

Web Appendixes for

“Wealth Transfer through Private Placements? Evidence from China”

1. Major PIPE regulatory features in China, U.S., Singapore, and India

Regulatory Features	China	U.S	Singapore	India
Pricing	Placement price cannot be more than 10% lower than benchmark price	No	Placement price cannot be more than 10% lower than benchmark price	Rules about minimum placement price
Resale restriction	Minimum lockup periods of 12 months for institutional investors, 36 months for controlling and affiliated shareholders	Restrictions according to Rule 144, unaffiliated investors can sell freely after one year	No	Lockup period of 1 year
Purchasers	No more than 10 investors	Unlimited number of accredited investors, no more than 35 non-accredited investors	Cannot be sold to directors or substantial shareholders	No more than 5 qualified institutional investors

2. Estimation of adjusted EM

In the first step, we estimate the expected total accruals similar to Jones (1991). Specifically, following Hazarika et al. (2012), in each quarter the following regression model is estimated with data from firms with the same two-digit China industry classification code (minimum 20 observations):

$$\frac{TA_{Q,i}}{Asset_{Q-1,i}} = \beta_1 \times \frac{1}{Asset_{Q-1,i}} + \beta_2 \times \frac{(\Delta REV_{Q,i} - \Delta REC_{Q,i})}{Asset_{Q-1,i}} + \beta_3 \times \frac{PPE_{Q,i}}{Asset_{Q-1,i}} + \beta_4 \times ROA_{Q,i} + \varepsilon_{Q,i},$$

where (in subscript of each variable, Q is for quarter, and i is for firm) $TA_{Q,i}$ = total accruals; $Asset_{Q-1,i}$ = total assets; $\Delta REV_{Q,i}$ = change in revenues from previous quarter; $\Delta REC_{Q,i}$ = change in receivables from previous quarter; $PPE_{Q,i}$ = gross property, plant, and equipment. The prediction error in the regression model above, denoted as EM, represents the level of discretionary accruals. In the second step, following Kothari et al. (2005), we subtract the average EM of

companies in the same industry in the same ROA quantile from each EM to get Adjusted EM. This Adjusted EM is our measure of earnings management.

3. Unrealized profit at issuance, ARLP, and AUPLE

We divide the sample into five approximately equal groups based on unrealized profit at issuance and report the mean unrealized profit at issuance, mean abnormal return during the lockup period (ARLP), and mean abnormal unrealized profit at lockup expiration (AUPLE) for the five groups in Table W1.

<Insert Table W1 about here>

Table W1 shows that the abnormal return during lockup period decreases with unrealized profit at issuance. Group 1 has the lowest average unrealized profit at issuance of 5.2%. At the end of lockup period, the average adjusted unrealized profit for group 1 increases to 24.6%, which corresponds to a significant improvement of 19.4%. The PIPE investors in group 1 should complain less. In contrast, the ARLP for group 5, the group with the highest unrealized profit at issuance, is more than 20% lower than that of group 1. However, because the unrealized profit at issuance for group 5 is more than 40% higher than that of group 1, the average adjusted unrealized profit at lockup expiration for group 5 is still significantly higher than that of group 1. Other groups follow similar patterns. As a result, adjusted unrealized profit at lockup expiration still increases with unrealized profit at issuance.

4. Mutual fund holding sample collection

We collect shareholding by actively managed mutual funds (including equity funds and balanced funds) from the CSMAR and Resset databases and match it with the PIPE issuers. Our mutual fund trading sample includes the change in holdings of PIPE issuer stocks by both PIPE participating mutual funds and non-participating mutual funds. The data frequency for fund

shareholding by each mutual fund is semi-annual because mutual funds in China are only required to disclose complete shareholding information every six months¹. The stock trading data is collected from CSMAR. Financial data for mutual funds and the factor returns data based on Carhart (1997)'s four factor model are collected from Rasset database.

