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Institutional Ownership and Private Equity Placements:

Evidence from Chinese Listed Firms[*]

By HE QING, LI DONGXU, LU LIPING and TERENCE TAI LEUNG CHONG [*]

January 2017

Abstract

This paper examines the impact of institutional ownership on the performance of private equity placements (PEPs) in Chinese listed firms. We found that the presence of institutional investors can alleviate the information asymmetries between listed firms and the market. The participation of institutional investors in PEPs is followed by an improvement of firms' long-term performances. Moreover, independent institutional investors can better predict the long-term performance of PEPs. Finally, the paper also found that institutional investors are more effective in monitoring corporate insiders in non-state owned firms than in state-owned firms.

JEL Classification: G23, G30, G32, G38, K22

Keywords: Institutional ownership; Private equity placements; Information asymmetry

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1. Introduction

Institutional shareholders are pivotalplayers in the capital market. According to Hanouna et al. (2015), the value of assets managedby U.S. mutual funds management companies increased from 4.4 to 12.7 trillion USD during 2000-2014. The number of institutional investors in emerging markets also rapidly expanded. During 2008-2012, thevalue of total assets under the management of private equity firms and hedge fundsdoubled, and thatof mutual funds, insurance companies, pension funds and commercial banks increased by 50%in 25 emerging economies (i.e. data from *International Organization of Securities Commissions*).

A mass of solid evidence suggests that institutional investors conduct progressively stronger external supervision as their ownership increases (BlackandCoffee, 1994). Marciukaityte et al. (2005) providedfurther evidence that an increase ininstitutional ownership helpedreduce the information asymmetries between the corporate board and the outside investors. However, the role of institutional investors becomes more complicated in emerging markets with poorly developed financial and legal systems. As corporate ownership is highly concentrated, controlling shareholders may extract private benefits at the expense of minority shareholders (Allen et al., 2005; He and Rui, 2016). Institutional investors may colludein controlling shareholders to expropriate corporate resources rather than assume an oversight function (Pound, 1988), especially in emerging economies where capital markets are still underdeveloped.

In this paper, we provide new evidence on the role of institutional investors in Chinain private equity placements (PEPs),which placements are a channelthrough which listed firms can raise external funds (Carey et al., 1993). Private equity placements (PEPs) are an important type of seasoned equity offerings (SEOs). Unlike public offerings, PEPs typically involve a small number of investors with a strong capital base. In this way,the costof raising external capital—which necessitates only a low communication cost between the firm and investors—may be reduced. Meanwhile, issuing new equity to large shareholdersmay also help tie the interests of corporate insiders to minority shareholders. PEPs have gradually become the dominant financing tool for China's listed firmssince the issuance in May 2006 of *"The Administration of the Issuance of Securities by Listed Companies"*by the China Securities Regulatory Commission (CSRC). The completed PEPs raised 224.66 billion RMBin 2013, accounting for 80.16% of the total funds raised in that year.This percentagewas much higher than that offered throughother external financing channels such as public offerings. Thus, analysis of the participation of institutional investors in PEPs will shed light on their roles in China's capital markets.

China' unique settingis well-suited to examining the role of institutional investors. First, the number of institutional investors in the country has grown rapidly in recent yearsin tandem with the fast economic growth in the country. The number of mutual funds increased from 50 in 2001 to2,048in Sep 2014, and the value of net assets under the management of mutual funds increased by nearly 30 times in the same period. Second, the adoption by Chinese firms of best practices in corporate governance has facilitated more efficient oversight of the conduct of managers and controlling shareholders. Investigating the case of China will help us better understand the role of institutional investors in similar emerging countries (He et al., 2016). Finally, since the implementation ofmarket-oriented reform in the financial

sector in 1994[1], more and more private and foreign institutional investors obtained authorization as licensed agencies to undertake securities investing activities.A large number of non-stateinstitutional investors has emerged and played an increasingly important role in China's capital markets. The diversification of institutional investors provides us with a valuable setting to investigate the impact of shareholders' identities on the performance of listed firms.

Using data on PEPsfrom the Shanghai and Shenzhen Stock Exchanges from 2005 to 2013, we found that uninformed investors reacted positively to the announcement of PEPs. Ownership by institutional investorswas negatively associated with the market reaction but positively associated with *ex post* long-term operational performance. The effect on long-term performance was more pronounced when qualified foreign institutional investors (QFIIs) were involved in the PEPs.It suggests that QFIIshave a positive effect in emerging capital markets. In addition, we found that institutional investors were more effective in monitoring insiders in non-state owned firms than thosein state-owned firms.

Our study contributes to the literature in threeaspects. First, using data onPEPs in China, our study fills the gap in the existing literature on the role of institutional investors by providing a comprehensive investigation into the role of different types of institutional investors in emerging markets. Our results suggest thatinstitutional investors can reduce information asymmetry and better predict future stock pricesthan non-institutional investorsin an emerging marketwith imperfect financial and legal systems. Second, our study helpsunderstand the relationship betweengovernmentand institutional investors. We found that institutional investors play a more active role on monitoring private firms than state-owned entities.Finally, our research provides new insights on the long-term performance of PEPs. The existing literature documents a poor long-term performance of PEPs (Loughran and Ritter, 1995; Kang et al., 1999; Jeanneret, 2005). We add to this strand of literature by showing that institutional investors have a positive effect on a firm's long-term performance *ex post* thePEPs.

The rest of this paper is organized into sections. Section 2 describes the institutional background in China and develops hypotheses. Section 3 presents the data and empirical methodology. Section 4 reports estimation results. Section 5 provides a robustness check of our findings. Section 6 concludes the paper.

2. Institutional background and hypothesis development
2.1 Institutional background

Institutional investors are financial institutions that have a strong capital base, with a stated purpose of creating capital gains though investment activities. China has, since 2003, allowed qualified foreign institutional investors (QFIIs) to engage in investment activities in domestic stocks market. The Chinese financial authorities issued the "*Guidance for QFIIs Securities Investment*" in 2003, which allowedQFIIs to invest in certain stocks and bonds listed in the *Shanghai* and *Shenzhen Stock Exchanges*. There are eight types of institutional investors in the Chinese capital

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[1] In March 2015, Xiaochuan Zhou, the Governor of the People's Bank of China, stated that "The continued expansion of Qualified Foreign Institutional Investors (QFIIs) is an important part of China's current financial reform. China will expand investment quotas for the Qualified Domestic Institutional Investors (QDIIs) and QFIIs" Relevant information can be found on the website of Xinhua News Agency, titled "China to expand quotas of QDIIs, QFIIs, Xiaochuan Zhou," posted on Nov 27th, 2013 (http://en.xinhua08.com/a/20131127/1278431.shtml).

market: QFIIs, mutual funds, social security funds, investment banks, insurance companies, trust funds, supplementary pension funds and financial affiliations.

The number of institutional investors in China has grown immensely during the past decade. In particular, performance of mutual funds hasquickly recovered from the shocks it suffered as a result of the global financial crisis.[2] Figure 1 shows that the number of mutual fundsincreased more than 22 times from 2004 to Sep 2014. Similarly, we can see an upward trend in the total assets under the management of mutual funds. Despite a setback during the global financial crisis, the total assets under the management of mutual funds remainedabout 1 trillion RMB, and thisnumbercontinued to grow after the crisis.

The PEP market has expanded rapidly in China. According to the "*Administration of the Issuance of Securities by Listed Firms*" published by the China Securities Regulatory Commission (CSRC),sound profitability is not a condition for prospective issuing firms to obtain government approval. In addition, listed firmsare at liberty to raise funds from their controlling shareholdersor institutional investors. Moreover, PEPs could be a suitable channel for controlling shareholders to raise funds to increase a firm's asset quality and thereby improve its market prospects, i.e. In addition, the more lax disclosure requirements applicable to PEPsfacilitate an effective flow of funds between investors and fund-raisers. Consequently, PEPs have become a dominant channelused by listed firms in Chinato raise capital. As of Nov 22[nd]2014, there had been 1,546 cases of successful PEPsin China, resulting in the issue of capital to the value of 2,688 billion RMB.

