634)	(-0.204)	(-0.199)
$IMR2$	3.569^{***}	3.591^{***}	3.068^{**}	3.082^{**}	2.662^{**}	2.675^{**}	0.273	0.281
	(2.655)	(2.673)	(2.206)	(2.216)	(2.257)	(2.268)	(0.260)	(0.267)
Constant	-13.192^{**}	-13.258^{**}	-10.544^{*}	-10.584^{*}	-7.691	-7.723	2.842	2.822
	(-2.151)	(-2.162)	(-1.661)	(-1.667)	(-1.421)	(-1.426)	(0.591)	(0.586)
year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	411	411	411	411	411	411	411	411
R^2	0.418	0.419	0.323	0.323	0.226	0.226	0.211	0.211
Adjusted R^2	0.366	0.366	0.261	0.261	0.156	0.156	0.139	0.139

Table 11 Robustness check 1: long-run performance starting from one month later

This table reports the results of regressions of one year performance, starting from one month after the announcement, on bids dispersion of private placements.The one year performance is proxied by four variables. *raw* is the one year holding period return of the stock. *matched* is *raw* minus the matched firm's return of the same period.*market* is *raw* minus the market index return of the same period. *capm* is the abnormal return adjusted by CAPM model.WAD is the quantity weighted absolute distance, scaled by the weighted average of bidding price. SD is the quantity weighted standard deviation of all bidding price for one private placement deal, scaled by the weighted average of the bidding price. *percentage* is the number of the issuing shares in the private placement over the total shares outstanding of the firm. $log(value)$ is log of market value of the firm. Q is the market to book ratio of the firm. *cash* is the cash and cash equivalent over total assets. ROA is return on assets. $firmage$ is the age of the firm. *lev* is the total debt over total assets. *discount* is the discount rate of the issuing price compared to the market price. *em* is a proxy for earning management, which is calculated from adjusted Jones Model. *dispersion* is the standard deviation of analyst earning forecasts, scaled by the book value per share. We report the t-statistics in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level, respectively.

	raw		*matched*		*market*		*capm*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WAD	-0.616^{***}		-0.382^{*}		-0.430^{**}		-0.323^{**}	
	(-3.118)		(-1.651)		(-2.454)		(-2.014)	
SD		-0.521^{***}		-0.354^{*}		-0.357^{**}		-0.266^{**}
		(-3.228)		(-1.874)		(-2.489)		(-2.032)
percentage	2.985	3.005	2.892	2.859	1.684	1.709	1.068	1.089
	(1.219)	(1.229)	(1.007)	(0.998)	(0.774)	(0.786)	(0.538)	(0.548)
$log(value)$	-0.079^{**}	-0.079^{**}	-0.076^{*}	-0.075^{*}	-0.060^{**}	-0.060^{**}	-0.086^{***}	-0.086^{***}
	(-2.331)	(-2.336)	(-1.918)	(-1.909)	(-2.004)	(-2.011)	(-3.156)	(-3.163)
Q	0.068^{***}	0.069^{***}	0.058^{***}	0.059^{***}	0.063^{***}	0.064^{***}	0.062^{***}	0.062^{***}
	(3.751)	(3.798)	(2.723)	(2.775)	(3.942)	(3.968)	(4.231)	(4.248)
discount	-0.006^{***}	-0.006^{***}	-0.003^{*}	-0.003^{*}	-0.005^{***}	-0.005^{***}	-0.003^{**}	-0.003^{**}
	(-4.338)	(-4.312)	(-1.950)	(-1.920)	(-3.605)	(-3.587)	(-2.554)	(-2.540)
cash	-0.191	-0.197	-0.091	-0.095	0.047	0.043	0.104	0.101
	(-0.927)	(-0.956)	(-0.376)	(-0.395)	(0.257)	(0.235)	(0.619)	(0.602)
ROA	0.958	0.977	1.091	1.113	0.407	0.418	0.458	0.466
	(1.509)	(1.538)	(1.466)	(1.496)	(0.722)	(0.740)	(0.890)	(0.904)
$Firmage$	0.012^{***}	0.012^{***}	0.002	0.002	0.006	0.006	0.006	0.006
	(2.602)	(2.596)	(0.351)	(0.341)	(1.476)	(1.472)	(1.610)	(1.607)
lev	0.181	0.184	0.378^{*}	0.382^{*}	0.345^{**}	0.347^{**}	0.284^{**}	0.285^{**}
	(1.066)	(1.086)	(1.902)	(1.923)	(2.291)	(2.303)	(2.066)	(2.075)
em	-0.002	-0.002	-0.133	-0.134	-0.068	-0.067	-0.017	-0.016
	(-0.019)	(-0.017)	(-0.898)	(-0.904)	(-0.601)	(-0.598)	(-0.162)	(-0.159)
Constant	0.287	0.286	0.253	0.247	0.499	0.500	1.139^{***}	1.139^{***}
	(0.538)	(0.536)	(0.404)	(0.395)	(1.052)	(1.053)	(2.628)	(2.629)
year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	411	411	411	411	411	411	411	411
R^2	0.410	0.411	0.156	0.158	0.179	0.179	0.172	0.172
Adjusted R^2	0.358	0.359	0.082	0.084	0.107	0.107	0.099	0.099

