

# **Ownership Dynamics after Partial Privatization:**

## **Evidence from China**

by

Qi Quan

Nancy Huyghebaert

Katholieke Universiteit Leuven, Belgium \*

### **Abstract**

This paper studies the determinants of ownership dynamics in 430 Chinese state-owned enterprises that experienced a share issuing privatization during 1994–2002. For this purpose, we build probit models to investigate the driving forces behind a further decrease in government ownership during the first five listing years. We thereby explore the nature of this decrease, by differentiating between the issuance decision, where state ownership dilutes as a result of new public share offerings, and the divestment decision, where the government sells some of its own shares to non-state-owned institutions. We find that better-performing and highly leveraged SOEs with larger investment opportunities are more likely to issue new shares after SIP. Yet, the issuance decision is also timed when market conditions are favorable. The results of a split-sample regression analysis further show that firm-level financing needs and overall market conditions became even more important drivers of the issuance decision over time. Regarding the divestment decision, we find that the Chinese government is more likely to sell its shares in the smaller and bad-performing firms. Variables that capture the size of potential managerial incentive problems are important but play no incremental role after controlling for performance at the level of the SOE.

---

\* The authors thank Hong Bo, Yiping Huang, Pei Sun, Reinhilde Veugelers, Changqi Wu and Zhongmin Wu for useful comments on an earlier draft of this paper. Also, they are grateful to participants at the All China Economics (ACE) International Conference (Hong Kong, December 2006) and the Chinese Economics Association (CEA) Conference (Nottingham, April 2007). Finally, they wish to sincerely thank K.U. Leuven for the financial support for a research visit to Fudan University (Shanghai, P.R. China) and the Shanghai Stock Exchange Research Centre during the spring of 2006 (BIL 04.01).

Corresponding author: Qi Quan, Katholieke Universiteit Leuven, Department of Accountancy, Finance and Insurance, Naamsestraat 69, 3000 Leuven, Belgium. Qi.Quan@econ.kuleuven.be

## 1. Introduction

In recent years, the privatization literature has offered some precious insights into a wide range of topics, including why to privatize, how to privatize and whether privatization improves firm performance.<sup>1</sup> Although privatizations tend to cluster within countries, the design of a large-scale privatization program has received far less attention in the literature. A few studies have examined the choice of privatization method and the pricing and share allocation decisions in share issuing privatizations (SIPs) within a single country (e.g., Brada, 1996; Lopez-de-Silanes, 1997; Dewenter and Malatesta, 1997; Jones *et al.*, 1999; Schindele and Perotti, 2002; Megginson *et al.*, 2004; Quan and Huyghebaert, 2006). Thereby, an SIP is defined as a public offering of common stock by a firm with government ownership (e.g., Dewenter and Malatesta, 1997; Jones *et al.*, 1999). Yet, according to Megginson and Netter (2001), little is known about more complex issues, such as the order a government follows in privatizing state-owned enterprises (*sequencing*) and the decision to sell a state-owned enterprise (SOE) at once or in stages (*staging*). This paper is concerned with this second research topic of *staging*, which is typical for share issuing privatizations.

Gupta (2005) indeed argues that many SIPs are partial in nature, whereby the government only sells non-controlling shares in the initial offering. In a sample of 630 SIPs from 59 countries, Jones *et al.* (1999) document that government majority ownership is sold in less than 30% of the SOEs at the initial offering. Two interesting questions arise from these observations: does the government further reduce its stake in SOEs after their SIP and what firm and market variables drive this decision? On a theoretical level, Dewatripont and Roland (1995), Boycko *et al.* (1996), Cornelli and Li (1997) and Biais and Perotti (2000) point out that a gradual approach enables a privatizing government to build reputational capital and domestic support for its privatization program, to avoid social turmoil engendered by a radical ownership change and to take the time to identify the owners that are able to maximize firm value. The empirical work in

---

<sup>1</sup> See Megginson and Netter (2001) and Shleifer (1998) for an extensive survey on the privatization literature.

this area is limited, though. Also, it mostly relates to the privatization experience of Russia and countries from Eastern Europe, where governments typically have followed a Big-Bang privatization approach and rather quickly sell out their stake to foreign enterprises and employees (e.g., Jones and Mygind, 1999; Bishop *et al.*, 2002). Also, the privatizations in these countries generally are not SIPs.