Given the importance of institutional investors in PEPs, there has been a significant increase in institutional ownership of PEPs involving listed firms. Figure 2 shows that institutional ownership increased from 4.8% in 2005 to 38% in 2013. This increasewasconnected with a rising number ofPEPsin the wake of the global financial crisis. Listed firms demanded substantial fundsto recover from the global financial crisis, andthe participation of institutional investors in PEPshelped raise sufficient external finance for them.

(Insert Figures 1 and 2 Here)

2.2 Hypothesis development

First, we examined the effect of institutional ownership on the announcement returns of PEPs. An extensive strand of literature has documented a positive market reaction to the announcement of PEPs, e.g., Wruck (1989) reported a 4.4% average abnormal return when a PEP was announced in the US. Chemmanur and Jiao (2011) found that higher pre-offer net buying by institutional investors wasassociated with lower discount ratesin seasoned equity offerings (including PEPs) as institutional investors hadfacilitatedthe circulation ofkey information on such offerings.

According to the regulationpromulgatedby CSRC, institutional investors and controlling shareholders are major participants in PEPs. When institutional investors

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[2] According to survey data produced by the International Organization of Securities Commissions (IOSCO) in 2012, the compounded annual growth rate of the total assets under management reached 25.4% during 2008-2010, with 16,633 mutual fund products in total. The quick recovery coincided with a rapid economic recovery in the capital market. It indicates that the high inflow of mutual funds boosted investor confidence and probably contributed to economic growth.

subscribe for large shareholdings (or all) of new issues, they are as well-informed as a firm's controlling shareholders regarding the firm's performance and profitability. Furthermore, the advantage enjoyed by institutional investors in terms ofaccess to proprietary knowledge manifests itself not only during the PEP announcement period, but also in the pre-offer period wherecertain inside information may be conveyedto these institutional investors. If institutional investors subscribe over 5% of the issued shares—without going through PEPs—their transactions require to be disclosed in accordance with the relevant regulations.[3]Institutional investors mayintentionally or unintentionally reveal their proprietary informationto uninformed investors on the value of new PEPs. Thus, the conduct of institutional investors before PEPs can alleviate the information asymmetry between the firm and uninformed investors, which may undermine the signaling effect of PEPs. We proposedour first hypothesis as follows:

H1: The announcement return is negatively related to institutional ownership.

Existing studies show that PEPsdo not produce significant excess returns in the long-term ex post. However, Chemmanur et al. (2009) found that institutional investorscoulddistinguish SEOs with better long-run stock returns and alsothat their pre-offer net buying was positively associated with a lower discount. Hence, institutional investors were more likely to select PEPs with attractive investment returnsthereby achieving a better long-term performance. Given the high opportunity cost of buying shares, dedicated institutional investors closely monitor the operationsof the listed firms they invest in. Furthermore, the superior knowledge of institutional investors on stock-picking can help them choose PEPs with betterinvestment returns. Thus, we proposed our second hypothesis as follows:

H2: The long-term performance of firms increases with institutional ownership.

Bushee (1998) analysedthe behaviors of institutional investors and classified them into three categories—transient institutional investors, grey institutional investors and dedicated institutional investors. Chen et al. (2007) argued that only dedicated institutional investors, i.e., independent institutions holding shares over a long period of time, have strong incentives to monitor the firm. Transient institutional investors tended to reduce their holdings in underperforming listed firms. (Collins et al., 2003). Following Bushee (1998), we classified institutional investors in China into independent and grey institutional investors according to thepresence of potential business ties with PEPfirms. Independent financial institutions, such as QFIIs, mutual funds and social security funds, are heavily regulated and less likely to have business ties with the listed firms they invest in. In contrast, grey institutional investors, such as insurance companies or financial affiliates of some large firms, may have potential business ties with the listed firm they invest in. Grey institutions may collude with the controlling shareholders in tunneling activities, which may end up in an underperformance ex post. Although parent firmsand related parties of listed firmsmay also be classified as institutional investors, we restricted our analysis to institutional investors in the financial sector. Thus, we proposed our third hypothesis as follows:

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[3]See Articles 13, 14 and 16 in the "Decision on Amending Article 63 of the 'Administration Measures on Takeover of Listed Companies'" (CSRC Decree No. 56). When the equities of an investor and its concerted actor reach 5% of a listed company's total issued shares, they are required to file a report with the CSRC and make an announcement about their further transactions. The requirements vary according to different types of transactions.

H3: The presence of independent financialinstitutional investors is associated with a better performance of the listed firms they invest in.

Because of an absence of supervision by private shareholders, the management of state-owned enterprises (SOEs) is beset by the risk of executives acting in their own self-interest. The improvement in corporate governance practicesfostered by privatization is well documented in the existing literature. For example, Qian (1996) showed that SOEs are exposed to substantialpolicyburdens and high agency costs as managers lack accountability. Qiang (2003) showed thatthe large percentage ofSOE shares held by the state government in Chinaexplainedtheir relatively poor performance.[4] Wang (2010) showed that controlling shareholders played a more important role than corporate governance practices in terms of the sensitivity of executive turnover rates to firm performance, which suggests a limited role for corporate governance.However, institutional investors may also help alleviate information asymmetry and further reduce the likelihood of expropriation of minority shareholders' interests by the controlling shareholders. Better corporate governancefosters conditions in which such changed patterns of behavior emerge thus enhancing post-performance of PEPs. Therefore, we propose our fourth hypothesis as follows:

H4: Improvement in corporate governance increases the sensitivity ofPEPs'performancetoinstitutional ownership in private firms, butnot in SOEs.

3. Data and Methodology
3.1 Data

Our sample covered all listed firms in the Shanghai and Shenzhen Stock Exchangesthat raised capital byPEPs from 2005 to 2013. Observations of firms in the finance industry wereexcluded from our sample due to their high sensitivity to government regulations.We disregardedfirm-year observations ifsuchhada special treatment status (known as "ST stock")[5]. We finally obtained 972 sample firms that conducted PEPs during 2005-2013. The information on PEPs and institutional shareholdings wasretrieved from the WIND database, andthe data on relevant firm characteristics were retrieved from the China Stock Market and Accounting Research (CSMAR) database. We drew onseasonal data on institutional shareholdingsthroughout the empirical testingprocess in order to capturemore precisely changes in institutional ownership.

3.2 Research design

We estimated an OLS model of firm performance following Chemmanur et al. (2009).We examined the role of institutional investors in two ways: original institutional ownership before PEPannouncements (*Institutional holding*),and ~~a dummy variable representing the~~participation by institutional investors in PEPs followingPEP announcements (*Participation*). We also included an interaction term of

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4 In August 2013, a listed SOE,the BOE Technology Group (000725.SZ), issued the largest PEP at the time on the A-share market, raising 46 billion RMB. This was BOE's fourth round of PEPs since 2006. However, the company's stock returns were quite poor, with an annual return of less than 10%.

5 In both the Shanghai and Shenzhen Stock Exchanges, stock identified with an "ST" or "*ST" label means a firm that has suffered losses for at least two consecutive years or a stock that is commencing delisting procedures.

