Determinants of ownership structure and performance of seasoned equity offerings

Evidence from Chinese stock markets

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Abstract

Purpose – Since the initiation of the share split reform by the Chinese Securities Regulatory Commission (CSRC) in 2005, the private placement has become the major source of raising equity after IPO. The purpose of this paper is to investigate why listed firms in China prefer private placements compared to other options of raising capital.

Design/methodology/approach – The ordinary least squares regression, the piecewise regression and the cross-sectional regression analysis were undertaken to investigate the determinants and characteristics of the seasoned-equity offerings announcement effects. Probit regression analysis was taken to estimate the probability of a firm choosing private placements.

Findings – The authors find positive significant announcement abnormal returns for private placement. The findings also indicate that operating performance deteriorates immediately after announcement and poor operating performance is more likely to be contributed by large size portfolios, which suggests size effect.

Research limitations/implications – The paper's evidence contributes to an understanding of the wider implication of the share split reform undertaken by the CSRC.

Practical implications – The paper provides insights for policy makers in China and around the world who have and wish to adopt similar practices within their jurisdictions. Similar research can be conducted in other emerging markets to enable better understanding and implications of seasoned equity offerings on firm financial performance.

Originality/value – The paper is novel in regard to the data and the wider research paradigm used.

Keywords China, Stock markets, Shares, Public companies, Seasoned equity offerings, Agency theory, Monitoring hypothesis, Information asymmetry

Paper type Research paper

I. Introduction

The Chinese Securities Regulatory Commission (CSRC) started share split reform of the listed firms in 2005 and defrosted non-tradable shares which were state owned. Since the share split reform, the Chinese publicly listed firms have mainly relied on private placements to raise capital for new investment project or takeover. This is not surprising as the extent literature documents that the stock market reacts positively to firms that sell equity privately. Wruck (1989) reported that selling a block of securities to private investor(s) increases shareholders' wealth. Wruck found that the ownership concentrated is strongly correlated with performance in firms that engage in private equity placements. Using monitoring hypothesis, Wruck argued that equity selling privately improves monitoring by the shareholders as private selling changes the ownership structure of the firm after the issue.

JEL classification – G32

Alternatively, Myers and Majluf (1984) argued that when there is a high degree of information asymmetry, firms prefer to undertake private placements. Hertzel and Smith (1993) claims that information asymmetry hypothesis better explains the reasons for private placement than the monitoring hypothesis proposed by Wruck (1989). Two other studies also support information asymmetry hypothesis. According to Dann and DeAngelo (1988), managers choose passive investor for private placements to mitigate the takeover. Barclay *et al.* (2007) reported that active placement only comprised 12 per cent of the private placements in their sample and concluded that private investor were not active after issue. As a result, there was no improvement in monitoring. Wu (2004) reported that in the USA, private placements did not show any improvement in monitoring after the issues.

Fung *et al.* (2008) reported that more than two-thirds of the total shares outstanding are state and legal-person shares, and they represent controlling majority shareholders in listed companies in China. Since there are a high percentage of state-owned enterprises (hereafter SOEs) listed in the stock markets in China, it provides a significantly different ownership structure and also different types of owners in comparison to the firms listed in the US market. The concentration of controlling ownership is notably higher in China with an average of about 58 per cent compared to only 25.4 per cent in the USA and 33.1 per cent in Japan (Xu and Wang, 1999).

Given the special ownership and extremely high ownership concentration ratio in China, it gives us great opportunity to investigate whether the existing theories of choice of equity selling mechanism is able to explain the phenomena. We argue that both monitoring hypothesis and information asymmetry hypothesis is relevant in the Chinese context. Therefore, we address three important questions in this paper. First, do firms that conduct private equity offerings enhance the level of monitoring by inducing new institutional investor(s)? Second, do different ownership structures of firms alter the ways of selling equity? Third, do high ownership concentrated firms that adopt the seasoned equity offerings (SEOs), experience enhancement in firm value?

We found that private placements lead to positive announcement abnormal returns while public placements lead to negative abnormal returns. There are evidences that positive abnormal returns may have arisen from the monitoring effect. However, the change in operating performance after the announcement dramatically declines which suggests that the monitoring effect may not persist in the long term. Furthermore, the cross-sectional regression results show that there is a positive relationship between the first controlling shareholder and the positive announcement abnormal returns. This finding is consistent with the results reported by Wu *et al.* (2005) that the issuance of new equity reduces the degree of information asymmetry as it introduces a close incentive alignment to a high ownership concentration firm.

The probit regression analysis shows that when there is a high degree of information asymmetry, issuers tends to choose private placements. More importantly, firms that are smaller in size and have shares owned by the state, have a high tendency to choose private placements. A plausible reason is that a large proportion of shares owned by the government create agency conflict between controlling shareholders and minority investors (Liu and Lu, 2007). The SOEs which are smaller in size are expected to have more agency problems and therefore, are more likely to choose private placements because equity selling to several investors dilutes the voting right, or disperses control and monitoring for the SOEs. Private placement reduces agency conflict between controlling shareholders and minority investors.

Finally, when we group firms by size, changing ownership concentration, and announcement cumulative abnormal returns (similar to Fung *et al.*, 2008), we found that the operating performance for private placements are mainly affected by size. The large size portfolio tends to have a larger rate of decline in operating performance. Since decline in operating performance is less likely to be contributed by large size portfolios, this suggests an overall poor operating performance of the firms.

The rest of this paper is organised as follows. Section 2 provides the background of Chinese stock market, in particular the regulatory development. Section 3 provides the literature review and introduces the hypotheses. Section 4 describes the data and the research method. Section 5 presents the empirical results and Section 6 present conclusions.

II. Chinese stock markets background

II.1 Ownership structure and share split reform

Studies on the financial performance of firms listed on the Chinese stock markets mainly found that financial performance did not improve after listing and this may be due to an inefficient Chinese legal system (Wang *et al.*, 2004). Chen *et al.* (2006) reported that the privatisation of listed Chinese SOEs has not enhanced performance, and in some cases, the performance was even worse than their performance before listing.

On average, listed firms in China often have non-tradable shares as high as 60 per cent and tradable shares in the region of 40 per cent. The dual class share structure creates significant agency problems between non-tradable and tradable shareholders. In most cases, the large controlling non-tradable shareholders do not seem to care about fluctuation in share price, whereas tradable shareholders do. Hence, the large controlling shareholders have a tendency to expropriate minority shareholders and/or illegally occupying assets of the firm for personal use. Also, the controlling shareholders also have a tendency to expropriate minority shareholders by investing in negative net present value generating projects to protect their own jobs. There also exists agency conflict between managers and outside investors in China as well. Managers of SOEs in China also have a tendency to expropriate shareholders for personal benefits. Therefore, both principle-agent and principle-principle agency problems exist in China's listed firms.

To improve efficiency and maintain control of the SOEs, the CSRC reformed the share structure of listed companies and defrosted non-tradable share (mostly state-owned shares) in 2005. As a result, a large proportion of the shares were traded in the secondary market. Several studies have reported a positive effect of share split reform. Beltratti and Bortolotti (2006) examined 368 companies after the share reform and reported an enhancement in the shareholder's welfare by up to 8 per cent, and also noted an increase in liquidity as well. The positive effect of share split reform could be the result of the reduction in the magnitude of agency costs, expropriation, and/or illegally occupying assets by large controlling shareholders. However, to maintain the stability of the stock markets, CSRC and government authorities restricted the free transfer of the block shares. This means that the controlling shareholders' shares were locked for a longer period. Moreover, controlling shareholders were encouraged to enhance their control by participating in the secondary market. This was undertaken to ensure that state control remains after the reform (Cai, 2010).

II.2 Development of SEOs

Prior to 1998, rights issue dominated additional capital raising after the initial public offerings. Introduction of public placement in 1998 saw its popularity increase

significantly and in 2002, it was more than rights offerings. In 2006, the CSRC proposed the administrative measures known as the issuance of securities by listed companies. This new regulation introduced the private placement and stated the requirements for choosing private placements. The new regulation resulted in having fewer requirements for private placement than public placements. The securities regulation 2002 states that listed firms may issue public placement if they have an average return on equity (hereafter ROE) for the last three years of at least 10 per cent, and the ROE for most recent year should be at least 10 per cent. Table I provides a summary of the number of public placement and private placement offers undertaken between 1998 and 2008. The table shows a dramatic increase in private placement after 2006 which was mainly due to the fact that there is no strict ROE requirement for firms undertaking private placements. As a result, firms that did not meet the strict ROE requirement for public placements have chosen private placement instead.

III. Literature review, theory, and hypotheses

III.1 Agency theory
According to Jensen and Meckling (1976), an increase in managerial ownership reduces their incentive to consume perquisites or expropriate shareholders' wealth. However, the focus of Jensen and Meckling (1976) was on reducing agency costs arising only from the managerial decision making and therefore did not address the agency problem arising from diffuse residual claimants and decision making by controlling principles (delegating agents). Fama and Jensen (1983) posit that the separation of decision management and decision control at all levels of the organisation helps to control agency problems as it limits the power of individual agents to expropriate the interest of residual claimants.