This paper empirically investigates the forces that drive a further reduction in government ownership after partial privatization in the case of Chinese SIPs. Under the policy of privatizing all but the largest and strategically important SOEs, privatization has had a significant impact on the Chinese economy.<sup>2</sup> The first (partial) privatization occurred in 1984, when the government permitted a department store in Beijing to sell shares to its employees. In 1990, 10 companies became listed through a share issuing privatization for the first time. In fact, the stock exchanges of Shanghai and Shenzhen were established in 1990 and 1991, respectively, to facilitate future SIPs. By the end of 2005, more than 1000 SOEs of middle and large size have been privatized through listing some of their shares on these two national exchanges. These firms represent about 93% of all publicly quoted firms in Mainland China. More important for this study is that the Chinese government only partially reduces its stake at the moment of SIP. Quan and Huyghebaert (2006), who examine the share allocation and pricing decisions in 430 Chinese SIPs on the Shanghai stock exchange during 1994–2002, show that the average SOE has a state ownership of 78.69% before and 56.63% after SIP. Also, the Chinese government owns a majority stake in 368 out of 430 SOEs right before SIP; only in 62 firms (16.85%), this 50% stake is relinquished at SIP.

In a follow-up study, this paper now investigates the determinants of ownership dynamics in these same 430 Chinese SOEs after their stock market introduction. For this purpose, we

---

<sup>2</sup> Overall, the Chinese state has reduced its economic importance from approximately 80 percent of GDP in 1978 to 30% in 2005 (Business Week, August 22, 2005). As of 2000, China has emerged as the most active privatizing country, accounting for more than 20% of worldwide privatization proceeds (Kikeri and Kolo, 2005). Still, SOEs remain a dominant economic force, employing half of China's 750 million workers, controlling 57% of its industrial assets and dominating key industries such as financial services, power, and telecommunications (McKinsey Quarterly, October 2004).

follow these firms during their first five listing years. To our knowledge, this paper is the first to study the post-SIP ownership dynamics in China. Besides contributing to the privatization literature, our study also adds to the corporate governance literature. The latter stream in the finance literature has long established that a firm's ownership structure is important, as it significantly impacts firm value and growth, especially in the presence of agency problems that arise from a separation of ownership and control. Given these ideas, numerous studies have empirically examined the influence of ownership structure on firm value.<sup>3</sup> Nevertheless, this research largely considers ownership structure and the changes therein as exogenous, i.e. unrelated to any firm characteristics. Two seminal papers have challenged this assumption. Demsetz (1983) argues that firm ownership structure may be an equilibrium outcome of the decisions by a firm's various shareholders whereas Demsetz and Lehn (1985) provide empirical evidence that ownership is affected by firm characteristics. More recent empirical studies on the determinants of ownership structure confirm that ownership is indeed endogenous (see, for example, Himmelberg *et al.*, 1999; Jones and Mygind, 1999; Demsetz and Villalonga, 2001).