Institutional holding and *Participation* to examine the incremental impact of original institutional investors choosing to participate in PEPs.

$$
\begin{aligned}
\mathit{Firm\ Performance} \\
&= \mathit{Institutional\ holding}_{i,t} + \mathit{Participation}_{i,t} \\
&\quad + \mathit{Institutional\ holding}_{i,t} \times \mathit{Participation}_{i,t} + \mathit{ROA}_{i,t-1} + \mathit{Size}_{i,t-1} \\
&\quad + \mathit{Leverage}_{i,t-1} + \mathit{Collect}_{i,t} + \mathit{Prio}r\_90AR_{i,t} + \mathit{Discount}_{i,t} + \mathit{Prior}\_90Risk \\
&\quad + SOE + Large \ \Box\mathit{t} \ \ + Board + Independence + Duality + \varepsilon_{i,t}
\end{aligned}
$$

*Firm Performance*was measured as the short-term market reaction, long-term excess stock return, and long-term operational performance. The short-term market reaction was measured by the cumulative abnormal return over the window of [-3,+3] around the announcement date, i.e.,CAR[-3,+3].[6] The long-term excess stock return was measured by the average abnormal returnwithin 360 trading days followingPEP announcements, i.e.,AAR[1,360]. The long-term operational performance was measured by one-year and three-year-average *ROA*following the PEPs. Definitions of the key variables are listed in Appendix 1, and all variables are winsorized at the 1stand 99th percentiles.

*ROA*wassubsumedas a control variable to measure profitability. In addition, *Firm Size* and *Leverage*were controlled for the financial characteristics of the listed firms. *Collect* wasthe logarithm of the capital raised by the PEPs.*Discount*was the discount rate that the offer-taker accepted for the PEPs. To control for stock anomalies that wereindependent of PEPs, we included the average abnormal return for the 90 days before the event window, and to further control for volatility we included the standard deviation for the same period. The abnormal return was computed in accordance withamarket model. In terms of corporate governance, we controlledstate ownership of the firm (*SOE*), ownership of the largest shareholder (*Largest*), the logarithm of the number of board members (*Board*), the proportion of independent directors (*Independence*),and*Duality*indicating whether the CEO was also the chairman of the board.

3.3 Summary statistics

Table 1 summarizes the frequency of PEPsin China from 2005 to 2013. Since the implementation of the "*Guidance for Share Issuance*" in 2006,[7]PEPs have been a dominant type of SEOs favored by listed firms in the country. The average institutional ownership of such PEPs rose from 6.6% in 2006 to 38.0% in 2013. Furthermore, during the PEP seasons, the numbers of institutional investors increasing their ownership of PEPs are slightly greater than those decreasing such ownership. Table 2 shows the industry distribution ofPEPs. The three industries with the highest frequencies of PEPs are manufacturing (626), wholesale and retail (54), and energy (41).

(Insert Tables 1 and 2 Here)

Before investigating the role of institutional investors in buyingPEPs, we attempted to replicate the market reactions to the announcement of PEPs. We conducted an

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[6] The results are qualitatively similar if we instead use *CAR[-1, +1]*.

[7] Before May 2006, only two PEPs took place: Dazhong Transportation Group (600611.SH) and J.S. Corrugating Machinery (000821.SZ).

event study to calculate the cumulative abnormal returns (CARs) in the period surrounding the announcements of PEPs, and to examine whether the CARS weresignificantly different from zero. Consistent with the existing literature that the market reacts positively to private equity issuance (Wruck, 1989; Lu et al., 2011; Fonseka et al., 2014), the statistics in Table 3 show that CARs were positive andstatistically significant around the announcement dates.We examined how the market reaction varied in accordance with the shareholding of institutional investors before PEPs and their subsequent holding following participation in the PEPs.

(Insert Table 3 Here)

Table 4 shows summary statistics for the key variables in the model. On the one hand, the short-term market reaction to PEPswas more pronounced than the long-term excess stock returns. The average of CAR[-3,+3]was 0.171%, while the average abnormal return for the 360 trading days after the event date was0.005% (i.e. CAR[1,360] about 0.018).On the other hand, institutional investors accounted for19.3% of the shareholdings, indicating that theywere playing an essential role in China.

(Insert Table 4 Here)

3.4 Graphic comparison

To illustrate the impact of thepresence of institutional investors in PEPs, weproduced a graphic comparison of market reactions to PEP announcements. We defined a firm as one where 5% of its total investors were institutional investors (Group 1);otherwise the firm was deemed to have nopresence as aninstitutional investor or to be an institutional investor that was not a corporate insider (Group 0). Figure 3 illustrates the CARsfor60 trading daysaroundPEP announcements, and Figure 4 illustrates the relative trading volume for 120 trading days aroundPEP announcements. The abnormal return was computed from a market model, and the relative trading volume was calculated with reference to the trading volume scaled by the average trading volume during the 360 trading days before the PEP announcements. Both figures show that a significant presence of institutional investors in PEPs resulted in a more stable market reaction than those without a significant presence of such investors.

(Insert Figures 3 and 4 Here)

4. Empirical results

4.1 Univariate test

To compare the effects of institutional ownership across firms possessing different performance profiles, we dividedour sampleinto two groups; market reactions and *ROA*(Table 5). When the total institutional ownership was sorted byCAR[-3,+3], the total institutional ownership in the bottom half of the sample (32.1%) was higher than that in the top half of the sample (28.5%) and statistically significant at the 5% level. However, we did not find any significant difference in the institutional ownership between groups with high and those with low levels of long-term excess stock returns(unreported but available upon request). In addition,following PEPs, a high institutional ownership was associated with better accounting performance ex post, in terms of both 1-year and 3-year-average *ROA* (significant at a 1% level). In particular, in the bottom half of the 3-year-average *ROA*ex post, the shareholding owned by mutual funds accounted for only 4.2% of the total, whereas it was10.9% for the top

half of the sample. These findings support Cuthbertson et al. (2008) on the superior stock-picking abilities of mutual funds.

(Insert Table 5 Here)

4.2 The impact of institutional ownership on market reactions

Model (1) of Table 6 shows that a high institutional holding in the season beforePEP announcements was associated with a low market reaction and was statistically significant at the 1% level. In this regard, institutional investors may have conveyedcertaininside information to uninformed investorsbefore PEP announcements and thismay have led to a low market reaction. In addition, the participation of institutional investors in PEPs was also positively associated with a high CAR, which suggests that institutional investors,taking advantage of their proprietary information and investment expertise, may have provided certification for PEPs,thereby stimulating a high market reaction. The coefficient of the interaction term of institutional holding and participationwas significantly positive in Model (2), which showed a high market reaction where the institutional investorschoseto participate in the PEPs, therebyincreasing their ownership of the firm. However, it seems that the participation of institutional investors was negatively associated with the market reaction where the ex-ante institutional holding was at a relatively low level.It suggests a possible collusion between institutional investors and controlling shareholders. We confirmed the above results in Models (4) and (5) by adding a more comprehensive set of control variables.

(Insert Table 6 Here)

Institutional investors may also monitor the controlling shareholder in PEPs. To test this hypothesis, we analyzed the relationship between institutional ownership and the discount rate ofPEPs.Institutional investors can reduce the discount rate, whichoften suffers from manipulation by the controlling shareholder (Hertzel and Smith, 1993). Table 7 shows that a higher institutional ownership in the season prior to the PEPs announcement, significantly reduces the discount rate. However, when the controlling shareholder involved in the PEPs, the sensitivity between the institutional ownership and the discount rate is weakened to a large extent. Model(4)of Table 7 shows that the controlling shareholder's incentive to increase the discount rate becomes strongerwhere the firm has a high ROA. These results show that institutional investors have limited power to monitor the controlling shareholder. Hence, a lower market reaction to PEPs announcement is more likely to be a result of attenuated information asymmetrydue to the presence of institutional ownership.

(Insert Table 7 Here)

4.3 The impact of institutional ownership on operational performance

Table 8 shows a significantly positive relationship between institutional ownership and operational performance in terms of the *ROA*. This might be due tothe superior stock-picking ability of institutional investors, whosynthesize information through their financial analytical skills and select stocks with sound fundamentals and growth prospects. An alternative explanation is that institutional investors participated actively in corporate governance thus improving operational performance (1-year and 3-year-average *ROA*). Model(3)shows the impact of institutional ownership on corporate governance after PEPs. Where institutional investors increasedtheir ownership,corporate governance practicesseemed to improve as manifested by the

enhanced capability of such practices to monitorthe activities of the controlling shareholder. Model (3) also shows that increase in institutional ownership in the season of PEPscouldmoderate the magnitude ofsalaries earnedby management, which suggests an effective monitoring role byinstitutional investors.