Theoretically, there should be an inverse relationship between the ownership of largest shareholder of a company and the agency cost. As such, a family-owned company with more than 50 per cent controlling stake should have lower agency cost. On the other hand, agency cost should also have a positive relationship with the number of executive directors or shareholders who are also managers of the company. Similarly, agency cost should also be higher if a company is being managed by a non-shareholder. La Porta et al. (1998) concluded that the agency cost is quite severe

Issue year	Number of public issue	Capital raised from public issue (billion RMB)	Number of private issue	Capital raised from private issue (billion RMB)
1998	8	3.32	–	–
1999	5	5.51	–	–
2000	18	15.77	–	–
2001	20	17.95	–	–
2002	28	16.47	–	–
2003	17	11.61	–	–
2004	11	15.97	–	–
2005	5	27.88	–	–
2006	7	11.13	47	90.28
2007	24	61.69	135	216.40
2008	34	57.64	101	143.03
Total	177	244.93	284	449.71

Table I.
Summary of the number of firms choosing private and public placements

in emerging market because of weak and inefficient legal protections and regulations. Xu and Wang (1999) investigated whether ownership structure significantly affects the performance of publicly listed firms in China and reported that ownership is highly concentrated with an average of about 58 per cent for the five largest shareholders. Furthermore, they concluded that inefficiency of the state ownership and potential problems arising from the overly dispersed ownership structures are the reasons for the poor performance. Wei *et al.* (2009) investigated the relationship between ownership structure and firm value using a sample of 5,284 privatised SOEs in China between 1991 and 2001 and reported that state ownership has a significant negative effect on the firm value. This implies that there exists a high degree of agency problems between state owners and private owners after privatisation of SOEs in China. Based on these prior studies, we postulate that ownership structure characteristics do have an influence on the flotation choice between private and public placements. Therefore, we propose our first hypothesis as follows:

H3.1. Agency cost and private equity placement is positively related.

III.2 Monitoring hypothesis

According to Wruck (1989), private equity selling changes ownership concentration levels and this leads to an improvement in monitoring, thus enhancing shareholders' wealth. This argument is similar to the incentive alignment hypothesis proposed by Jensen and Meckling (1976). Private placements are mainly purchased by active investors such as mutual funds or other institutional investors who have the resources to monitor management. The change in concentration of ownership after private placements reveals new information to the market, thus signalling an efficient allocation of scarce resources.

Alternatively, Myers and Majluf (1984) argue that private placement by undervalued firms mitigates the under-investment problem and reduces wealth transfers to new shareholders that normally arise after public issue. They also suggest that the willingness of private investors to commit funds to a firm, together with management's decision to forego public issue, conveys to the market that management believes that the firm is undervalued. This view is also supported by Hertzel and Smith (1993). Furthermore, Kahn and Winton (1998) state that when the market expects a firm to do badly and/or there is uncertainty, it encourages intervention. Increased trading tends to push the firm's return back in the unexpected direction and increases its trading profit.

Other studies that have argued against monitoring hypothesis proposed by Wruck (1989) include Wu (2004) and Wu *et al.* (2005). As the managers' play a crucial role in selecting those few sophisticated investors for private placements, investors that have a tendency to vote in favour of the managers or protect managers' positions are likely to be selected (Wu, 2004). Wu (2004) reported that private placements are not motivated by monitoring and also the change in ownership structure does not show a significant change in monitoring as well. Using Hong Kong market data, Wu *et al.* (2005) also reported that the positive announcement returns do not arise from *ex post* monitoring. Furthermore, Wu *et al.* provided evidence that the relationship between change in ownership and abnormal returns adjusted by event actually stems from the significant correlation arising from the additional term in announcement adjusted abnormal returns proposed by Wruck (1989).

According to Barclay *et al.* (2007), the extent to which the placement helps management to become entrenched is a factor that influences the relationship between ownership concentration and firm value. They also concluded that private placements are often made to passive investors to help management to solidify their control over the firm. Cronqvist and Nilsson (2005) argued that if the controlling owners are entrenched, then it is not necessary to assume that they will maximise shareholder value because entrenched owners are more likely to choose a flotation method that maximises their private wealth.

Morck *et al.* (1986) argued that large concentrated owners tend to introduce private placements to enhance monitoring. Fama and Jensen (1983) found that dispersion of equity tends to limit the power of individual agents acting as self-interest residual claimants. As for China, this study investigates whether the SOEs prefer to conduct private placements as a means to control agency problems. If this hypothesis is proven, it can be argued that the private sale of equity leads to a more concentrated ownership structure and increases the effectiveness of monitoring. Xu and Wang (1999) suggested that the internal incentive structure of SOEs must be reformed by diversifying the state ownership. This can be done by introducing other forms of large shareholders such as institutional investors or venture capitalists. In a more recent study, Wu and Wang (2005) argued that since state owners do not bear residual risk over the SOEs assets, a high ownership concentration for state should be avoided. Based on the above findings, we propose our second and third hypotheses as follows:

H3.2a. Change in the ownership concentration and private placement are positively related.

H3.2b. Entrenched controlling owners have higher incentive to choose private placements.

III.3 Asymmetric information

According to Myers and Majluf (1984), public issue conveys to the market that management believes that the firm is overvalued. Since managers' have more information about the value of the firm than outside investors, firms may not issue equity to public as far as the proportion of existing assets transferred to the new shareholders are greater than the proportion of increased firm value retained by the existing shareholders. Consequently, underinvestment arising from the information asymmetry between informed managers and the market reduces the firm value. Therefore, if managers are costlessly able to convey inside information about the value of assets-in-place to the market, they can mitigate the underinvestment problem.

This behaviour of new equity issue relative to information asymmetry have been supported by Asquith and Mullins (1986) and Masulis and Ronald (1986) which document that firms recorded negative abnormal returns after the announcement of new issues. Myers and Majluf's model fails to capture how the timing of the information asymmetry affects new equity issue. Korajczyk *et al.* (1991) tends to fill this gap and state that firms regularly disclose information in the form of earnings release and audit annual reports. Therefore, firms issuing equity when the market is better informed tend to reduce the magnitude of negative abnormal returns at the time of announcement. Similarly, Dierkens (2009) demonstrates that the size of the information asymmetry varies over the life of the firm and the information asymmetry is a significant variable for equity issues.

Studies by Wruck (1989), Hertzel and Smith (1993), Kato and Schallheim (1993), and Wu *et al.* (2005) all found that there are positive announcement returns for firms conducting private placements (the positive announcement abnormal returns explain that selling equity privately reduces the cost of information required by private investors). Hertzel and Smith (1993) report a strong relationship between discounts and the proxies for the information cost. They interpret that discount as a proxy for the information cost tends to compensate buyers. Therefore, they conclude information asymmetry is a better explanation for the private placements than monitoring effect proposed by Wruck (1989). In addition, Hertzel and Smith (1993) suggest that firms can mitigate information asymmetry problems. On the other hand, Wu (2004) investigated the determinants of equity-selling mechanisms relating to information asymmetry. He reported that private placement firms are characterised by high information asymmetry. First, the firm that conduct private placement generally has gone public at an earlier life cycle stage and second, less has been backed by venture capitalists after initial offer. Cronqvist and Nilsson (2005) also find that firm with a higher degree of information asymmetry about value are more likely to choose private placements, in particular, if there is uncertainty about the value of a new investment opportunity. Based on the studies above, we also propose that there is a high degree of information asymmetry about firm's value and thus possibility of choosing private placement will also be higher. Therefore, we propose our fourth hypothesis as follows:

H3.3. The higher the degree of information asymmetry about firms' value, the higher the probability of firms choosing private placements.

III.4 Post-SEOs performance

Both, Loughran and Ritter (1995) and Spiess and Affleck-Graves (1995) reported stock price underperformance after SEOs. Cai and Loughran (1998) studied Japanese SEOs between 1971 and 1992 and reported that long-run underperformance in Japanese market is similar to that of the US market. This result implies that poor stock performance is not merely a result of a benchmark problem of calculating abnormal stock returns. Hertzel *et al.* (2002) reported that the mean three-year buy-and-hold abnormal return was −23.8 per cent after subtracting the relative size and book-to-market (BtoM) match benchmark portfolios. Mathew (2002) reported similar results to that reported by Cai and Loughran (1998) for Japan and Hong Kong. However, for the Korean SEOs, Mathew reported insignificant abnormal returns over a 36-month period following the issue. The insignificant abnormal returns in the Korean market imply that the information asymmetry argument offered for the US and Japanese markets may not always hold true for other markets which have different structures and regulations.