Rather than examining the cross-sectional variation in ownership structure at one (or more) point(s) in time, this paper focuses on (large) changes in SOE ownership within the first five years after SIP, i.e. *ownership dynamics*. In that way, we should be able to better understand how ownership structure *evolves* over time, depending on various firm and market characteristics. This set-up is similar to the framework of Goergen and Renneboog (1999), who analyze the ownership evolution of listed firms in Germany and the UK within the first six post-

---

<sup>3</sup> One stream in the literature analyzes the relation between managerial stock ownership and firm value (e.g., Morck *et al.*, 1988; McConnell and Servaes, 1990). Yet, these studies are not relevant in the Chinese context, as managerial ownership of shares is a rare and marginal event. Indeed, it was only during a limited time period that employees – not just managers – received some shares during the process of SIP; these shares were collectively owned by all employees and could not be easily sold. Another strand focuses on the relation between block ownership and firm value. Holderness and Sheehan (1985) and Barclay and Holderness (1991), for example, find that block purchases typically result in an increase of stock prices. Shome and Singh (1995) show that block purchases also lead to modest improvements in accounting returns, besides a share price appreciation. The results are not one-sidedly positive, however. McConnell and Servaes (1990), for example, fail to find a significant relation between firm value and the presence of blockholders.

IPO years.<sup>4</sup> Likewise Helwege *et al.* (2006), we use probit regression analysis to investigate sizeable changes (3%, 5%, and 10%, respectively) in state ownership in each of the first five listing years. Thereby, we explicitly take into account that government ownership may fall when 1) the total number of shares outstanding is increased as a result of new shares issuance, and the participation of the Chinese state in the offering is less than its proportional holdings of SOE shares; or 2) the Chinese government divests some of its own shares in the SOE. In their empirical analyses, Helwege *et al.* do not explicitly distinguish between a change in insider ownership as a result of new shares issuance on the one hand and that of active selling by insiders on the other. The reason is that in their sample various motives may underlie an increase in the number of shares outstanding, including not only seasoned equity offerings (SEOs) to raise cash, but also the issuance of new shares to pay for M&As in a stock swap, the exercise of stock options and warrants as part of managerial compensation schemes, and the conversion of convertible debt into equity. In the case of China, especially during the period of our study (1994–2005), stock acquisitions – i.e. the compensation of M&As by bidder stock – never took place.<sup>5</sup> In addition, by end 2005, less than 20 companies (SOEs and private enterprises) on the Shanghai stock exchange ever issued convertible bonds whereas stock options have never been part of managerial compensation.<sup>6</sup> Finally, before 2006 new shares were never issued in a private transaction with institutional investors. Indeed, when a listed SOE raised new funds, these shares were always placed in the public equity market.

---

<sup>4</sup> Helwege *et al.* (2006) have a similar framework, but use a longer window of 16 years to examine the evolution of insider ownership (i.e. ownership held by officers and directors) of IPO firms in the USA. For our sample, it is impossible to examine such a long post-SIP window as the stock markets were only recently established.

<sup>5</sup> For the UK, Franks *et al.* (2004) find that increases in the number of shares outstanding because of M&As play a central role in post-IPO ownership dilution. This conclusion is also confirmed in the study of Goergen and Renneboog (1999). In contrast, Helwege *et al.* (2006) find that seasoned equity offerings and stock swaps in M&As constitute only a fraction of new shares issuance in the USA. Rather, option compensation schemes are largely responsible for increases in the number of shares outstanding. Finally, the sale of shares by insiders post-IPO are as important, on average, in explaining the decrease in insider ownership as the issuance of new shares by the listed firms themselves.

<sup>6</sup> It was only as of 2006 that some firms have started to issue stock options as a result of the 2005 ownership reform (see footnote 7 for more details on this reform). Yet, these stock options were not distributed to the management, but were allocated for free to the owners of tradable shares, to compensate them for the massive circulation of non-tradable shares as a result of the reform, which is expected to depress share prices.