(Insert Table 8 Here)

4.4 Different types of firms

Wang (2010)showed thatthe controlling shareholders of SOEs dominatedfirms'operations in China, which indicates that institutional investors may be more passive in monitoring SOEs than private firms. In this study, weexamined whether the impact of institutional ownership on firm performancediffered between SOEs and private firms.

Table 9 shows that *ex ante*institutional ownership had a smaller impact onthe operational performance of SOEs than private firms. Moreover, an increase in institutional ownership in the season of PEPsundermined the marginal effect of institutional holdings on the operational performance for SOEs—but not for private firms. It suggests thatinstitutional investors had limited monitoring effect on SOEs. For example, a severe political intervention in SOEs may have made itdifficult for institutional investors to monitor the firm ex post. Increasinginstitutional ownership reduced the information asymmetry between the listed firm and the market, though this relationship was not significant for SOEs.

(Insert Table 9 Here)

4.5 Different types of institutions

Institutions that hold shares innon-financial listed firms, such as the parent company of a financial institution or related parties with business ties, are also institutional investors. These non-financial institutions may have more proprietary information than external financial institutions. We examined the different impacts of financial and non-financial institutional investors on firm performance.

Table 10 shows that*ex ante*ownership by financial institutional investors had a significant negative relationship with information asymmetries. The positive coefficient of the interaction term indicated that incremental ownership by financial institutional investors was associated with higher expected stock returns in the future. For listed firms with the presence of non-financial institutional investors, the coefficient of the interaction termwas not significant, and the participation of non-financial institutional investors in PEPsincurred significantly negative market reactions. In this regard, the market may have perceived non-financial institutional investors as having greatercapacity for expropriation.Besides, only the ex-ante presence of financial institutions—as opposed to non-financial institutions—was associated with higher operational performance.

(Insert Table 10 Here)

Following the classification of institutional investors by Bushee (1998), institutional investors in China can be categorized as independent institutions (mutual funds, social security funds and QFIIs) or grey institutions (investment banks, insurance companies, supplementary pension funds, trust funds and financial affiliates). Grey institutional investors might share potential business ties with a listed

firm, which creates the possibility of their gaining access to inside information. In fact, grey institutional investors can hardly prevent the controlling shareholder from expropriation. On the other hand, independent institutional investors do not have such business ties, and relymore on their knowledge and analytical skills in stock-picking. Table 11shows that the alleviation of information asymmetry comes mainly from participation by grey institutional investors. In contrast, independent institutions have strongerpredictivepower for long-term operational performance, which corroborates their superior stock-picking abilities.

(Insert Table 11 Here)

5. Robustness test

We conducted robustness checksby alternative methods. To examine whether the presence of institutional ownership influenced the performance of PEPs, we conducted a counterfactual test. Firms with institutional ownership of no less than 5% of the total share were the treatment group, while those with institutional ownership of less than 5% werethe control group. We employed the propensity score-matching method to identify firms in the control group that had asimilar probability of institutional presence. The nearest-neighbor matching technique wasemployed to identify the matching firms. To give an institutional presence score, we controlled specified variables: industry, year, firm size, leverage, ROA, SOE, largest shareholder, board size, proportion of independent directors, and CEO duality. To avoid selection issues for the control firms, we performed random matching 200 times. Table 12 shows that the results were not qualitatively different from our earlier regression results. The presence of institutional investors ex antewasassociated with a smaller announcement effect and better long-term operational performance ex post, whereas corporate governance was not improvedby institutional ownership, indicating that institutional investors did not actively engage in corporate governance.

(Insert Table 12 Here)

Table 13applied two alternative measures of institutional ownership in the seasonprior to PEPannouncement. One was a dummy variable that equaled 1 if the institutional ownership was no less than 5%. The other was a dummy variablethat equaled 1 if the institutional ownership of the listed firm was above the industry average. We set the benchmark of institutional presence at 5%of share ownership asthe investment activities of institutional investors wereheavily regulated, and thus such investorshad better access to inside information and also bore a significant proportion of the cost of the shares. Table 13 shows qualitatively similar results, which substantiate the robustness of the role of institutional investors.

(Insert Table 13 Here)

6. Conclusion

This paper examined the impact of institutional investors on the performance of firms raising funds by PEPs from 2005 to 2013. We found that institutional ownership prior to the PEPs was negatively associated with market reaction to PEPannouncement. However, institutional ownership prior to the PEPswas positively

associated with the long-term operational performance of the issuing firms ex post, although there was no difference in the long-term excess stock return according toa presence of institutional ownership. Besides, institutional investors were able toexercise a monitoring oversight of the firm which was underperforming or experiencing financial distress. Furthermore, independent financial institutions had superior knowledge on stock selectionas opposed to other non-financial institutions with potential business ties to the listed firm. In addition, the sensitivity of firm performance to institutional ownership was weaker in SOEs compared with private firms, and the monitoring role of institutional investors was efficacious only for private firms (not for SOEs). Our results cast light on the urgency of deepening the privatization of SOEs in China.

Chemmanur et al. (2009) argued that institutional investors are more sensitive to SEOs with better earnings persistence and therefore achieve higher excess stock returns by increasing their shareholdings inthese firms. With participation by institutional investors, information asymmetries between the listed firm and the market were significantly mitigated. One policy implication of our results is thatindependent financial institutional investors should be encouraged to participate in the stock market under the current financial reform in the country. This is particularly the case for QFIIs, which account for only less than 1% of all institutional ownership of shareholdings in the country. The presence of these financial institutions would behelpful in screeninglisted firms with better performance thereby leading to the enhanced efficiency of the capital markets in China.