Table 12 Robustness check 2: two-years long-run performance

This table reports the results of regressions of two years long-run performance on bids dispersion of private placements. The two year performance is proxied by four variables. *raw* is the one year holding period return of the stock. *matched* is *raw* minus the matched firm's return of the same period.*market* is *raw* minus the market index return of the same period. *capm* is the abnormal return adjusted by CAPM model.WAD is the quantity weighted absolute distance, scaled by the weighted average of bidding price. SD is the quantity weighted standard deviation of all bidding price for one private placement deal, scaled by the weighted average of the bidding price. *percentage* is the number of the issuing shares in the private placement over the total shares outstanding of the firm. $log(value)$ is log of market value of the firm. Q is the market to book ratio of the firm. *cash* is the cash and cash equivalent over total assets. ROA is return on assets. $firmage$ is the age of the firm. *lev* is the total debt over total assets. *discount* is the discount rate of the issuing price compared to the market price. *em* is a proxy for earning management, which is calculated from adjusted Jones Model. *dispersion* is the standard deviation of analyst earning forecasts, scaled by the book value per share. We report the t-statistics in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level, respectively.

	raw		*matched*		*market*		*capm*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WAD	-0.597^{***}		-0.382^{*}		-0.423^{**}		-0.296^{**}	
	(-2.826)		(-1.697)		(-2.200)		(-2.041)	
SD		-0.497^{***}		-0.398^{*}		-0.348^{**}		-0.239^{**}
		(-2.882)		(-1.924)		(-2.215)		(-2.017)
percentage	4.304	4.334^{*}	2.155	2.117	2.900	2.928	0.532	0.558
	(1.644)	(1.657)	(0.415)	(0.408)	(1.216)	(1.228)	(0.295)	(0.310)
$log(value)$	-0.093^{**}	-0.093^{**}	-0.150^{**}	-0.150^{**}	-0.085^{**}	-0.085^{***}	-0.102^{***}	-0.102^{***}
	(-2.574)	(-2.582)	(-2.102)	(-2.096)	(-2.583)	(-2.591)	(-4.103)	(-4.113)
Q	0.077^{***}	0.077^{***}	0.043	0.043	0.077^{***}	0.078^{***}	0.063^{***}	0.063^{***}
	(3.969)	(4.003)	(1.114)	(1.129)	(4.402)	(4.421)	(4.731)	(4.740)
discount	-0.009^{***}	-0.009^{***}	-0.007^{**}	-0.007^{**}	-0.007^{***}	-0.007^{***}	-0.004^{***}	-0.004^{***}
	(-5.548)	(-5.527)	(-2.265)	(-2.254)	(-4.754)	(-4.738)	(-3.581)	(-3.569)
cash	-0.101	-0.106	-0.677	-0.679	0.036	0.032	0.157	0.155
	(-0.458)	(-0.483)	(-1.550)	(-1.553)	(0.180)	(0.160)	(1.039)	(1.022)
ROA	1.056	1.072	-0.743	-0.732	0.256	0.266	0.299	0.304
	(1.555)	(1.578)	(-0.552)	(-0.543)	(0.415)	(0.430)	(0.640)	(0.651)
$Firmage$	0.008	0.008	-0.004	-0.004	0.002	0.002	0.002	0.002
	(1.614)	(1.609)	(-0.441)	(-0.444)	(0.489)	(0.485)	(0.702)	(0.701)
lev	0.186	0.189	0.169	0.171	0.392^{**}	0.394^{**}	0.317^{**}	0.317^{**}
	(1.028)	(1.043)	(0.471)	(0.477)	(2.374)	(2.384)	(2.541)	(2.547)
em	0.015	0.015	0.217	0.216	-0.023	-0.022	0.056	0.057
	(0.110)	(0.114)	(0.807)	(0.804)	(-0.184)	(-0.180)	(0.603)	(0.607)
Constant	0.134	0.135	0.186	0.187	0.426	0.427	1.104^{***}	1.107^{***}
	(0.235)	(0.236)	(0.303)	(0.305)	(0.838)	(0.841)	(2.646)	(2.650)
year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	355	355	355	355	355	355	355	355
R^2	0.424	0.425	0.294	0.294	0.207	0.206	0.203	0.203
Adjusted R^2	0.375	0.376	0.234	0.234	0.139	0.139	0.136	0.135