As far as the divestment decision is concerned, the Chinese case provides another interesting and rather unique setting. On the one hand, at the moment of SIP *new* shares are being sold to Chinese retail and institutional investors in the A share market, which can be traded in the aftermarket. Yet, institutional investors are virtually absent in the Chinese A share market (e.g., Sun and Tong, 2003). Consequently, external investors in the free float of listed SOEs neither have the capabilities nor the interest to monitor firm management. Hence, SOEs may suffer from the same agency problems of equity encountered by many private listed firms in developed countries where managerial incentives are not sufficiently aligned with those of external investors. As China also lacks effective external governance mechanisms, such as an efficient legal system and an active takeover market, these agency problems of equity cannot be ignored. On the other hand, after the SIP, it is impossible for the government to divest its stake by selling some of its own shares on the secondary market, at least during the period that we examine.<sup>7</sup> The reason is that its shares remain non-tradable and can only be sold – typically in a block – after negotiation with a legal person, i.e. an institutional investor.<sup>8</sup> Hence, unlike the study of Helwege *et al.* on US data, where it is unclear whether a divestment of shares by insiders results in a more dispersed ownership structure or, alternatively, the accumulation of shares by another major shareholder (i.e. a blockholder),<sup>9</sup> we can clearly relate a divestment of state shares to a larger involvement of an external blockholder and thus – possibly – monitoring. Hence, we will develop some hypotheses from the literature on the benefits and costs of active monitoring when information asymmetries and agency problems are prevalent to explain the

---

<sup>7</sup> Note that since June 2005, the Chinese government has initiated a mass reform by first approving 46 publicly quoted and partially privatized SOEs to have their non-tradable shares circulating in the near future, after working out a feasible plan with the owners of their tradable shares. As of January 2006, most SOEs listed on the Shanghai and Shenzhen stock exchanges were allowed to start such negotiations. This is an important move to pave the road for further sales of state shares within these firms, but the driving forces behind state ownership dilution in these SOEs are likely to be different from those during the time period that we examine in this paper. Nevertheless, we acknowledge that the Chinese government may have learned from its experience re post-SIP ownership dynamics in the earlier years – as examined in this paper – and consider the decision processes in the reform as an important topic for future research.

<sup>8</sup> Only the sale of state shares to non-government-owned legal persons is considered as a divestment of state shares in our study. The reason is that we classify shares held by state-owned legal persons as *indirect* state shares.

<sup>9</sup> Not surprisingly, Helwege *et al.* do not find that information asymmetries and agency problems are an important determinant of insider ownership evolution post-IPO.

government divestment decision. Nevertheless, when the government continues to pursue political objectives in addition to profit maximization, the motives for divesting to a blockholder post-SIP could be different from those involving a blockholder in private listed firms (e.g., Bethel *et al.*, 1998; Heiss and Köke, 2004). For instance, the government may choose to limit its sale of shares to outside blockholders to avoid employment losses caused by an external monitor pushing more strongly for firm efficiency.

In sum, state ownership dilution post-SIP can be related to only two decisions in the case of partially privatized SOEs in China: the decision to issue new shares to raise cash for the firm on the one hand and the decision to sell existing state shares to a non-state-owned institution (blockholder) through negotiation on the other hand. This rather simplistic setting thus provides an additional advantage to disentangle the determinants of ownership dynamics, based on the *nature* of the change.

Not surprisingly, our results on the ownership dynamics of partially privatized Chinese SOEs after their listing are totally different from those of earlier studies on private-firm IPOs (e.g., Goergen and Renneboog, 1999; Helwege *et al.*, 2006) and even from those on ownership dynamics after privatization in Russia and Eastern Europe (e.g., Bishop *et al.*, 2002; Jones and Mygind, 1999). First, we show that the decrease in state ownership resulting from new shares issuance is driven by the better performing but highly leveraged SOEs; the link with firm-level investment opportunities is positive in the full sample, if significant. Yet, firms in regulated industries are less likely to issue new shares, especially in large seasoned equity offerings. Like Helwege *et al.* (2006), we also find supporting evidence for a market timing explanation underlying new shares issuance. In particular, our results show that during periods of high firm-level stock returns, partially privatized SOEs are significantly more likely to issue new shares. In addition, when aggregate market conditions are favorable, firms are more likely to implement a relatively large seasoned equity offering. Remarkably, the decision to issue new stock in a particular year is positively influenced by the percentage state ownership in the previous year,