Loughran and Ritter (1995) argued using the window of opportunities hypothesis that listed firms offer equity when, on average, they are substantially overvalued. Consistent with Myers and Majluf's (1984) information asymmetry hypothesis, predicting overvaluation will be an important incentive for manager to issue SEOs. However, any misevaluation could lead to a significant underperformance.

Loughran and Ritter (1997) reported 23 and 40 per cent decline in operating income (OP) to assets and market-to-book ratios, respectively. According to Loughran and Ritter, investors tend to rely too heavily on past experiences and therefore, hold optimistic expectations about the future earnings of SEOs (Hertzel *et al.*, 2002). Hertzel *et al.* (2002) argue that investors are overoptimistic about the prospects of the firms that

issue equity, regardless of the method. This phenomenon reflects the behavioural tendency to overweight recent experience at the expense of long-term performance. Furthermore, Hertzel *et al.* report that firms conducting private placements generate poor operating performance post-announcement compared to firms conducting public placements. In a recent study by Chou *et al.* (2009), they found that firms that have a high Tobin's *Q* experience underperformance, both in the long-run and also operating performance. They show that the new equity issuing firms invest more in plant and equipment resulting in lower returns due to the over-investment.

Only few studies have focused on the long-run performance of private equity offerings in China. Dang and Yang (2007) investigated the choice between rights and underwritten equity offerings in Chinese stock markets. They use 231 rights offerings and 75 public underwritten offerings during 2000 to 2004 period and report that by holding rights issue for one-year or two-year, investors yield a better return than the publicly underwritten offerings. They further suggest that the ROE requirement system plays an important role on valuation of issuers, while avoiding the adverse selection problem suggested by Chen and Wang (2007). Paskelian and Bell (2010) reported similar findings to Dang and Yang (2007) that regulation plays an important role in the short term only. Based on the above findings, we propose that the firms conducting SEOs will face deterioration in the long-run operating performance. Moreover, choosing private placement will lead to a higher performance compared to public underwritten offers. Our fifth hypothesis is formulated as follows:

H3.4. The firm that does SEOs will underperform post-announcement.

IV. Data and methodology
IV.1 Sample
Our sample includes 283 private placements and 65 public placements undertaken by Chinese publicly listed firms during the period 1 January 2006 and 31 December 2008. We have excluded SEOs undertaken by banks or insurance companies due to the fact that they have different accounting rules and capital structure. Firms that did not have prospectus date, announcement date, and/or effective date were also excluded from our sample. We also excluded firms that have incomplete stock price or accounting data, or during the event windows, there were more than 30 suspension trading days. Based on exclusions for the reasons stated above, 46 private placements and seven public placements were deleted, respectively. Finally, our sample comprised 237 private placements and 58 public placements. All daily stock trading data, accounting data and firm's ownership structure for traded firms in both the Shanghai Stock Exchange and Shenzhen Stock Exchange are obtained from the GTA-CSMAR database.

To obtain the prospectus date for both private and public placement, we used the CNINF web site (www.cninfo.com.cn) which is the official disclosure platform for firms in China. There are several important days for firms conducting SEOs, such as, prospectus release day, board meetings or general meetings day, announcement day, and issuing day. We use the prospectus release day as well as the announcement day to make comparisons.

IV.2 Issue characteristic
Table II panel A provides summary statistics of sample firms that conduct private equity selling and public underwritten. The gross proceeds from the private placement

	Mean	Median	Maximum	Minimum	SD
Panel A: firm issue characteristic					
Private placement					
Proceed (million)	1,320	620	26,000	41.15	2,390
Fraction (%)	45.9	23.7	517.65	1.5	69.09
FractionPlace (%)	24.27	19.16	83.81	1.48	17.15
Firstown (%)	37.77	36.03	80	8.89	13.77
H10	0.18	0.17	0.67	0.02	0.11
ΔOwnership (%)	15.2	12.31	70.34	0.59	11.93
Leverage (%)	60.32	58.25	648.22	2.82	42.16
Size (million)	5,910	3,800	52,400	213	6,950
BtoM	0.62	0.63	1.23	0.12	0.25
EPS	0.21	0.13	2.92	−0.39	0.34
OP/share	3.91	2.07	56.84	0	5.77
Tobin's Q	2.05	1.57	8.62	0.81	1.31
Public placement					
Proceed (million)	1,520	900	11,500	210	2,220
Fraction (%)	20.26	15.93	67.86	3.34	15.32
FractionPlace (%)	15.66	13.74	40.43	3.23	9.6
Firstown (%)	35.82	33.52	70.53	5.18	16.75
H10	0.17	0.12	0.53	0.01	0.12
ΔOwnership (%)	9.84	8.82	27.59	1.76	6.3
Leverage (%)	57.33	59.45	96.29	21.12	15.75
Size (million)	16,400	6,900	99,800	973	22,100
BtoM	0.49	0.47	0.99	0.12	0.22
EPS	0.33	0.26	1.62	0.04	0.27
OP/share	4.72	3.32	32.42	0.18	5.32
Tobin's Q	2.58	2.13	8.34	1.01	1.49

Panel B: types of firms conducting private placement and public placement in our sample				
Industry	Private placement		Public placement	
	No. of firms	% of total	No. of firms	% of total
Agriculture	7	2.58	–	–
Mining	6	2.21	1	1.69
Manufacturing	173	63.84	41	69.49
Electricity, coal, gas, and water, production and supply	8	2.95	3	5.08
Construction	5	1.85	3	5.08
Transportation and warehousing	11	4.06	1	1.69
Information technology	8	2.95	–	–
Wholesale and retail	14	5.17	2	3.39
Real estate	13	4.8	5	8.47
Social service	6	2.21	–	–
Miscellaneous	20	7.38	3	5.08
Total sample size	271		59	

Table II.
Summary statistic for
sample firms

ranged from RMB41.15 million to RMB2.39 billion with a mean of RMB1.32 billion, whereas the public offering ranges from RMB210 million to RMB11.5 billion with mean of RMB1.52 billion. The gross proceeds at first glance indicate that issue size for public underwritten is higher than private offerings. Since there are significant differences in the size of firms, we calculated the fraction of gross proceeds over pre-total share to describe the issue size. The fraction of gross proceeds over

pre-total share for the private issue ranges from 1.5 to 517.65 per cent with an average of 45.9 per cent and for the public underwritten, it ranges from 3.34 to 67.86 per cent with the mean of 20.26 per cent. This shows that the issue size for private offerings is greater than public underwritten as the mean of private offerings fraction is higher by 20 per cent.

Among listed firms in China, the state and institutions are the major shareholders. Fung *et al.* (2008) reported that on an average, state share accounts for 38.55 per cent of the outstanding shares and the legal person shares (combined state and institutional) was 22.59 per cent in 2000. We report similar results to Fung *et al.* (2008). We denote the state and institutions as Firstown, which accounts 37.77 per cent for private issuer and 35.82 per cent for public issuer. In addition, H10 (the top ten shareholders' concentration ratio) for both Firstown and H10, on an average, are high for both private and public offering firms, whilst firms only conducting private offeri ngs are slightly more concentrated. Cronqvist and Nilsson (2005) documented that share dilution of ownership in firms is an important factor affecting the choice of equity selling mechanism. Both, the issue size and controlling shareholder are higher for the private issuer. Therefore, it is argued that firms that have high concentration ratio of outstanding shares are more likely to issue equity privately, thus leading to the dilution of ownership. We also observed that smaller size firms (market capitalisation before the announcement is proxy for size) are more likely to choose private issue of equity. Because of the stricter ROE requirements for public underwritten, the average ROE tends to be as high as 0.33 compared to the private placement of 0.21. The Tobin's Q is higher for public written with a mean of 2.58.

Table II panel A provides the change in ownership concentration of monitoring role after the placement (ΔOwnership) which was first proposed by Wruck (1989). According to Wu *et al.* (2005), both Wruck (1989) and Hertzel and Smith (1993) analyses are biased. The key reason for the bias is that there is a built-in-relationship between AR_{npv} and change in ownership. Therefore, we used similar framework to Wu *et al.* to test the relationship between ΔOwnership and firm performance. ΔOwnership is determined as follows:

$$\Delta\text{Ownership} = (\text{Insidershares} + \Delta N)/(N + \Delta N) - \text{Insidershares}/N$$
$$= \Delta N/(N + \Delta N) - (\Delta N/(N + \Delta N))\text{Insidershares}/N \qquad (1)$$
$$= \text{FractionPlace}(1 - \text{Conown})$$

where Insidershares is the controlling owner-share concentration, N represents number of shares outstanding before issuing, and ΔN refer to number of new shares issued.

Table II panel A shows the FractionPlace is as high as 24.27 per cent on an average and ranges between 1.48 and 83.81 per cent for private placement. An extremely high FractionPlace may highlight a possibility for a potential takeover target. Compared to the public issue, private issue causes a dilution of ownership concentration ratio, therefore deduces the ownership concentration of monitoring shareholders (mean of change in the ownership concentration is 15.2 per cent for private placement).