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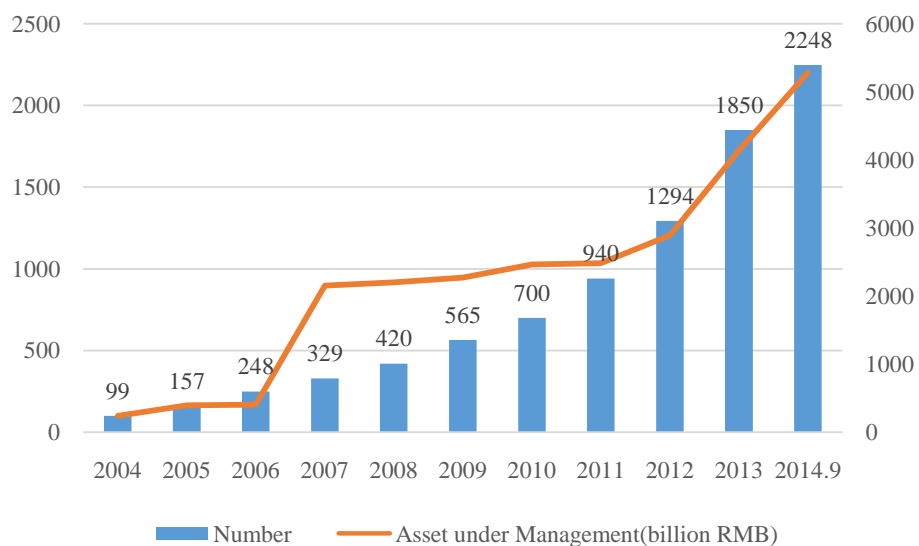
Figure 1: **Development of mutual funds in China, 2004-2014.9**
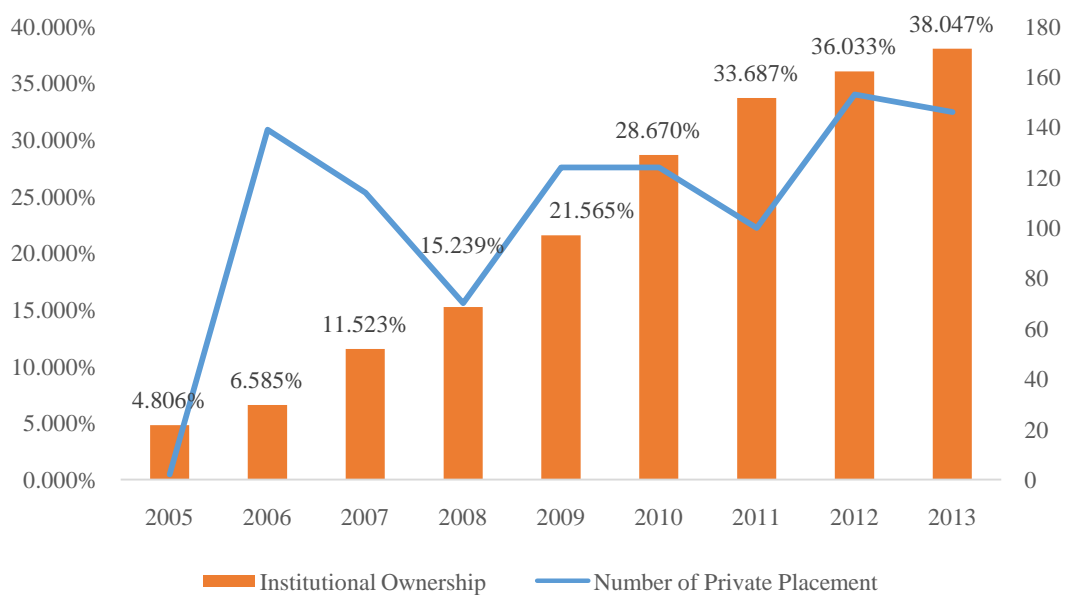
Figure 2: **Institutional ownership and private equity placements in China, 2005-2013**

Table 1: Distribution of private equity placements (PEPs) and institutional ownership. This table reports the annual distribution of PEPs events of list firms in Chinese A-share stock market from 2005 to 2013. *Institutional Ownership* represents the average proportion of institutional ownership in these PEPs listed firms. *Increase* and *Decrease* describe the number of the listed firms with PEPs, whose institutional ownership changes in each period.

Year	Number	Institutional ownership	Change of institutional ownership in PEPs			
			Increase	%	Decrease	%
2005	2	4.8%	1	100.0%	0	0.0%
2006	139	6.6%	85	61.6%	53	38.4%
2007	114	11.5%	69	61.6%	43	38.4%
2008	70	15.2%	41	59.4%	28	40.6%
2009	124	21.6%	74	59.7%	50	40.3%
2010	124	28.7%	70	57.4%	52	42.6%
2011	100	33.7%	63	64.3%	35	35.7%
2012	153	36.0%	73	47.7%	80	52.3%
2013	146	38.0%	77	52.7%	69	47.3%

Table 2: Distribution of PEPs and institutional ownership. This table reports the distribution of PEPs events of listed firms in the Chinese A-share stock market in each industry, from 2005 to 2013. *Institutional Ownership* represents the average proportion of institutional ownership of these PEPs listed firms in each industry. *Increase* and *Decrease* describe the number of the listed firms with PEPs, whose institutional ownership changes in each industry.

Industry	Number	Institutional ownership	Change of institutional ownership in PEPs			
			Increase	%	Decrease	%
Agriculture	25	20.3%	15	60.0%	10	40.0%
Mining	20	24.9%	11	55.0%	9	45.0%
Manufacturing	626	21.5%	365	58.3%	261	41.7%
Energy	41	22.2%	20	48.8%	21	51.2%
Construction	27	21.7%	13	48.1%	14	51.9%
Wholesale and retail	54	22.3%	26	48.1%	28	51.9%
Transportation	27	21.8%	16	59.3%	11	40.7%
Accommodation	3	23.8%	1	33.3%	2	66. 7%
IT	33	20.6%	21	63.6%	12	36. 4%
Real estate	33	25.8%	22	66.7%	11	33.3%
Leasing	11	21.5%	6	54.5%	5	45.5%
R&D	2	25.3%	1	50.0%	1	50.0%
Environment	7	21.4%	4	57.1%	3	42.9%
Service	2	19.9%	1	50.0%	1	50.0%
Education	1	37.6%	1	100.0%	0	0.0%
Entertainment	3	19.1%	2	66. 7%	1	33.3%
Others	28	21.8%	16	57.1%	12	42.9%

Table 3: Cumulative abnormal return around PEP announcements. This table shows the CAR in different event windows. CAR[-3,+3] is the cumulative abnormal return during the announcement period of PEPs, starting from 3 days before the event and ending 3 days after. Similarly, this table exhibits the result of CAR(0), CAR[-1,+1], CAR[-5,+5], CAR[-7,+7], CAR[-30,+30], CAR[-3,+1], CAR[-5,+1], CAR[-7,+1] and CAR[-30,+1]. T-test is conducted to show the significance of the average CAR. Z-test is conducted to show the significance of the median CAR. P value of both tests are presented with ***, **, and * indicating statistical significance at 1%, 5%, and 10% levels.

	Mean	t-test	Median	z-test
CAR(0)	0.018	0.000***	0.001	0.000***
CAR[-1,+1]	0.143	0.000***	0.030	0.000***
CAR[-3,+3]	0.171	0.000***	0.046	0.000***
CAR[-5,+5]	0.199	0.000***	0.050	0.000***
CAR[-7,+7]	0.212	0.000***	0.058	0.000***
CAR[-30,+30]	0.219	0.000***	0.065	0.000***
CAR[-3,+1]	0.153	0.000***	0.045	0.000***
CAR[-5,+1]	0.159	0.000***	0.047	0.000***
CAR[-7,+1]	0.162	0.000***	0.048	0.000***
CAR[-30,+1]	0.165	0.000***	0.048	0.000***

Table 4: Summary statistics. This table presents descriptive statistics of the key variables employed in our model.CAR[-3,+3]is the cumulative abnormal return during the announcement period of PEPs, starting from 3 days before and ending 3 days afterwards. The event date is defined as the date on which the PEPs plan is first issued. AAR[1,360]is the sum of abnormal return for 360 trading days after the announcement of PEPs following the market model. *ROA* is the proportion of net profits over total assets. Both the *ROA* one year later and the 3-year-average *ROA* are documented. *Discretionary Accruals* is the difference between accrued profits and non-discretionary accruals following the adjusted Jones Model (Dechow et al., 1995). *Institutional holding*is the proportion of equity shares held by institutional investors. *Participation* equals 1 if institutional ownership increases during the season when the PEPs plan was first announced.All variable definitions are in Appendix 1.