suggesting that SOEs where the government has retained a large (majority) stake are less constrained to issue new shares, *ceteris paribus*. Finally, split-sample regression analysis using 1999 as dividing year reveals some important differences across the earlier and later period. In earlier years, the better-performing and highly leveraged SOEs are more likely to issue a significant portion of new shares to the general public after SIP, but there is no clear indication that this decision is driven by the SOE's financing needs. In the later period, firm-level financing needs, as captured by a higher sales growth rate and – to some extent – a higher capital intensity, do significantly increase the likelihood of new shares issuance. Yet, the impact of leverage has become less clear. Also, the market-timing phenomenon shows up only in the later period, suggesting that over time SOEs start to behave more like private companies in developed economies.

As far as the government's divestment decision is concerned, we find that the Chinese state is more likely to sell some of its shares in the smaller SOEs with low internal cash generation whereas it hardly divests shares in SOEs from regulated industries. In some models, we find a positive impact of firm leverage. For divestment decisions smaller than 10%, the firm's sales growth has a positive impact, suggesting that the government is wary that these SOEs may destroy a lot of firm value. For the larger divestment decisions (5% and 10%), we also find that the market return has a significantly negative impact. In all models, we document an inverse U-shaped relation between state ownership and divestment, indicating that for SOEs where the Chinese government holds a large stake, the incentives of divesting to an external blockholder are conversely lower. Overall, we do not find much evidence that the variables capturing the size of potential managerial incentive problems play an important role in ownership dynamics after partial privatization once the SOE's performance is controlled for. As these variables are significant at the univariate level, our results suggest that managerial incentive problems may – at least in part – explain the low performance of some of the SOEs in



our sample. Finally, firm risk has a significantly negative impact on the divestment decision, which can be explained by the specific Chinese context.

The remainder of this paper is organized as follows. Section 2 develops hypotheses from the privatization, corporate finance and governance literature. Section 3 discusses the sample selection criteria and presents some descriptive statistics. The determinants of ownership dynamics after SIP are examined in Section 4. Finally, Section 5 concludes the paper.

## 2. Theory and Hypotheses

Unlike the SIPs studied by Megginson *et al.* (1994) and Jones *et al.* (1999), the Chinese government does not explicitly sell its own shares through a secondary offering at SIP-time, but rather raises new equity for the SOE through a primary offering. Chinese SIPs thus increase the SOE's asset and equity accounts by the same amount, but also change the firm's ownership structure to some extent. As a result of the SIP, a new category of shares – A shares – arises. These shares are exclusively available to Chinese citizens and domestic institutions;<sup>10</sup> they are mostly held and traded by individuals, however (e.g., Sun and Tong, 2003). By contrast, the state shares retained by the Chinese central and local governments could not be traded freely in the secondary market before the most recent ownership reform (see also footnote 7). Besides, SOEs may also have legal person shares outstanding before SIP, which are the result of historical ownership reforms and equity-for-debt swaps. Legal person shares – which are also non-tradable in the secondary market – are owned by domestic institutions. These include stock-holding companies, non-bank financial institutions, and SOEs that have at least one non-state

---

<sup>10</sup> End 2002, the A share market has been opened to some extent to foreign investors. Specifically, foreign institutional investors who are approved by market regulators (i.e. QFII, qualified foreign institutional investors) are permitted to initiate limited investments in the A share market; overall, their stake cannot exceed 10% in any single Chinese firm. In 2006, new rules further allowed foreign strategic investors – i.e. investors holding at least 5% of the firm's shares during a period of three years – to open an A share account. However, the role of these foreign investors is minimal in China, especially during the period that we examine. In other words, despite its recent partial opening to foreign investors, during our sampling period the A share market is a market that is dominated by Chinese domestic retail investors.