Table II panel B reports types of firms that issue private and public placements. Basically, the issuing firms for both mechanisms are mainly concentrated in manufacturing industry which is 63.84 and 69.49 per cent, respectively. This result is

reasonable since China is the world's largest manufacturing economy which mainly contributes on wholesale and retail businesses.

IV.3 Variables definition

Table III provides description of variables used in this study. Fraction is the proxy for issue size. Since the issue size is highly correlated with firm size, we used the fraction of outstanding shares as a proxy for issue size instead of proceeds. Furthermore, the incumbent shareholder concentration ratio (Conown) measures whether higher or lower ownership concentration will affect issuing firm's value. State dummy (State_dummy) is used as control variable for SOEs. Other control variables used are BtoM is the proxy for size and Tobin's Q is the proxy for future growth prospects. Lastly, the stock run-up (S60) and market return run-up (M60) captures the stock and market condition, respectively.

IV.4 Announcement abnormal returns

We use similar methodology to that used by both Asquith and Mullins (1986) and Kang and Stulz (1996) to estimate the excess stock returns. The excess stock returns are estimated from the daily stock returns obtained from the GTA-CSMAR database. The excess stock returns for securities are shown as follows:

$$AR_{it} = R_{it} - E(R_{it}) \tag{2}$$

where t is the day measured relative to the event date; AR_{it} equals the excess return to stock i for day t; R_{it} equals the actual return on securities i during day t; and $E(R_{it})$ equals the expected return on stock i for day t.

Variable	Measurement method
Fraction	Number of shares issued/number of shares outstanding
FractionPlace	Number of shares issued/(total number of shares outstanding *ex post* + number of share issued
Conown	Concentration ownership ratio of first owner of issuing firm
Firstown (%)	Percentage of shares owned by the state and institutions
H10	Percentage of shares held by the top ten shareholders'
ΔOwnership	See Equation (1)
Pri_dummy	If firm issues private placement then it equals 1, otherwise 0
State_dummy	If firm owned by state then it equals 1, otherwise 0
Leverage	Total debt/total asset
Size	Log of market value of the firm
BtoM	Book value of total assets/(market value of equity + book value of non-equity liabilities)
Tobin's Q	(Equity (market value) + liability (book value))/(equity (book value) + liabilities (book value))
ROE	Net income after tax/total equity
OP/shares	Operating income/total share outstanding
S60	60 days stock return run-up prior announcement day
M60	60 days market return run-up prior announcement day
OP/REV	Operating income/total revenue
EBIT/ASSET	Earnings before interest and tax/total asset

Table III.
Definitions of variables

$E(R_{it})$ is estimated by ordinary least squares (OLS) regression using market model as follows:

$$E(R_{it}) = \alpha_i - \beta_i R_{mt} + \varepsilon_{it} \tag{3}$$

In Equation (3), ε_{it} is the mean-zero idiosyncratic return in month t for firm i, while R_{mt} is the market index return for month t. By using Equation (3), the β and α is estimated using OLS regression.

This paper also reports the market-adjusted returns which are calculated as:

$$AR_{it} = R_{it} - R_{mt}$$

Since there are two stock exchanges in China, each security return are adjusted by the particular market index. For the event window (t_1, t_2), the cumulative abnormal return for firm i is estimated as follows:

$$CAR(t_1, t_2) = \sum_{t_1}^{t_2} AR_{it} \tag{4}$$

For all the sample abnormal returns and cumulative abnormal returns, we have used the equal weight of average abnormal returns at date $t(AAR_t)$, and sum of event windows (t_1, t_2) AAR_t as average cumulative abnormal return $CAAR(t_1, t_2)$ as shown below:

$$AAR_t = \frac{1}{n}\sum_{t=1}^{n} AR_{it} \tag{5}$$

$$CAAR(t_1, t_2) = \frac{1}{n}\sum_{t=1}^{n} CAR_i(t_1, t_2) \tag{6}$$

where n is the number of stock, and t is the event date.

Finally, t-statistics is calculated for $CAAR(t_1, t_2)$ as follows:

$$t(CAAR(t_1, t_2)) = CAAR(t_1, t_2)/S(CAAR(t_1, t_2)) \tag{7}$$

where

$$t(CAAR(t_1, t_2)) = \text{standard deviation of } CAAR(t_1, t_2)$$
$$= (t \times \text{var}(AR_t)^{1/2} \quad \text{with } T = t_1 - t_2 + 1 \tag{8}$$

The $\text{var}(AR_t)$ is estimated over the period from 71 days before the announcement day until 21 days before announcement day. If $t_1 = t_2$, $CAAR(t_1, t_2)$ is equal to the t-statistic for AR_{t1}.

V Empirical results

V.1 Post-issue effects

The average abnormal returns surrounding the prospectus announcement day for both private and public placement offerings are reported in Table IV. Consistent with

	Returns obtained from GTA-CSMAR database. Private placement					Public underwritten				
Event windows	AR %	t-test	CAAR %	t-test	No. of firms	AR %	t-test	CAAR %	t-test	No. of firms
Panel A										
−10	−0.06	−0.29	−0.06	−0.29	235	0.04	0.09	0.04	0.19	58
−9	0.32	1.46	0.26	0.92	235	0.13	0.30	0.17	0.64	58
−8	−0.11	−0.54	0.15	0.43	235	0.68	1.41	0.84	2.66	58
−7	−0.12	−0.62	0.03	0.08	235	0.19	0.44	1.04	2.84	58
−6	0.11	0.52	0.14	0.32	235	0.24	0.62	1.27	3.12	58
−5	0.33	1.49	0.47	0.96	235	0.75	1.61	2.02	4.52	58
−4	0.64	2.67	1.12	2.10	235	0.37	1.09	2.39	4.95	58
−3	0.21	1.05	1.33	2.34	235	1.22	2.72	3.61	6.98	58
−2	0.24	1.16	1.57	2.60	235	0.58	1.12	4.18	7.64	58
−1	1.98	5.71	3.55	5.59	235	−0.84	−1.58	3.35	5.80	58
0	1.61	2.50	5.17	7.75	235	−0.61	−1.16	2.73	4.52	58
1	0.71	2.54	5.88	8.45	235	−0.64	−1.77	2.10	3.32	58
2	0.37	1.39	6.25	8.63	235	−0.22	−0.41	1.88	2.86	58
3	0.10	0.44	6.35	8.45	235	−0.41	−1.05	1.47	2.15	58
4	−0.24	−1.14	6.11	7.85	235	−0.93	−2.46	0.54	0.76	58
5	0.00	−0.02	6.11	7.60	235	−0.17	−0.55	0.37	0.50	58
6	0.00	−0.01	6.11	7.37	235	−0.14	−0.36	0.23	0.30	58
7	−0.19	−0.98	5.92	6.94	235	−0.41	−1.22	−0.18	−0.24	58
8	−0.43	−2.05	5.49	6.26	235	0.12	0.31	−0.06	−0.08	58
9	0.10	0.47	5.58	6.21	235	−0.63	−1.63	−0.69	−0.85	58
10	−0.06	−0.32	5.52	5.99	235	0.06	0.14	−0.63	−0.75	58

Mean and median CARs (%) for different event windows for private and public placement

	Private placements		Public placement		Test of differences	
Event window	Mean	Median	Mean	Median	t-test	Mann-Whitney's U-test
Panel B						
(0)	1.615	0.123	−0.612	−1.250	1.675*	2.607***
(−1, 1)	4.312	1.74	−2.085	−2.304	3.565***	3.981***
(−3, 3)	5.235	2.444	−0.918	−1.771	2.935***	3.477***
(−5, 5)	5.967	2.807	−0.905	−0.839	2.958***	2.965***
(−10, 10)	5.521	2.416	−0.631	−1.810	2.1398**	2.141**

Notes: Abnormal returns (ARs) and cumulative abnormal returns (CARs) for 20 days around the prospectus date. The full sample is 235 private placements and 58 public placements. To measure abnormal returns (ARs) and cumulative abnormal return (CARs), the market model is estimated by OLS for each firm from daily stock returns obtained from GTA-CSMAR database. *,**,***Significant at 10, 5, and 1%, respectively

Table IV.
Announcement effect

the findings reported by Wu *et al.* (2005), Table IV shows that the abnormal returns of announcement for private placement is statistically significant and positive at 1.61 per cent, whereas it is statistically significant but negative for public placement at −0.61 per cent (slight underperformance). Both average cumulative abnormal returns are statistically significant at 5.17 per cent (*t*-value = 7.75) and 2.73 per cent (*t*-value = 4.52), respectively. However, the average cumulated abnormal return for public placement deteriorated immediately after the announcement day, whereas the *CAAR* for private placement increased up to about 6 per cent (*t*-value = 7.85).

Table III panel B reports several event windows. For all event windows, all cumulative returns for private placement issuers are significantly different from public placement. The *t*-test and Mann-Whitney's *U*-test for both mean and median suggest the null hypothesis be rejected as the mean and median are equal in these two sample sets. It shows that the three days window cumulative abnormal return for private placement is 4.3 per cent, which is significantly different from public placement which on average is -2.08 per cent.