Dependent Variable	Obs.	Mean	Median	Sd.
CAR[-3,+3]	972	0.171	0.046	1.016
ROA[0,1]	924	0.001	0	0.039
ROA[0,3]	882	0.005	0.004	0.027
Discretionary accruals[0,3]	724	0.022	0.011	0.120
Independent Variables				
Institutional holding	28,464	0.193	0.081	0.232
Participation	28,474	0.355	0	0.478
Control Variables				
Firm size	30,273	21.687	21.520	1.366
Leverage	29,374	0.515	0.505	0.274
ROA	29,746	0.002	0.000	0.040
Collect	972	0.305	1.849	0.756
Discount	972	0.199	18.480	0.231
Prior_90AR	972	0.008	0.008	0.003
Prior_90Risk	972	0.026	0.026	0.008
SOE	30,816	0.517	1	0.500
Largest	29,473	0.385	0.369	0.162
Board	30,816	9.172	2.197	1.924
Independence	30,816	0.364	0.333	0.051
Duality	30,816	0.179	0.000	0.383
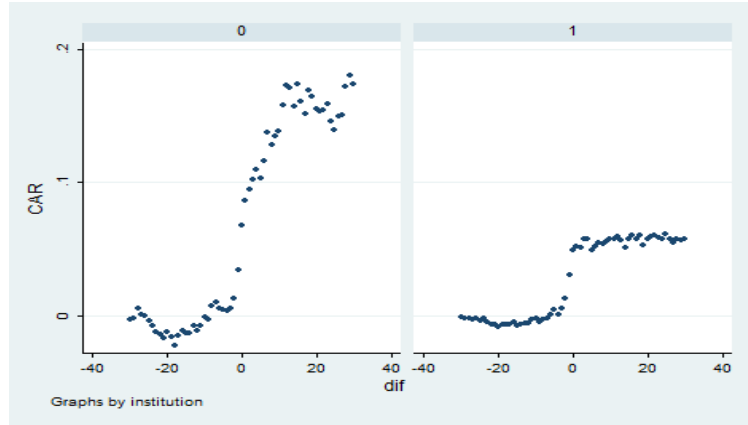
Figure 3:   **CAR[-30,+30] of PEPsannouncement**
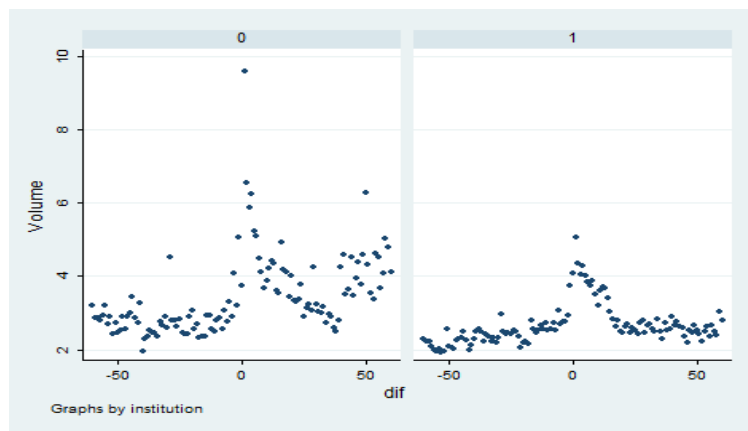
Figure 4:   **Relativetrading volume [-30,+30] of PEPs announcement**

Note: In Figure 3 and Figure 4, "0" stands for PEPs firms without the presence of institutional investors (ownership less than 5%), while "1" represents those with institutional investors whose ownership is no less than 5%. CAR is the cumulative abnormal return computed by the market model. Relative trading volume is computed by the daily trading volume divided by the average trading volume in the recent 360 days prior to the event period, which starts from the 30th day before the PEPs announcement and ends on the 30th day afterwards.

Table 5: Univariate test on the impact of institutional presence on firm performance. This table shows the results of univariate mean-difference tests on the impact of the presence of institutional investors in listed firms on firm performance. Firm performance is measured through short-term market reaction, short-term firm performance, as well as long-term firm performance, respectively. We divide sample firms into two groups by the proportion of equity shares by each kind of institutional investors and then compare the average performance to get the difference.

	Bottom 1/2		Top 1/2		t-Test	
Institutional ownership	Obs.	Average	Obs.	Average	Difference	P-Value
Market Reaction (CAR[-3,+3])						
Private fund	481	0.001	482	0.001	0.000	0.446
Commercial banks	481	0.000	482	0.002	-0.001	0.084
Trust fund	481	0.002	482	0.001	0.001	0.109
Supplementary pension	481	0.000	482	0.000	0.000	0.065
Social security fund	481	0.005	482	0.006	-0.002	0.068
Insurance	481	0.005	482	0.003	0.001	0.077
QFII	481	0.003	482	0.003	0.001	0.501
Financial product	481	0.002	482	0.002	0.001	0.189
Investment bank	481	0.003	482	0.003	0.000	0.824
Mutual fund	481	0.073	482	0.080	-0.007	0.379
Total	481	0.321	482	0.285	0.036	0.014
Short-term firm performance (ROA[0,1])						
Private fund	441	0.001	483	0.001	0.000	0.207
Commercial banks	441	0.001	483	0.001	0.001	0.217
Trust fund	441	0.002	483	0.001	0.001	0.099
Supplementary pension	441	0.000	483	0.000	0.000	0.039
Social security fund	441	0.003	483	0.008	-0.005	0.000
Insurance	441	0.002	483	0.005	-0.003	0.000
QFII	441	0.002	483	0.004	-0.002	0.021
Financial product	441	0.001	483	0.002	-0.001	0.013
Investment bank	441	0.002	483	0.004	-0.002	0.019
Mutual fund	441	0.042	483	0.110	-0.068	0.000
Total	441	0.273	483	0.331	-0.058	0.000
Long-term firm performance (ROA[0,3])						
Private fund	419	0.001	463	0.001	0.000	0.369
Commercial banks	419	0.002	463	0.001	0.001	0.155
Trust fund	419	0.002	463	0.001	0.001	0.129
Supplementary pension	419	0.000	463	0.000	0.000	0.045
Social security fund	419	0.003	463	0.007	-0.005	0.000
Insurance	419	0.002	463	0.006	-0.004	0.000
QFII	419	0.002	463	0.004	-0.001	0.057
Financial product	419	0.001	463	0.003	-0.001	0.002
Investment bank	419	0.002	463	0.004	-0.002	0.012
Mutual fund	419	0.042	463	0.109	-0.067	0.000
Total	419	0.274	463	0.328	-0.054	0.000

Table 6: The impact of institutional ownership on the market reaction to PEPs. Dependent variable CAR[-3,+3] is the cumulative abnormal return to the announcement of PEPs, starting from 3 days ahead of and ending on the third day after the event. *Institutional holding*is the proportion of equity shares held by institutional investors. *Participation* equals 1 if institutional ownership increases during the season when the PEPs plan was first announced.All variable definitions are in Appendix 1. Heteroscedasticity robust standard errors are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% levels.

	CAR[-3,+3]				
	(1)	(2)	(3)	(4)	(5)
Institutional holding	-0.246***	-0.510***	-0.366***	-0.362***	-0.377***
	(0.069)	(0.090)	(0.092)	(0.088)	(0.094)
Participation	0.050***	-0.146***	-0.087*	-0.088**	-0.125***
	(0.019)	(0.047)	(0.045)	(0.043)	(0.048)
Institutional holding x Participation		0.295**	0.200	0.287**	0.348***
		(0.133)	(0.126)	(0.121)	(0.129)
Firm size			-0.070***	-0.037***	-0.053***
			(0.012)	(0.013)	(0.015)
Leverage			0.533***	0.432***	0.492***
			(0.051)	(0.048)	(0.051)
ROA			2.242***	1.777***	1.988***
			(0.334)	(0.317)	(0.341)
Collect				0.015	0.026
				(0.027)	(0.030)
Discount				-0.001**	-0.001**
				(0.001)	(0.001)
Prior_90AR				-7.171**	-6.838*
				(3.380)	(3.827)
Prior_90Risk				-2.771*	-1.906
				(1.440)	(1.764)
SOE					0.063**
					(0.031)
Largest					-0.002
					(0.101)
Board					-0.085
					(0.088)
Independence					0.134
					(0.294)
Duality					-0.017
					(0.037)
Constant	0.153		1.260***	0.230	0.722*
	(0.145)		(0.286)	(0.315)	(0.404)
Industry, year and season fixed effects	Yes		Yes	Yes	Yes
Observation	962		941	889	746
Adjusted-R square	0.071		0.196	0.361	0.371

Table 7: Monitoringofinstitutional investors on controlling shareholders. This table shows whether the institutional investors can restrain the controlling shareholder from manipulating the discount rate of PEPs. *Discount Rate* is the proportion of the difference between issuing price of PEPs and the benchmark over the benchmark. The benchmark is the average of stock price for 20 days before the announcement. *Institutional holding* is the proportion of equity shares held by institutional investors. *Ctrl_Participate* equals 1 if the controlling shareholder participates in the PEPs, 0 otherwise. All variable definitions are in Appendix 1. Heteroscedasticity robust standard errors are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% levels.