owner.<sup>11</sup> Typically, such a legal person holds large blocks in only one or a few companies. Finally, some SOEs have issued non-tradable employee shares<sup>12</sup> and/or B/H shares for foreign investors.<sup>13</sup> B/H shares issuance usually happens before A shares issuance and the number of seasoned equity offerings post-SIP in the B/H share market is trivial (see further). End 2005, about two-thirds of the shares in publicly quoted Chinese SOEs remain non-tradable, of which state shares and state-owned legal person shares represent nearly 80%. Hence, it is impossible to obtain a majority stake in most firms through purchasing their shares in the secondary market.

The post-SIP ownership dynamics in China are characterized by a mixed process of state ownership dilution when more shares are being issued through rights issues or primary seasoned equity offerings<sup>14</sup> on the one hand and when state ownership is being sold to a non-state-owned institution through negotiation (these shares are then classified as *non-state-owned legal person shares* and remain non-tradable<sup>15</sup>) on the other hand. Therefore, two research questions guide

---

<sup>11</sup> Among legal person shares, there is a category of *state-owned* legal person shares, which are held by a firm appointed to look after the government's interests. The distinction between state shares and state-owned legal person shares is important as Sun and Tong (2003) find that remaining state ownership negatively affects post-SIP performance whereas legal persons have a positive impact. So, their results show that legal persons behave differently from the Chinese government. This study therefore categorizes *state-owned* legal person shares as *indirect* government shares. Legal persons can divest their shares by selling them to other legal persons, after getting approval from the CSRC (Central Securities Regulatory Commission).

<sup>12</sup> These shares generally become tradable (and thus ordinary A shares) after a lock-up period, which usually lasts for six to twelve months after the SIP. However, on December 12, 1998, the government decided to end employee shares issuance. In our sample, 237 SOEs introduced employee ownership (including shares offered to the management) at the moment of SIP; these shares only represented 3.5% of total shares outstanding on average (median = 1.5%). As far as managerial ownership is concerned, the SINA Finance database shows that 60 SOEs have managerial stock ownership, with an average of 0.052% (median of 0.034%) for firms with non-zero managerial ownership. Although these percentages are small, we will examine the impact of managerial ownership on the issuance/divestment decision in Section 4.3.3 of this paper.

<sup>13</sup> B shares are listed on the Shanghai (SHSE) and Shenzhen (SZSE) stock exchange, with those listed on SHSE are denominated in US dollars whereas those listed on SZSE are denominated in Hong Kong dollars. H shares are listed on the Hong Kong stock exchange. In our sample, 17 firms have B shares whereas 16 firms have H shares outstanding. To be noted, Chinese domestic investors who have foreign currency accounts with their brokerage firm have been allowed to trade B shares since June 2001.

<sup>14</sup> In terms of seasoned equity offerings, there are two main forms in China: *rights issues*, which only involve existing shareholders (including the government and legal persons) and *primary seasoned equity offerings* which are open to all investors. The government sometimes transfers its right to participate in a *rights issue* to investors in the A share market (retail investors). The new shares that result from such a rights issue remained non-tradable and were classified as "right issues", i.e. a special category in the ownership structure. Since the year 2000, these shares were allowed to circulate after getting approval from the CSRC. When the ownership held by the general public increases as a result of the government giving up on a *right issue*, we deem the case as an issuance decision. In our sample, there are 38 firms that have a "right issues" shares category; this mainly occurred for firms listed before 1996.