However, the positive announcement returns for firms are worth noting. The positive announcement effects are markets response to the reduction in agency cost arising from active investor monitoring, thus confirming monitoring hypothesis proposed by Jensen and Meckling (1976), Wruck (1989), and Molin (1996). The information asymmetry hypothesis proposed by Hertzel and Smith (1993) suggest that the managers have insider information that the firm is undervalue, is supported. The positive announcement effect is driven by issuing equity which is the way issuers communicate with the investors. Since the private placement shows a significant positive return surrounding the announcement day, it thus support the information asymmetry hypothesis. The positive average abnormal returns before announcement and its deterioration immediately afterwards for public equity offerings suggest that there is a negative reaction from the market to the view that managers have issued overvalued equities, thus providing support to Myers and Majluf (1984) hypothesis that managers only issue equity if they consider the firm is overvalued.

V.2 Test monitoring effect

The previous section shows that there is a significant different in announcement effect between private and public placements. Therefore, we posit that announcement effect is driven by the monitoring effect. To further confirm the announcement effect, we have conducted the OLS regression analysis of the cumulative abnormal returns surrounding the announcement day on ownership variables as proposed by Wruck (1989) and Wu *et al.* (2005).

Since investors believe that the new equity selling introduces active investors who are able to monitor the firm, this provides support to the view that the change in ownership concentration positively relates to firm value. To this end, Wruck (1989) reported that the adjusted announcement abnormal returns are a useful determinant in explaining positive announcement returns. However, Wu *et al.* (2005) argue that the monitoring effect proposed by Wruck (1989) is problematic because of the existence of high correlation between adjusted abnormal returns and ΔOwnership. Wu *et al.* (2005), suggest using three-day windows cumulative abnormal returns. They found no relationship between ΔOwnership and $CAR(-1, 1)$, confirming that there is no monitoring effect. Therefore, we have adopted similar analysis to Wu *et al.* (2005) and our results are reported in Table V.

We use similar independent variables used by Wruck (1989), Hertzel and Smith (1993), and Wu *et al.* (2005) that is, the three piecewise components of ownership structure changes as ΔOwnership, split at 5 and 20 per cent. Our result is inconsistent with that reported by Wu *et al.* (2005). We find that the ΔOwnership is statistically significantly related to $CAR(-1, 1)$, suggesting there is monitoring effect for firms conducting private equity selling. The coefficient of the ΔOwnership at second turning point (20 per cent) is statistically significant and positive in relation to $CAR(-1, 1)$, suggesting that there is a positive effect of high controlling ownership change. Since adjusted R^2 for piecewise model is 8.6 per cent which is slightly higher than Model 3

Regression	1	2	3	4
Intercept	−0.02	0.04***	−0.01	0.05
	(−0.88)	(4.75)	(−0.36)	(1.25)
FractionPlace	0.27***			
	(2.82)			
Conown		0.13*		
		(1.68)		
ΔOwnership			0.35***	
			(3.01)	
ΔOwnership 1				−0.73
				(−0.73)
ΔOwnership 2				0.20
				(1.30)
ΔOwnership 3				0.50***
				(2.62)
Adjusted R^2	0.107	0.0156	0.0827	0.0865
Observation	248	248	248	248

Notes: This table reports coefficient estimates and *t*-values of cross-sectional regression of the announcement returns on ownership variables for Chinese private placements during the period from 2006 to 2008. The dependent variable is the three-day event window cumulative abnormal return, *CAR* $(-1, 1)$. ΔOwnership, change in concentration ownership which includes the fraction place; ΔOwnership 1, ΔOwnership 2, and ΔOwnership 3 are separated by two turning points which are 5 and 20%. *,***Significant at 10 and 1%, respectively

Table V.
Test monitoring effect of private placement

(Table V), this suggest that the piecewise model is a better fit for the data than the simple regression.

It is to be noted that in China, the investors of private placements are either the publicly traded firms or the existing shareholders, while in the US equity selling, they are often either non-traded insurance companies or pension funds. Therefore, if existing controlling owners participate in private placements, the change in ownership concentration may not support the monitoring hypothesis in the Chinese context. For this reason we have used an alternative measure of change in controlling ownerships concentration adopted by Wu *et al.* (2005), that is, new shares purely purchased by outside investors (Conown).

Our results show a positive coefficient for Conown (which denotes the change in first owner concentration ratio if private placement completely placed with new investors) and are statistically significant at 10 per cent level, thus supporting the monitoring hypothesis. We note that our result is inconsistent with that reported by Wu *et al.* (2005). One plausible explanation is that most of the publicly traded firms are SOEs that already have a high ownership concentration in China. Since SOEs do not bear residual risks or claim residual profits they tend not to allocate resource efficiently which leads to a reduction in the firm value. The SOEs firms benefit from private placement because the dispersion of equity tends to limit the power of states and also diffuses the power of individual agents acting as self-interest residual claimants (Fama and Jensen 1983). Hence, the firm conducting private placements can increase monitoring and reduce the agency cost.

In Table V, the coefficient of FractionPlace (regression 1) is statistically significant at 1 per cent level, indicating the issue size has a positive response to $CAR(-1, 1)$. Compared to ΔOwnership, the larger size of equity selling implies more dilution of

ownership structure. Therefore, if firm conducts private placement only to the new investors, it will increase monitoring, which will enhance firm value. Overall, the evidence in Table V supports the monitoring effect of private placement.

V.3 Determinants and characteristics of announcement effect of private and public placements
We have conducted further cross-sectional regression to investigate the determinants and characteristics of SEO announcement effect. Since the results provided in Table V support monitoring effect, the regression results provided in Table VI use similar variables examined in Table V but focus is on firm characteristics and market conditions. We also add the private placement dummy (Pri_dummy). As results in Table IV report that the announcement returns are significantly different between private and public placement, we expect to find that announcement returns are positively related to Pri_dummy. The coefficients of Pri_dummy in all the models in Table VI are positive and are statistically significant at 1 per cent level.

Several proxies have been used to test the existence of information asymmetry. As suggested by Cronqvist and Nilsson (2005), information asymmetry is more severe as it is less known by the public and fewer analysts have covered it. Wu and Wang (2005) points out that it is a concern for future growth than the assets that is in place for small firms. For this reason, Cronqvist and Nilsson (2005) suggested that there should be a negative relationship between size and announcement returns. Taking this view, we also use market value of equity as proxy for firm size. Since the SOEs have higher agency cost, we use the dummy variable of state (State_dummy) as proxy for agency cost.

The overinvestment and underperformance are often treated as the common problem for issuing firms with high growth opportunities. Cochrane (1991) states that Tobin's Q present the investment rate in real assets. Li *et al.* (2009) demonstrate that firm with greater investment opportunities would tend to invest more of the proceeds of the issue. In contrast, firms with lower growth prospect would use the proceeds of issue to reduce debt in capital structure rather than invest in new projects (Chou *et al.*, 2009). For this reason investors tend to overestimate the growth of firms when they have high return assets. However, increase in assets for the growth firm decreases its return on assets which also leads to lower ROE. To test whether the higher growth prospect firms generate higher announcement returns, we have used Tobin's Q as the proxy for growth. Leverage is also used as a proxy for growth since the growth firms are normally small and the small firms generally have less leverage ratio. The BtoM ratio has been widely documented as a proxy for intangible assets (Hertzel and Smith, 1993; Cronqvist and Nilsson, 2005; Wu *et al.*, 2005). Since smaller firms have low BtoM ratio, this indicate that correlation will be negative with announcement returns. To examine whether investors are over-optimistic about earnings prospects for firms issuing new equity, we used stock run-up as proxy (S60) as in Chou *et al.* (2009) to measure the investor optimism. We also used the market index run-up (M60) as control variable for market condition.