	Discount Rate			
	(1)	(2)	(3)	(4)
Institutional holding	-0.148**	-0.252***	-0.161*	-0.269***
	(0.073)	(0.088)	(0.086)	(0.099)
Ctrl_Participate		-0.037		-0.038
		(0.023)		(0.023)
Institutional holding x Ctrl_Participate		0.237**		0.249**
		(0.116)		(0.117)
ROA			-0.830***	-0.821***
			(0.301)	(0.300)
Institutional holding x ROA			3.962*	3.939*
			(2.393)	(2.388)
Prior_90AR	2.240	1.882	2.518	2.166
	(3.819)	(3.816)	(3.833)	(3.829)
Prior_90Risk	3.979**	4.124**	3.891**	4.041**
	(1.605)	(1.605)	(1.631)	(1.629)
Largest	-0.155**	-0.160**	-0.154**	-0.158**
	(0.063)	(0.063)	(0.064)	(0.064)
Board	-0.077	-0.068	-0.079	-0.069
	(0.055)	(0.055)	(0.056)	(0.056)
Independence	-0.096	-0.060	-0.064	-0.029
	(0.200)	(0.201)	(0.202)	(0.202)
Duality	-0.045*	-0.044*	-0.046*	-0.045*
	(0.025)	(0.026)	(0.026)	(0.026)
Constant	0.026	0.007	-0.134	-0.151
	(0.207)	(0.207)	(0.217)	(0.217)
Industry, year and season fixed effects	Yes	Yes	Yes	Yes
Observation	741	741	724	724
Adjusted-R-squared	0.222	0.225	0.232	0.235

Table 8: The impact of institutional ownership on long-term operational performance. Long-term operational performance is measured by 1-year ROA, 3-year-average ROA and 3-year-average discretionary accruals after the announcement of PEPs respectively. ROA is net profits over total assets. Discretionary accruals is the difference between accrued profits and non-discretionary accruals following the adjusted Jones Model (Dechow et al., 1995). *Institutional holding* is the proportion of equity shares held by institutional investors. *Participation* equals 1 if institutional ownership increases during the season when the PEPs plan was first announced. All variable definitions are in Appendix 1. White heteroscedasticity robust standard errors are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% levels.

	Long-term Operational Performance		
	ROA[0,1]	ROA[0,3]	Discretionary accruals [0,3]
	(1)	(2)	(3)
Institutional holding	0.018**	0.029***	-0.006
	(0.008)	(0.008)	(0.031)
Participation	-0.004	0.005	0.014
	(0.004)	(0.004)	(0.015)
Institutional holding x Participation	0.009	-0.011	-0.080*
	(0.012)	(0.012)	(0.044)
Firm size	0.002	0.002	-0.010**
	(0.001)	(0.001)	(0.005)
Leverage	-0.047***	-0.026***	-0.008
	(0.005)	(0.005)	(0.018)
ROA			0.109
			(0.149)
Collect	-0.008***	-0.005**	-0.007
	(0.003)	(0.003)	(0.010)
Discount	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)
Prior_90AR	-0.091	-1.556***	-3.062*
	(0.486)	(0.464)	(1.723)
Prior_90Risk	-0.519**	-0.249	-1.005
	(0.230)	(0.220)	(0.830)
SOE	-0.011***	-0.012***	-0.012
	(0.003)	(0.003)	(0.011)
Largest	-0.003	-0.003	0.030
	(0.009)	(0.009)	(0.035)
Board	0.005	-0.014*	-0.047
	(0.008)	(0.008)	(0.030)
Independence	-0.009	-0.035	0.027
	(0.028)	(0.026)	(0.104)
Duality	0.005	0.005	-0.020
	(0.004)	(0.003)	(0.013)
Constant	-0.006	0.019	0.393***
	(0.038)	(0.036)	(0.143)
Industry, year and season fixed effects	Yes	Yes	Yes
Observation	744	693	643
Adjusted R-square	0.210	0.140	0.037

Table 9: Different types of firms. *ROA* is net profit over total assets. *Discretionary Accruals* (or *DA*) is the difference between accrued profits and non-discretionary accruals following the adjusted Jones Model (Dechow et al., 1995). *Institutional holding* is the proportion of equity shares held by institutional investors. *Participation* equals 1 if institutional ownership increases during the season when the PEPs plan was first announced. All variable definitions are in Appendix 1. Heteroscedasticity robust standard errors are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% levels.

	ROA[0,3]		Discretional Accruals[0,3]	
	Private	SOEs	Private	SOEs
	(1)	(2)	(3)	(4)
Institutional holding	0.041***	0.018*	0.083	-0.073*
	(0.011)	(0.010)	(0.052)	(0.044)
Participation	0.007	0.015***	0.046*	-0.032
	(0.006)	(0.005)	(0.025)	(0.022)
Institutional holding x Participation	-0.018	-0.025*	-0.192***	0.039
	(0.016)	(0.014)	(0.073)	(0.058)
Firm size	-0.000	0.002	-0.015	-0.012*
	(0.002)	(0.001)	(0.009)	(0.006)
Leverage	-0.017***	-0.007	-0.008	-0.006
	(0.006)	(0.006)	(0.029)	(0.025)
ROA	0.353***	0.465***	0.032	0.028
	(0.050)	(0.042)	(0.235)	(0.185)
Collect	-0.006	0.002	-0.007	-0.004
	(0.004)	(0.003)	(0.019)	(0.012)
Discount	-0.000**	0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Prior_90AR	-2.122***	-0.724	-2.216	0.884
	(0.603)	(0.566)	(2.682)	(2.346)
Prior_90Risk	0.353	0.021	-0.971	-1.456
	(0.290)	(0.261)	(1.289)	(1.076)
Largest	-0.004	-0.003	0.049	-0.021
	(0.012)	(0.011)	(0.054)	(0.046)
Board	-0.021*	0.000	-0.076	-0.025
	(0.012)	(0.008)	(0.053)	(0.035)
Independence	-0.047	0.006	-0.098	0.231*
	(0.038)	(0.030)	(0.176)	(0.128)
Duality	0.002	0.002	-0.013	-0.016
	(0.004)	(0.005)	(0.018)	(0.021)
Constant	0.081	-0.036	0.669***	0.297*
	(0.059)	(0.042)	(0.244)	(0.170)
Industry, year and industry fixed effects	Yes	Yes	Yes	Yes
Observation	338	394	318	364
AdjustedR-square	0.370	0.316	0.012	0.019

Table 10: Financial institutions and non-financial institutions.*Financial* institutions include all professional institutions in finance industry with expertise in equity investment, such as mutual funds and QFIIs, etc. *Non-financial* institutions include parent companies or related parties that hold equity of the listed firm. All variable definitions are in Appendix 1. Heteroscedasticity robust standard errors are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% levels.