Table 13 Robustness check 3: Exclude few bidders sample

This table reports the results of regressions of one years long-run performance on bids dispersion of private placements. Auctions with bidders less than 5 are excluded.The one year performance is proxied by four variables. *raw* is the one year holding period return of the stock. *matched* is *raw* minus the matched firm's return of the same period.*market* is *raw* minus the market index return of the same period. *capm* is the abnormal return adjusted by CAPM model.WAD is the quantity weighted absolute distance, scaled by the weighted average of bidding price. SD is the quantity weighted standard deviation of all bidding price for one private placement deal, scaled by the weighted average of the bidding price. *percentage* is the number of the issuing shares in the private placement over the total shares outstanding of the firm. $log(value)$ is log of market value of the firm. Q is the market to book ratio of the firm. *cash* is the cash and cash equivalent over total assets. ROA is return on assets. $firmage$ is the age of the firm. *lev* is the total debt over total assets. *discount* is the discount rate of the issuing price compared to the market price. *em* is a proxy for earning management, which is calculated from adjusted Jones Model. *dispersion* is the standard deviation of analyst earning forecasts, scaled by the book value per share. We report the t-statistics in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level, respectively.

	Dependent variable:							
	raw		*matched*		*market*		*capm*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WAD	-0.626^{***}		-0.488^{**}		-0.429^{**}		-0.333^{**}	
	(-3.056)		(-2.303)		(-2.385)		(-2.071)	
SD		-0.520^{***}		-0.400^{**}		-0.350^{**}		-0.269^{**}
		(-3.113)		(-2.308)		(-2.382)		(-2.053)
percentage	3.511	3.554	2.788	2.831	1.195	1.235	1.156	1.190
	(1.356)	(1.375)	(1.040)	(1.057)	(0.526)	(0.544)	(0.569)	(0.586)
$log(value)$	-0.077^{**}	-0.077^{**}	-0.089^{**}	-0.089^{**}	-0.062^{**}	-0.063^{**}	-0.089^{***}	-0.089^{***}
	(-2.162)	(-2.167)	(-2.432)	(-2.437)	(-2.007)	(-2.013)	(-3.194)	(-3.200)
Q	0.081^{***}	0.082^{***}	0.100^{***}	0.100^{***}	0.078^{***}	0.079^{***}	0.074^{***}	0.074^{***}
	(4.261)	(4.300)	(5.040)	(5.059)	(4.656)	(4.674)	(4.940)	(4.951)
discount	-0.008^{***}	-0.008^{***}	-0.008^{***}	-0.008^{***}	-0.007^{***}	-0.007^{***}	-0.005^{***}	-0.005^{***}
	(-5.316)	(-5.285)	(-4.792)	(-4.769)	(-4.997)	(-4.974)	(-3.901)	(-3.882)
cash	-0.154	-0.160	-0.060	-0.065	0.095	0.091	0.149	0.146
	(-0.712)	(-0.743)	(-0.270)	(-0.292)	(0.500)	(0.477)	(0.880)	(0.860)
ROA	1.290^{*}	1.308^{*}	0.354	0.366	0.523	0.534	0.496	0.503
	(1.806)	(1.832)	(0.478)	(0.495)	(0.835)	(0.852)	(0.885)	(0.898)
$Firmage$	0.012^{**}	0.012^{**}	0.013^{***}	0.013^{***}	0.007^{*}	0.007	0.007^{*}	0.007^{*}
	(2.492)	(2.476)	(2.606)	(2.594)	(1.655)	(1.644)	(1.787)	(1.778)
lev	0.282	0.284	0.248	0.250	0.391^{**}	0.392^{**}	0.339^{**}	0.340^{**}
	(1.556)	(1.571)	(1.324)	(1.332)	(2.459)	(2.466)	(2.386)	(2.391)
em	-0.037	-0.036	0.074	0.075	-0.059	-0.059	-0.018	-0.018
	(-0.259)	(-0.254)	(0.502)	(0.507)	(-0.474)	(-0.468)	(-0.162)	(-0.157)
Constant	0.134	0.132	0.431	0.430	0.414	0.413	0.997^{**}	0.997^{**}
	(0.241)	(0.237)	(0.745)	(0.743)	(0.843)	(0.842)	(2.273)	(2.272)
year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	387	387	387	387	387	387	387	387
R^2	0.412	0.412	0.330	0.330	0.228	0.228	0.210	0.210
Adjusted R^2	0.357	0.357	0.268	0.268	0.156	0.156	0.136	0.136