Table VI reports the eight regression results. FractionPlace is statistically significant to both private placement and public placement. We note that the coefficient for the change in ownership concentration is positive and is statistically significant for both equity offering methods. For public placement, new equity issue leads to a dispersed share ownership structure. Kothare (1997) argue that a reduction in ownership concentration in firms conducting public underwriting increases the trading

Regression	1	2	3	4	5	6	7	8
Intercept	−0.06***	−0.04**	−0.05***	−0.00	0.00	0.25	0.02	0.11
	(−3.55)	(−2.19)	(−3.67)	(−0.03)	(0.02)	(1.33)	(0.09)	(0.57)
Pri_dummy	0.05***	0.07***	0.05***	0.05***	0.05***	0.06***	0.05***	0.05***
	(3.97)	(5.73)	(4.40)	(4.83)	(3.92)	(4.68)	(4.13)	(4.28)
FractionPlace	0.25**				0.27***			
	(2.79)				(3.03)			
Conown		0.12				0.12		
		(1.71)				(1.79)		
ΔOwnership			0.32***				0.36***	
			(2.97)				(3.21)	
ΔOwnership 1				−0.64				−0.83
				(−0.76)				(−0.87)
ΔOwnership 2				0.14				0.28
				(1.09)				(1.83)
ΔOwnership 3				0.52**				0.47***
				(2.67)				(2.86)
State_dummy					0.02	0.03**	0.03	0.03
					(1.48)	(1.98)	(1.86)	(1.77)
Leverage					−0.06	−0.06	−0.07	−0.07
					(−1.51)	(−1.37)	(−1.74)	(−1.60)
Size					0.00	−0.01	0.00	0.00
					(0.47)	(−0.93)	(0.45)	(0.26)
BtoM					−0.14**	−0.10	−0.14**	−0.14**
					(−2.48)	(−1.82)	(−2.46)	(−2.44)
Tobin's Q					−0.02**	−0.01	−0.02**	−0.02**
					(−2.07)	(−1.45)	(−2.22)	(−2.29)
EPS					−0.05	−0.04	−0.04	−0.04
					(−0.96)	(−0.83)	(−0.87)	(−0.91)
OP/Share					0.00	0.00	0.00	0.00
					(0.93)	(0.43)	(0.73)	(0.78)
S60					−0.03	−0.02	−0.02	−0.02
					(−0.76)	(−0.52)	(−0.49)	(−0.46)
M60					0.03	0.07	0.02	0.02
					(0.71)	(0.15)	(0.41)	(0.30)
Adjusted R^2	0.13	0.05	0.11	0.12	0.18	0.10	0.16	0.17
Observation	306	306	306	306	306	306	306	306

Notes: This table reports coefficient estimates and t-values of cross-sectional regressions of the announcement returns on ownership variables for Chinese private placements during the period from 2006 to 2008. The dependent variable is the three-day event window cumulative abnormal return, CAR (−1, 1). ΔOwnership is the change in concentration ownership which includes the fraction place. ΔOwnership 1, ΔOwnership 2, and ΔOwnership 3 are separated by two turning points which are 5 and 20%. The other control variables are defined in Table III. **,***Significant at 5, and 1%, respectively

Table VI.
Cross-sectional tests on
SEO announcement effects
in Chinese stock markets

activity (decrease the proportionate bid-ask spreads), which enhances firm value. The piecewise regression results show that the coefficient of the change in ownership concentration (above 20 per cent) is positive (0.47) and statistically significant ($t = 2.86$). The coefficient of Conown is positive and is statistically significant at 10 per cent level. Similar to Wu *et al.* (2005), the positive relationship suggests that the new share issue in a high ownership concentration firms enhances firm value by

reducing managerial entrenchment. Since the change in ownership concentration enhances firm value in both private placement and public placement firms, we argue that enhancement in firm value is unlikely to be driven by monitoring effect as suggested by Wruck (1989). Hence, the firm issue new equity to outside investor to reflect the close incentive alignment between managers and shareholders.

Moreover, the coefficient of the State_dummy is positive and statistically significant in relation to announcement returns. This result suggests that firms tend to issue new equity to control agency cost arising from the dilution of voting rights. Both size and growth firm indicators (BtoM ratio and Tobin's Q) are negative and statistically significant. A low Tobin's Q suggests that the firm should invest more because the market value of firm is less than what it is worth. Additionally, negative coefficient for BtoM also points out that the small and higher growth prospect firms create better announcement returns. Nevertheless, none of the profitability indicators (ROE and OP/share) is statistically significant. Similarly, results for both the stock and market run-up are not statistically significant for both private and public placements as well. These results do not support the view that investors are overly optimistic about firm's future earnings.

V.4 Mechanism choice of private and public placement

The multivariate analysis of the choice between private and public placement is provided in Table VII. Probit regression analysis is used to estimate the probability of a firm choosing private placement using results reported in Table VI. The dependent variable is equal to 1 when the firm issue private placement, otherwise 0. According to Cronqvist and Nilsson (2005), probit regression model can estimate the marginal effect at the overall sample mean and evaluate the discrete change when there is movement towards 1 from 0 for the dummy variables.

Results reported in Table VIII for Models 1-4 shows that the marginal effect of the Firstown and State_dummy variable (the probability of a firm conducting private placement) are both positive and statistically significant. These results support our *H3.3* that the entrenched controlling owners tend to have a high incentive to choose private placement. The results also support *H3.1* that the firm tends to have high incentive to reduce agency cost. Our results reported in Table VII is robust compared to the findings reported in Table V and Table VI, as the private placement produces a positive announcement abnormal returns and the relationship is positive and statistically significant for the State_dummy variable. Furthermore, state is another important proxy for information asymmetry. Sze (1993) suggests that the SOEs are most likely to have poor accounting and disclosure standards. Shirley and Xu (1988) state that SOEs' agent faces disutility for their efforts due to an inefficient incentive scheme and high agency cost, and therefore uses the information exclusively to shirk. Hence, the positive marginal effect of State_dummy variable suggests that firms with high-information asymmetry increases the probability of conducting private offerings.

We also include the log of market value and BtoM ratio as the proxy for size and Tobin's Q as the proxy for the magnitude of information asymmetry. Based on our earlier proposition that smaller firms have higher information asymmetry, we expect a negative sign for the coefficient estimation. The sign of the marginal effect of size (log of market value) is statistically significant, while for BtoM and Tobin's Q, the coefficients are negative and statistically insignificant. The results for the State_dummy variable and size of firm indicate a strong support for the information

| | Estimated marginal effects (*p*-value) | | | |
	Model 1	Model 2	Model 3	Model 4
Intercept	−2.22***	−3.79***	3.83	2.73
	(0.000)	(0.000)	(0.190)	(0.380)
FractionPlace	−2.24	−4.63	−6.04*	−6.96*
	(0.520)	(0.160)	(0.090)	(0.060)
Changfirst	−2.28**	−2.20**	−1.89	−1.90
	(0.040)	(0.050)	(0.130)	(0.120)
Firstown	12.96***	14.15***	15.77***	16.21***
	(0.000)	(0.000)	(0.000)	(0.000)
State_dummy	0.54***	0.42**	0.66***	0.67***
	(0.010)	(0.020)	(0.010)	(0.010)
ΔOwnership	9.45		13.76**	
	(0.12)		(0.040)	
ΔOwnership 1		15.68		34.16**
		(0.180)		(0.040)
ΔOwnership 2		2.94		12.87*
		(0.180)		(0.080)
ΔOwnership 3		6.81***		17.92**
		(0.000)		(0.020)
Leverage			−1.13	−1.10
			(0.160)	(0.17)
Size			−0.26**	−0.26**
			(−0.04)	(0.050)
BtoM			1.15	1.26
			(0.170)	(0.130)
Tobin's Q			−0.07	−0.06
			(0.560)	(0.660)
EPS			−1.21***	−1.10***
			(0.000)	(0.010)
OP/Share			0.01	0.00
			(0.620)	(0.850)
S60			0.82*	0.80*
			(0.070)	(0.080)
M60			−1.49***	−1.50***
			(0.010)	(0.010)
McFadden R^2	0.21	0.22	0.34	0.11
Observation	306	306	306	306

Table VII.
Probit regression analysis
of the choice between
private placement and
public placement

Notes: The sample is 253 private placements and 53 public placements which announce during the period of 2006-2008. All variables are defined in Table III. The dependent variable is 1 for firms conducting private placement, 0 for public placement. The table reports the marginal effect evaluate the mean change of going 0–1. *,**,***Significant at 10, 5 and 1%, respectively

asymmetry hypothesis. We conclude that SOEs with small market value will have high probability of issuing equity privately to reduce the degree of information asymmetry.