5. Estimation of alpha and CAR

For each reported change in mutual fund shareholding, our trading profitability measure is Alpha,:

$$R_i - R_f = \alpha + \beta_1(R_{Mkt} - R_f) + \beta_2SMB + \beta_3HML + \beta_4Mom + \varepsilon \quad (1)$$

In this model, R_i is the daily return of stock i , R_f is the daily riskfree return, R_{Mkt} is the value weighted average return of the A share market in China. SMB is the size factor, HML is the growth factor, Mom is the momentum factor. The estimate of Alpha is α , the average daily risk adjusted return. Based on Mitchell and Stafford (2000) and Jagolinzer et al. (2011), using daily risk adjusted return can avoid the bias in statistical tests from using long run return. For each shareholding change, we require a sample of at least 30 observations to estimate model (1).

We use the CAR around earnings announcement to measure earnings surprise. Specifically, we estimate the β 's using Carhart (1997)'s the four-factor model with daily return in the 6-month period from 7 months before to one month before earnings announcement date, then we use equation (2) below to estimate the abnormal return (AR) in each of the 3 trading days (-1, 1) around the earnings announcement date:

$$AR_i = (R_i - R_f) - (\hat{\beta}_1(R_{Mkt} - R_f) + \hat{\beta}_2SMB + \hat{\beta}_3HML + \hat{\beta}_4Mom) \quad (2)$$

In this equation, $\hat{\beta}$ s are the estimated β s. When we estimate model (2), we also require at least 30 observations. The CAR is estimated as $CAR = \sum_{d=-1}^1 AR_d$. Usually, the listed companies have two

¹ In quarterly reports mutual funds in China only disclose top 10 holdings.

earnings announcements in the 6 months after each mutual fund shareholding report, so we use the average of the CARs around the two earnings announcements.

6. Details of robustness tests

6.1. Investment skills

There is a possible caveat for the informed trading results: the PIPE participating mutual funds may be managed by stronger companies with better investment skills. It is possible that PIPE issuing companies are more likely to invite prestigious fund managers to participate in PIPEs. In this case the information advantage the funds have may come from their own research, not from the PIPE issuers. We use PSM matching to control for this possibility..

We match the PIPE issuers with non-PIPE listed firms that the PIPE participating mutual funds also hold, then compare the information content of fund shareholding change for the two groups. If the funds do get information advantage by PIPE participation, then we should see significant differences between the two groups. To make sure that the matching non-PIPE firms are comparable to the PIPE issuer firms, for each PIPE issuing firm and each participating mutual fund, we find non-PIPE firms with the same 2-digit industry code from those held by the fund. Then we use propensity score matching (PSM) to control for firm characteristics that may affect Alpha and CAR so that we can focus on the effects of PIPE participation on information contents. Specifically, we use the logit model below to estimate the propensity score:

$$\text{Prob(Private Placement=1)} = f(\text{Asset, BM, ROA, IntangibleR, BlockShrP, Top10ShrP, SOE, Mom, Year Effect, Industry Effect}) \quad (3)$$

The non-PIPE firm with the propensity score that is closest to the PIPE firm is selected as the matching firm². Then we estimate regression model (1) using data about changes in shareholding

² The propensity score regression results are available upon request. In summary, firm size, growth rate, information asymmetry, and stock performance in the previous year are positively related to the probability of doing PIPE while

by PIPE participating mutual funds for both the PIPE firms and non-PIPE matching firms. Because the non-PIPE matching firm for each PIPE issuing firm is held by the same mutual fund, we use the firm characteristic variables in model (3) as the control variables instead. The regression results are reported in Table W2.

<Insert Table W2 about here>

In columns (1), (2) and (3) of Table W2 the dependent variable is Alpha from Carhart four-factor model. Column (1) shows that the coefficient of *PIPE*ChgOwn* is positive and significant when the whole PSM sample is used. When the observations with low profit are used in column (2), the coefficient of *PIPE*ChgOwn* is positive and significant, suggesting that the trading of PIPE participating mutual funds is informed for PIPE stocks with lower unrealized profit at lockup expiration. In column (3), observations with high profit are used to estimate the regression and the coefficient of *PIPE*ChgOwn* become insignificant. The coefficients of *ChgOwn* in the three columns are either insignificant or negative, implying that the trading of PIPE participating funds is not informed for non-PIPE stocks.