Institutional investor type	CAR[-3,+3]		ROA[0,3]	
	Financial	Non-Financial	Financial	Non-Financial
	(1)	(2)	(3)	(4)
Institutional holding	-0.377***	-0.191**	0.044***	0.003
	(0.094)	(0.083)	(0.011)	(0.007)
Participation	-0.125***	-0.090**	0.004	0.001
	(0.048)	(0.044)	(0.003)	(0.004)
Institutional holding x Participation	0.348***	0.129	0.007	-0.008
	(0.129)	(0.123)	(0.015)	(0.010)
Firm size	-0.053***	-0.069***	-0.002	0.000
	(0.015)	(0.015)	(0.001)	(0.001)
Leverage	0.492***	0.514***	-0.005	-0.007*
	(0.051)	(0.051)	(0.004)	(0.004)
ROA	1.988***	1.872***	0.357***	0.378***
	(0.341)	(0.332)	(0.027)	(0.027)
Collect	0.026	0.030	-0.002	-0.002
	(0.030)	(0.030)	(0.002)	(0.002)
Discount	-0.001**	-0.002***	0.000	0.000
	(0.001)	(0.001)	(0.000)	(0.000)
Prior_90AR	-49.830***	-40.729***	-0.790*	-0.704*
	(5.183)	(5.084)	(0.404)	(0.411)
Prior_90Risk	17.249***	15.257***	-0.429**	-0.407**
	(2.435)	(2.348)	(0.185)	(0.188)
SOE	0.063**	0.075**	-0.004*	-0.005**
	(0.031)	(0.031)	(0.002)	(0.003)
Largest	-0.002	-0.047	0.003	0.002
	(0.101)	(0.099)	(0.008)	(0.008)
Board	-0.085	-0.108	-0.008	-0.008
	(0.088)	(0.085)	(0.007)	(0.007)
Independence	0.134	0.311	-0.031	-0.036
	(0.294)	(0.285)	(0.023)	(0.023)
Duality	-0.017	-0.008	0.002	0.002
	(0.037)	(0.036)	(0.003)	(0.003)
Constant	0.722*	1.190***	0.095***	0.044
	(0.404)	(0.410)	(0.033)	(0.032)
Industry, year and season fixed effects	Yes	Yes	Yes	Yes
Observation	746	788	734	734
AdjustedR-square	0.371	0.330	0.328	0.306

Table 11: Independent institutional investors and grey institutions. Grey institutional investors are those which have potential business ties with the listed firms, i.e. investment banks, insurance firms, supplementary pension funds, trust funds, and finance corporations. Institutions without potential business ties are regarded as independent institutions, i.e. mutual funds, social funds and QFIIs. All variable definitions are in Appendix 1. Heteroscedasticity robust standard errors are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% levels.

Institutional investor type	CAR[-3,+3]		ROA[0,3]	
	Independent	Grey	Independent	Grey
	(1)	(2)	(3)	(4)
Institutional holding	-0.281	-0.212**	0.067***	0.011
	(0.149)	(0.088)	(0.013)	(0.008)
Participation	-0.032	-0.091**	0.003	0.006
	(0.037)	(0.043)	(0.003)	(0.004)
Institutional holding x Participation	0.210	0.105	0.016	-0.008
	(0.188)	(0.117)	(0.017)	(0.011)
Firm size	-0.064***	-0.068***	-0.001	0.001
	(0.015)	(0.015)	(0.001)	(0.001)
Leverage	0.508***	0.512***	-0.022***	-0.025***
	(0.052)	(0.051)	(0.004)	(0.004)
ROA	1.975***	1.928***		
	(0.339)	(0.332)		
Collect	0.029	0.030	-0.006**	-0.007***
	(0.030)	(0.030)	(0.003)	(0.003)
Discount	-0.002***	-0.002***	-0.000	-0.000
	(0.001)	(0.001)	(0.000)	(0.000)
Prior_90AR	-40.104***	-39.926***	-1.015**	-0.961**
	(5.102)	(5.070)	(0.456)	(0.466)
Prior_90Risk	15.875***	14.983***	-0.386*	-0.316
	(2.347)	(2.351)	(0.208)	(0.215)
SOE	0.058*	0.078**	-0.009***	-0.011***
	(0.031)	(0.031)	(0.003)	(0.003)
Largest	-0.083	-0.056	0.005	0.002
	(0.098)	(0.099)	(0.009)	(0.009)
Board	-0.112	-0.107	-0.009	-0.009
	(0.085)	(0.085)	(0.008)	(0.008)
Independence	0.269	0.285	-0.016	-0.022
	(0.286)	(0.285)	(0.025)	(0.026)
Duality	0.001	-0.011	0.002	0.003
	(0.036)	(0.036)	(0.003)	(0.003)
Constant	1.047**	1.182***	0.097***	0.029
	(0.418)	(0.410)	(0.037)	(0.036)
Industry, year and season fixed effects	Yes	Yes	Yes	Yes
Observation	788	788	734	734
AdjustedR-square	0.325	0.331	0.146	0.101

Table 12: Propensity score matching. We employ propensity score matching method to measure the propensity of institutional presence in a PEPs firm. ATT means average treatment effect on the treatment group. The treatment group is PEPs firms with institutional ownership of no less than 5%. The control group is PEPs firms with institutional ownership less than 5%. Nearest neighboring matching is employed as the matching method.

	# of treatment	# of control	ATT	Std.dev	T-value
CAR[-1,+1]	746	147	-0.103	0.003	-35.000
CAR[-3,+3]	746	147	-0.101	0.003	-32.966
ROA[0,1]	744	141	-0.001	0.005	-0.162
ROA[0,3]	693	134	0.002	0.003	10.216

Table 13: Alternative proxy for institutional presence. Two proxies are used as alternative measures for *Institutional holding*. One is a dummy equals 1 if institutional ownership is no less than 5%; The other is a dummy equals 1 if institutional ownership is greater than the industry average. All variable definitions are in Appendix 1. Heteroscedasticity robust standard errors are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% levels.

	Institutional presence		Institutional ownership >industry average	
	CAR[-3,+3]	ROA[0,3]	CAR[-3,+3]	ROA[0,3]
	(1)	(2)	(3)	(4)
Institutional holding	-0.019*	0.005*	-0.019*	0.007*
	(0.011)	(0.003)	(0.011)	(0.004)
Participation	-0.014	0.003	-0.014	0.004
	(0.012)	(0.003)	(0.012)	(0.004)
Institutional holding x Participation	0.032**	-0.001	0.032**	-0.005
	(0.014)	(0.003)	(0.014)	(0.005)
Constant	0.166	0.027	0.166	0.041
	(0.115)	(0.028)	(0.115)	(0.041)
Financial characteristics	Yes	Yes	Yes	Yes
Corporate governance	Yes	Yes	Yes	Yes
PPEs characteristics	Yes	Yes	Yes	Yes
Industry, year and season fixed effects	Yes	Yes	Yes	Yes
Observation	614	568	614	596
AdjustedR-square	0.149	0.432	0.149	0.313

Appendix 1: Definitions of key variables

Variable	Definition
CAR[-3,+3]	Sum of abnormal return in during the [-3,3] windowcalculated with a market model
AAR[1,360]	Average abnormal return for the 360 trading days after the PPEs announcements usinga market model
ROA	Net profits over total assets
Discretionary Accruals	Difference between accrued profits and non-discretionary accruals following the adjusted Jones Model (Dechow et al., 1995)
Institutional holding	Proportion of equity shares held by institutional investors
Participation	Equals 1 if institutional ownership rises after announcement, 0 otherwise
Size	Logarithm of total assets
SOE	Equals 1 if state-owned firm, 0 otherwise
Leverage	Total liabilities over total assets
Collect	Logarithm of the amount of money raisedfromPEPs, in RMB
Discount	Issuing price of PEPsminusthe benchmark price scaled by the benchmark price (i.e. the stock price for 20 days prior to the announcement date)
Prior_90AR	Abnormal return in 90 days prior tothe PPEs announcement, i.e. the average of the actual daily return minus expected daily return followinga market model for the 90 days before the announcement
Prior_90Risk	Standard error of the abnormal return in 90 days prior to PPEs announcement
Largest	Proportion of equity shareholding of the largest stock holder
Board	Logarithm of the number of directors on board
Independence	Proportion of independent directors on board
Duality	Equals 1 if the CEO also holds the chairman position, 0 otherwise