Krishnamurthy *et al.* (2005) examined the impact of flotation costs of the placement structures of corporate debt, and reported that firms with larger issue size erode the scale economies in flotation costs of public debt. Results reported in Table VII show that the marginal effect of FractionPlace on the probability of private placement is

	Year−1 %		Year + 1 %		Difference		Test equality of change	
	Mean	Median	Mean	Median	Mean	Median	*t*-test	Wilcoxon test
Panel A								
Private placement								
ROE	7.222	6.121	6.422	5.719	−0.800	−0.636	0.323	0.874
OP/REV	−29.419	6.957	5.216	7.901	34.635	0.395	0.926	*2.500**
EBIT/ASSET	5.312	4.210	4.490	3.959	−0.822	−0.093	0.965	1.081
No. of firms	238		238		238		238	
Private placement								
ROE	9.416	8.608	5.731	5.725	−3.685	−2.871	*−4.810***	4.277***
OP/REV	11.968	9.740	11.083	7.944	−0.885	−1.359	−0.494	0.881
EBIT/ASSET	6.382	6.505	4.433	4.527	−1.948	−1.379	*−3.719***	3.367***
No. of firms	44		44		44		44	
	Average years (−2, −1)		Average years (+1, +2)		Difference		Test equality of change	
Panel B								
Private placement								
ROE	12.333	5.852	5.399	4.543	−6.934	−0.835	−0.848	*2.412**
OP/REV	−17.280	6.750	7.222	7.193	25.219	−0.058	0.507	*3.628***
EBIT/ASSET	4.632	4.198	3.968	3.275	−0.664	−0.615	*1.831**	2.121**
No. of firms	238		238		238		238	
Public placement								
ROE	8.838	8.647	7.574	7.472	−3.652	−3.182	*−5.069***	4.125***
OP/REV	11.433	10.149	11.525	8.754	−1.185	−1.920	−0.759	1.488
EBIT/ASSET	6.057	6.049	5.408	5.355	−2.114	−1.597	*−4.384***	4.055***
No. of firms	44		44		44		44	

Notes: ROE, return on equity; OP/revenue, operating income divide by revenue; EBIT/ASSET, the earnings before interest and tax divide total asset. **,***Significant at 5 and 1%, respectively

Table VIII.
Operating performance for private and public placement

negative and is statistically significant for Models 3 and 4. This finding is consistent with results reported by Cronqvist and Nilsson (2005), suggesting that there exist diseconomies of scale in private placements. The other plausible explanation is that private placements alters the ownership concentration or creates opportunity for merger or acquisition. As the SOEs are highly controlled by the state, they would choose such an issue size that would not alter their control position.

Our results for ΔOwnership and split ΔOwnership with two turning points 5 and 20 per cent are included in Models 2 and 4 in Table VII. The marginal effect of ΔOwnership on probability of private placement is positive and statistically significant at 5 per cent level in Model 3, whereas it is insignificant in Model 1. We further investigate changes in ownership concentration for two turning points. Overall, the marginal effects of all the different levels of concentration ratio are positively associated with probability of choosing private placement. Since McFadden R^2 in Model 4 is 11 per cent which is much lower than Model 3 (34 per cent), we conclude that there is no significant difference between the changes in ownership concentration irrespective of the turning points.

If the new equity is issued only to the outside investors it will lead to the dilution of incumbent controlling shareholders' concentration ratio. Morck *et al.* (1988) pointed out that dilution of high controlling ownership structure may enhance firm value only when there is a managerial entrenchment. Therefore, our findings are in line

with Morck *et al.* (1988). Since the high controlling ownerships in SOEs are problematic, the dilution of SOEs may enhance firm value. Since the managers of SOEs may not act in favour of maximising shareholders wealth, it is not reasonable to conclude that SOEs will have high probability of choosing private placement due to monitoring effect.

V.5 Profitability analysis

The entrenched managerial issuers tend to choose private placement subject to enhancing monitoring of the firm. To examine whether private and placement issuers improve operating performance of the firm, we used the similar framework used by Cronqvist and Nilsson (2005) and Fung *et al.* (2008). Our results as reported in Table VIII provide comparison of the profitability variables: ROE, OP divided by total revenue ratio (OP/REV), and earnings before interest and tax (EBIT) divided by total asset (ASSET). We focus mainly on the change in the average profitability variable ratios for one-year and two-year pre-announcement day[1] and also for one-year and two-year average post-announcement day. For the calculations of the profitability ratios, we have used the values stated on the announcement of issuing day. The reason for using this value is that after the firm announces the prospectus of new equity issuing, they need to be verified by the CSRC. Therefore, the profitability values reported on the announcement of issuing day tends to provide more effective measure of the operating performance for share issuers.

Table VIII panel A reports the ROE for before and after one-year for both private and public placements. The results show that the ROE for private placement declines from 7.22 to 6.422 per cent during the period one-year before and after the announcement day. The mean for the change in ROE for one-year before and after is −0.8 per cent (on an average basis) and median −0.64 per cent. However, both change in mean and median are not statistically significant. In comparison, the result for the public placement shows a negative change in both mean and median and is significantly different from 0, as both *t*-values are high. Based on these results we conclude that the firm issuing new equity may involve earnings management (Teoh *et al.*, 1998; Dang and Yang, 2007; Fung *et al.*, 2008). Teoh *et al.* (1998) argues that the issuer can raise the reported earnings by altering the discretionary accounting results. The higher earnings reported before the issue may lead the investor feeling over optimistic about the future earnings. Since the regulation requirement for ROE is higher and in order to qualify for issuing public equity, firms have a strong motive to manage earnings prior to the issue.

Table VIII panel B report results for the longer period measurement, that is, the average ROE for the two-year post-announcement day. The *t*-values for public placement are statistically significant; therefore we reject the null hypothesis that the change in mean is different from 0. Overall, the change in mean is negative for the public placements. However, change in the median of ROEs for the private placement is −0.84 per cent which indicates that ROE decreased in the two-year period post-announcement. Therefore we conclude that the post-announcement of ROE performance have deteriorated following share issue.

However, the change in mean of OP/REV for private placement is 34.63 per cent and is statistically insignificant, whereas the median is 0.40 per cent and is statistically significant at 5 per cent level. It is to be noted that there are large outliers in the measure of mean for OP/REV. The change in mean and median of OP/REV for public

equity issuers is −0.88 and 1.3 per cent, respectively. The EBIT/ASSET for private placement did not produce a statistically significant negative change in the short term, but appears to have underperformed in long run (−0.62 per cent on median, and t-value = 2.121). The result for EBIT/ASSET for the private placement shows that it has outperformed the public placement issuers which suffer from a high negative change in EBIT/ASSET in both the short and the long horizon. The poor earnings for public placements have a negative effect on firm value and therefore, do not support the argument that public issue of shares may enhance firm's value even though there is an increase in the liquidity.

To investigate whether the different firm characteristics generate varying results for the earnings performance in response to share issuing, we have grouped the profitability variables relating to the size, change in ownership concentration caused by diluting new share issues, and announcement cumulative abnormal returns. For example, we want to determine whether a negative earnings performance is more likely in concentrated ownership structure and larger firms. The results reported in Table IX panel A show that the t-value for the large size associated to ROE are all statistically significant for both the private and public placements. This result strongly supports the view that firms with a negative change in ROE surrounding announcement day are mainly ownership concentrated large size firms. The magnitude of decrease in change in ROE of private placement is lower than in public offerings. Since the change in ROE also decreases in the smaller size firm for public placement, we conclude that the decrease in change in ROE is not only occurring in the ownership concentrated larger size firms conducting public share issues but also in smaller size firms as well.

Moreover, we have used the change in ownership concentration to split the variables into different groups to be able to measure the relationship between new concentrated owners and firm's earnings performance. We find that the negative change between small and large change in concentrated ownership are more likely in small portfolio of ROE and OP/REV, but large portfolios for EBIT/ASSET. During the one-year period surrounding the announcement day, large portfolios of ROE based on the change in ownership concentration (CHOWN) shows positive change in ROE for both mean and median, which are 0.44 and 1.07 per cent, respectively. Overall, the change in ROE in small change ownership concentrated portfolios decreases to about 0.92 per cent in one-year surrounding the announcement day and −0.81 per cent for two-year average before and after, for the median.

Table IX provides the change in ROE, OP/REV, and EBIT/ASSET between a later year and an earlier year $(-1, 1)$ and $(-2, 2)$, which is grouped by high and low cumulative abnormal returns surrounding the announcement day. The change in profitability performance is negative and is statistically significant for high $CAR(-1, 1)$, thus suggesting that the higher $CAR(-1, 1)$ generate poor earnings performance. Nevertheless, the change in OP/REV and EBIT/ASSET for public placement is negative and is statistically significant. For example, the high $CAR(-1, 1)$ portfolio for the change of OP/REV between a later year and earlier year $(-2, 2)$ are −0.57 per cent for private placement and −1.75 per cent for the public placement. These results suggest that private placement has better performance compared to the public placement.