In columns (4), (5) and (6) of Table W2 the dependent variable is CAR around earnings announcement dates. The results are similar to those based on Alpha. The coefficient of *PIPE*ChgOwn* is positive and significant only for observations with low unrealized profit at lockup expiration and the coefficients of *ChgOwn* are insignificant, suggesting that PIPE participating mutual funds have inside information about earnings of low profit PIPE firms but not for non-PIPE firms. These results are consistent with the argument that PIPE participating funds only have information advantage for PIPE stocks.

6.2. Geographic distance and personal connectioin

profitability is negatively related to the probability of doing PIPE. The matching non-PIPE firms are similar to PIPE firms in most of the aspects above.

The shorter is the geographic distance between the PIPE company and the participating mutual funds, the easier it is for the funds to collect information about the company and earn high investment return (Baik et al., 2010). To control for this factor, we collect data for a proxy of geographic distance: SameProv, a dummy that equals one if the fund manager and PIPE issuer locate in the same province, zero otherwise. Another factor we want to control for is personal connection. The managers of PIPE participating mutual funds may be more likely to have personal connections with executives in the PIPE issuing firms. It can be argued that the information advantage that these fund managers have may be caused by the personal connection itself (Cohen et al., 2008), not PIPEs. So we also collect data for a proxy of personal connection: SameEdu, a dummy that equals one if fund manager and the top executive of PIPE issuing firm are alumni, zero otherwise. Then we construct a regression model that includes the control variables in regression model (3) and following explanatory variables: ChgOwn*PIPE*SameProv, ChgOwn*PIPE*(1-SameProv), ChgOwn*(1-PIPE)*SameProv, ChgOwn, PIPE*SameProv, PIPE*(1-SameProv), and (1-PIPE)*SameProv. The dependent variable is *info* (Alpha or CAR). The results³ show that the coefficients of ChgOwn*PIPE*SameProv are positive and significant for the whole sample and the low profit sub-sample whether the dependent variable is Alpha or CAR, suggesting that locating in the same province does increase the information content of trading by PIPE participating mutual funds. In contrast, the coefficients of ChgOwn*(1-PIPE)*SameProv are mostly insignificant, implying that locating in the same province does not increase the information content of trading by non-participating mutual funds. We conduct a similar procedure using SameEdu and find that alumni relationship only increases the information content for trading by PIPE participating funds, not for trading by non-participating funds⁴. These

³ The results are available upon request.

⁴ The results are available upon request.

results are inconsistent with the argument that the information advantage that PIPE participating funds have is driven by personal connection itself. Instead, it seems our results are mostly driven by PIPEs with low unrealized profit for investors at lockup expiration.

6.3. Prior informatioin

We also explore a possible alternative explanation to these results. For those PIPEs with low placement discount and low unrealized profit for investors, it is likely that only those mutual funds already equipped with information advantage and having a more optimistic view about the prospect of PIPE issuers are willing to participate. Because these mutual funds already have the information advantage, their trading after PIPE lockup expiration will be informed. For PIPEs with high placement discount and high unrealized profit, uninformed mutual funds will also participate. So we do not find information content in shareholding change after PIPE. To test this alternative explanation, we collect the changes in shareholdings by the PIPE participating mutual funds in the period of two years before PIPE to one year before PIPE and use regression (3) to examine the information content of these changes. We find that shareholding change by mutual funds that later participate in low discount PIPEs do not predict subsequent Alpha or CAR⁵. This result does not support the alternative explanation. Instead, it is consistent with the idea that mutual funds gain the information advantage only after they participate in PIPEs and provides more support to the collusion hypothesis.

⁵ The results are available upon request.

References

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Table W1. Groups by Unrealized profit at Issuance

We divide our PIPE sample into 5 approximately equal groups based on unrealized profit at issuance and report the mean unrealized profit at issuance, mean abnormal return during the lockup period (ARLP), and mean abnormal unrealized profit at lockup expiration (AUPLE) for the 5 groups in this table. *, **, and *** represents significance at 10%, 5%, and 1% levels respectively.