Overall, the changes in ROE are negative and statistically significant for the public placement. The portfolios grouped by size, change in ownership concentration, and $CAR(-1, 1)$ do not show any different results. Therefore, we conclude that the firms issuing public shares suffer from decreasing ROE after the announcement. Similarly,

| | | Private placement | | | | Public placement | | | |
| | | Change (−1, 1) | | Change (−2, 2) | | Change (−1, 1) | | Change (−2, 2) | |
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Panel A: groups of ROE									
SIZE	Small	0.74	−0.17	0.21	−0.34	*−2.36***	*−1.46***	*−1.98***	*−1.69**
		(1.15)	(0.12)	(0.29)	(−0.56)	*(−2.38)*	*(−2.45)*	*(−1.97)*	*(−1.74)*
	Large	*−2.08***	*−1.53****	*−1.91****	*−1.81****	*−4.79****	*−4.90****	*−5.05****	*−4.72****
		(−2.32)	*(−2.86)*	*(−3.05)*	*(−3.56)*	*(−4.15)*	*(−3.39)*	*(−5.10)*	*(−3.70)*
CHOWN	Small	−1.00	*−0.92***	−0.82	*−0.81***	*−4.37****	*−2.60****	*−4.10****	*−3.05****
		(−1.26)	(−2.17)	(−1.16)	(−2.27)	*(−4.10)*	*(−3.64)*	*(−4.28)*	*(−3.54)*
	Large	0.44	1.07	−1.07	−1.48	*−2.45***	*−2.65***	*−2.81***	*−3.27***
		(0.37)	(0.26)	(−1.30)	(−0.143)	*(−2.30)*	*(−2.15)*	*(−2.44)*	*(−2.09)*
CAR (−1, 1)	Low	−0.56	−0.51	−0.94	−0.29	*−2.82****	*−1.78****	*−3.17****	*−3.05****
		(−0.72)	(−1.10)	(−1.46)	(−1.44)	*(−4.22)*	*(−3.41)*	*(−3.37)*	*(−2.68)*
	High	−0.86	*−1.03***	−0.80	*−1.39****	*−4.46****	*−4.21****	*−4.06****	*−3.11****
		(−1.05)	(−1.83)	(−1.08)	(−2.66)	*(−3.21)*	*(−2.69)*	*(−3.55)*	*(−3.02)*
Panel B: groups of operating income/revenue									
SIZE	Small	*6.23***	*0.37**	−45.44	0.12	−3.45	−1.78	−2.71	−1.33
		(2.53)	*(1.83)*	(−0.92)	(0.66)	(−1.61)	(−1.55)	(−1.59)	(−1.36)
	Large	1.31	0.26	0.29	−0.79	−1.94	−1.89	*−3.64***	*−3.65***
		(0.46)	(0.57)	(0.16)	(1.41)	(−1.01)	(−1.23)	*(−2.27)*	*(−2.30)*
CHOWN	Small	*3.80**	0.35	−28.33	−0.04	*−3.32**	−1.32	*−2.95**	−1.69
		(1.93)	(1.75)	(−0.92)	(0.56)	*(−1.72)*	(−1.19)	*(−1.95)*	(−1.57)
	Large	3.33	−1.33	2.56	−2.91	−1.49	−3.61	*−3.65***	*−4.20***
		(0.77)	(−0.46)	(0.52)	(−1.01)	(−0.75)	(−1.68)	*(−2.00)*	*(−2.04)*
CAR (−1, 1)	Low	4.05	*0.93***	−45.35	0.07	−1.52	−1.97	−2.27	*−2.92**
		(1.41)	*(2.20)*	(−0.96)	(0.07)	(−0.92)	(−1.56)	(−1.43)	*(−1.74)*
	High	3.34	−0.31	2.59	−0.57	−3.71	−0.98	*−4.10***	−1.75
		(1.37)	(0.60)	(1.07)	(0.74)	(−1.62)	(−1.10)	*(−2.42)*	(−2.01)
Panel C: groups of EBIT/total asset									
SIZE	Small	0.28	0.12	−0.04	−0.11	*−1.14**	−0.73	−1.08	*−0.84**
		(0.87)	(0.42)	(−0.13)	(−0.82)	*(−1.72)*	(−1.62)	(−1.59)	*(−1.74)*
	Large	*−0.91***	*−0.47*	*−1.06****	*−0.93****	*−2.55****	*−2.14****	*−2.92****	*−2.66****
		(−2.23)	*(−2.63)*	*(−2.86)*	*(−3.65)*	*(−3.18)*	*(−2.87)*	*(−4.39)*	*(−3.70)*
CHOWN	Small	−0.36	−0.28	−0.43	*−0.49***	*−2.28****	*−1.50****	*−2.35****	*−1.57****
		(−0.82)	(−1.02)	(−1.19)	(−2.09)	*(−3.17)*	*(−2.85)*	*(−3.59)*	*(−3.62)*
	Large	−0.25	−0.03	*−1.06***	*−1.10***	−1.24	−0.99	−1.58**	−1.73**
		(−0.43)	(−0.57)	*(−2.07)*	*(−2.17)*	(−1.63)	(−1.47)	(−2.16)	(−2.04)
CAR (−1, 1)	Low	−0.04	0.15	−0.23	−0.18	*−1.05***	*−1.03***	*−1.45***	*−1.63***
		(−0.11)	(0.31)	(−0.69)	(−1.29)	*(−2.37)*	*(−2.05)*	*(−2.34)*	*(−2.33)*
	High	−0.65	*−0.51****	*−0.91****	*−0.95****	*−2.70****	*−1.96***	*−2.65****	*−1.53****
		(−1.60)	*(−2.70)*	*(−2.73)*	*(−3.37)*	*(−2.89)*	*(−2.50)*	*(−3.54)*	*(−3.05)*
No. of firms		195				44			

Notes: *,**,***Significant at 10, 5 and 1%, respectively

Table IX.
Operating performance group by size, change in concentration ownership, and three-year cumulative abnormal returns

the change in OP/REV and EBIT/ASSET for public placement are also showing negative change, but mainly concentrated in large size, and high *CAR*(−1, 1). However, the negative change for OP/REV and EBIT/ASSET are larger for a small change in the ownership concentration.

These results overwhelmingly support the view that both private and public placement has resulted in the deterioration in firm performance. Size effect appears in the post-performance for private placement. The large size portfolio shows negative performance but is statistically significant between later year and earlier year $(-1, 1)$ and $(-2, 2)$. The change in ROE grouped by change in ownership concentration is concentrated on small portfolios, while the EBIT/ASSET is concentrated in large portfolios. Therefore, we conclude that the change in concentrated ownership may not affect the operating performance. In fact, it is argued that the monitoring effect do not enhance monitoring management. The post-announcement positive returns do not necessary mean better operating performance because the investors are too optimistic on the current year earnings and future earnings. The results reported in Table IX shows that the negative change is mainly concentrated in high $CAR(-1, 1)$ portfolios. Lastly, evidence shows that public placement leads to poor performance and size effect is also apparent, such as, the magnitude of decrease in the change in ROE is smaller in smaller size firms.

VI. Conclusions
We investigate the performance of SEO after Chinese stock markets started to implement share split reform in 2005. The share split reform has a significant effect on the Chinese stock markets, via the new equity issue. Therefore, given this situation, we review the announcement return behaviour and operating performance for private and public placement over the period from 2006 to 2008.

For the three-day announcement window, we found that the mean cumulative abnormal return to be 4.3 per cent for the sample of 237 private placements and negative mean cumulative abnormal return for public placement for 58 public placements. The evidence from prior studies suggests that the market reacts positively for the firm issuing private equity to the formation of strategic and share purchases by institutional investor. Chan *et al.* (1997) reported statistically significant positive abnormal returns for the firm announcing the formation of a strategic alliance. Wruck and Wu (2009) documented that the relationship between buyer and issuer is an important factor that affects firm's value.

In the cross-sectional regression analysis, we tested the monitoring effect similar to the method employed by Wu *et al.* (2005). Using the change in ownership concentration caused by new share dilution as proxy for monitoring effect, our results confirmed the positive relation between change in ownership concentration and firm value. However, recent studies have challenged the monitoring effect by arguing that equity is issued privately to sophisticated investors who are active and enable enhancement of monitoring of management to generate higher firm value. We argue that the highly concentrated ownership structure for Chinese SOEs could benefit from the private placement because it would reduce the agency problem by diluting the voting rights of existing concentrated shareholders.

The *ex post* poor operating performance of private placement does not support the argument of monitoring effect. The results show that the profitability ratios, that is, ROE, OP/REV, and EBIT/ASSET deteriorated after the announcement day. Therefore, we conclude similar to Barclay *et al.* (2007) that investors are not active after private placement. We further argue that the positive announcement returns arising from the monitoring effect only persists in the short term. The investors are overoptimistic about the current year earnings and the future growth prospects. We find similar results to Wu *et al.* (2005) that there is a significant correlation between incumbent

shareholder concentration ratio and positive announcement returns. This is because the high concentrated owners may hurt the incentive alignment and not increase monitoring for SOEs firms. The evidence supports the argument proposed by Wu *et al.* (2005) that the close incentive alignment at a high level of ownership concentration creates a positive information effect from new equity issues.

Using the probit estimations we investigated the determinant of choice of equity selling mechanisms in private and public placements. We found that at the higher magnitude of information asymmetry, Chinese firms tend to choose private placement, particularly the SOE firms. This finding provides support to the view that the private placement could mitigate the underinvestment problem and informational asymmetry. Furthermore, our findings support the control hypothesis. We find that the high controlling margin firms tend to choose private placement, given that the first ownership concentration ratio is statistically significant and positive and change in first ownership is statistically significant and negative.

Our results for the change in operating performance (for the earlier and later year related to the announcement day) are poor for both flotation methods. More importantly, we find that the magnitude of decline in operating performance are mainly contributed by large size, thus smaller issuers suffer less form the deterioration in operating performance. Moreover, we argue that smaller size issuers reduce information asymmetry throughout equity offering and thus enhance firm's value.

Note

1. Announcement day is the prospectus announcement day.

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