Groups	Unrealized Profit at Issuance	ARLP	AUPLE
1 (Lowest Unrealized Profit at Issuance)	0.052*** (10.099)	0.033 (0.641)	0.246** (2.016)
2	0.131*** (68.492)	0.000 (0.005)	0.233*** (3.726)
3	0.193*** (75.051)	-0.064 (-1.518)	0.378*** (4.385)
4	0.279*** (80.937)	-0.069 (-1.574)	0.406*** (6.540)
5 (Highest Unrealized Profit at Issuance)	0.481*** (29.611)	-0.169*** (-3.730)	1.527*** (10.858)
Low Profit - High Profit P value	0.000***	0.004***	0.000***

Table W2. The Information Content of Mutual Fund Shareholding Change: PSM Matching Approach

This table reports regressions using Alpha and CAR as dependent variables for a PSM sample that includes observations for PIPE participating mutual funds' trading of PIPE issuing firms and non-PIPE firms matched to PIPE firms using propensity score matching. In column (1) and column (4) all observations in the PSM sample are used. In Low Profit columns only observations with adjusted unrealized profit at lockup expiration below or equal to median are used. In High Profit columns only observations with adjusted unrealized profit at lockup expiration above median are used. Variable definitions are listed in Appendix B. The standard deviations of the coefficient estimates are cluster adjusted at fund level. *, **, and *** represents significance at 10%, 5%, and 1% levels respectively.

	Alpha			CAR		
	All (1)	Low Profit (2)	High Profit (3)	All (4)	Low Profit (5)	High Profit (6)
ChgOwn*	1.104***	2.070**	0.462	5.851	22.309*	-22.143
PIPE	(2.720)	(2.131)	(0.484)	(0.400)	(1.679)	(-1.505)
ChgOwn	-0.932	-1.501*	-0.110	2.915	5.234	9.889
	(-1.112)	(-1.854)	(-0.145)	(0.348)	(0.477)	(0.915)
PIPE	-0.026***	-0.054***	-0.011	-0.287	-0.690***	-0.472***
	(-3.398)	(-5.238)	(-1.346)	(-1.582)	(-4.989)	(-3.622)
Asset	0.006	0.005	0.001	0.159***	0.212***	0.161***
	(1.478)	(1.039)	(0.260)	(2.668)	(3.135)	(2.668)
BM	0.095***	0.168***	0.069**	0.642	2.186***	-0.037
	(4.353)	(6.201)	(2.515)	(1.013)	(4.877)	(-0.089)
ROA	0.004***	0.005***	0.004***	-0.001	-0.001	-0.019
	(6.319)	(5.583)	(4.587)	(-0.054)	(-0.048)	(-1.414)
IntangibleR	0.610**	1.012***	0.209***	2.712*	2.843***	1.681*
	(2.078)	(11.042)	(2.872)	(1.653)	(3.151)	(1.782)
BlockShrP	0.020	-0.013	0.091**	0.793	0.244	1.583**
	(0.501)	(-0.279)	(2.381)	(0.698)	(0.381)	(2.444)
Top10ShrP	0.046	0.022	0.044	0.612	0.124	3.333***
	(1.032)	(0.469)	(1.062)	(0.737)	(0.165)	(5.034)
SOE	-0.040**	-0.025**	-0.036***	-0.553*	-1.045***	0.030
	(-2.214)	(-2.466)	(-4.040)	(-1.932)	(-6.446)	(0.220)
Mom	-0.056***	-0.066***	-0.060***	-0.192	-0.677***	0.267**
	(-2.625)	(-6.630)	(-5.503)	(-0.831)	(-6.181)	(2.097)
(Intercept)	-0.025	-0.080	-0.176*	-5.666***	-3.196**	-9.192***
	(-0.218)	(-0.743)	(-1.717)	(-4.179)	(-2.225)	(-6.304)
Obs	7113	3655	3429	7129	3670	3433
Adj R_sqr	0.086	0.108	0.089	0.05	0.079	0.078
F Statisc	8.796	7.535	6.782	5.339	5.642	6.037