<sup>15</sup> These shares are usually sold at a much lower price than the market price. As a result, even though their buyers are not able to realize a capital gain in the short run by selling their ownership immediately on the secondary stock market, they can still benefit from increased firm value should these shares be allowed to circulate in the near future. In fact, the 2005 ownership reform has made this possible. In addition, when blockholder monitoring creates firm

our analyses. First, what drives the decision to issue additional shares to the general public after the SIP, thereby allowing for a more diffuse ownership structure? Second, what drives the government's decision to divest some of its own shares to a non-state-owned institution? To be noted, given that the shares divested to a non-state-owned institution do not raise any new financing for the SOE and involve a clearly identifiable buyer, such as a non-state-owned firm or a financial institution, these shares likely are sold for different reasons than newly issued shares in the free float. More specifically, when the divested portion is large enough, say, more than 5% of total shares outstanding, the new shareholder's stake could be large enough to provide incentives to monitor the SOE. In contrast, an increase in the ownership stake of the general public in the A share market is less likely to generate additional monitoring, given that the Chinese stock market is largely dominated by small retail investors, who do not have the capabilities nor the incentives to monitor.

These two research questions are related to a number of literatures, including the privatization literature on the motives for privatization, capital structure theory on raising new equity financing and corporate governance theory on the benefits and costs associated with outside monitoring. We develop our hypotheses based on these theories while paying attention to whether and how Chinese institutional features could impact our conjectures. Table 1 summarizes our hypotheses.

\*\*\*\*\*

Insert Table 1

\*\*\*\*\*

## 2.1. Overcoming Financing Constraints

As indicated by many empirical studies, the financing needs of firms becoming listed for several years after their IPO might not be fulfilled at the moment of their stock market introduction. A lot of private firms that become listed on the stock market raise additional financing in the first

---

value, these institutions may benefit from larger dividends. Finally, the buyers themselves may have better access to bank loans when pledging their shares in the listed SOE (even when non-tradable) as collateral, which has been a standard practice in China (China Corporate Governance Report, 2003).

few years after their IPO. Helwege and Liang (1996), for instance, find that the 367 newly listed US firms in their sample complete 60 public bond issues, 71 seasoned equity offerings (SEOs) and 524 bank loans during their first five post-listing years. Also, according to Huyghebaert and Van Hulle (2006), 33% of the IPO firms in their sample raise additional equity during the first three listing years. The latter authors further show that the need to finance growth opportunities largely drives these SEOs post-IPO.

In the case of newly listed SOEs in China, firm financing needs are likely to be extensive, especially in the first few years after stock market introduction. On the one hand, partially privatized enterprises may need additional funds to finance their investment opportunities. On the other hand, they may need substantial financing to restructure their operations in a more market-conform way after partial privatization. As pointed out by Carlin and Aghion (1996), in a transition economy, restructuring needs in newly privatized firms induce the transfer of ownership to outsiders because deep restructuring usually requires additional capital from outsiders when the original owner (the state) is unable or unwilling to make more investments.

This hypothesis, however, is likely to have implications only for the decision to issue new shares to the general public after stock market introduction since no funds will flow to the firm when a divestment of government ownership to institutional investors takes place. Hence, we expect SOEs with larger financing needs to issue more new shares after their SIP. Specifically, given that SOEs with better investment prospects usually have larger financing needs, a higher historical sales or assets growth rate, a larger market-to-book ratio or larger capital expenditures should increase the likelihood of new shares issuance post-SIP, *ceteris paribus*. When the stock market is used to finance a restructuring of assets and operations, we may also find that the SOEs with the lowest operating efficiency (a high ratio of administrative expenses to sales and/or a low asset turnover ratio) raise more equity post-SIP.<sup>16</sup> In this regression, we control for firm size to take into account that larger SOEs may have smaller

---

<sup>16</sup> Unfortunately, we do not have SOE employment data to calculate more commonly used measures, such as real sales per employee (e.g., Megginson *et al.*, 1994; Boubakri and Cosset, 1998). Yet, we will use the ratio wages/sales as an alternative proxy for the SOE's operating efficiency.

investment opportunities. Alternatively, larger firms may face more stringent restructuring needs and thus be more likely to issue new stock. So, we are unsure about its sign in the issuance decision model.

In addition, we expect SOEs with limited internal cash generation to have larger external financing needs, *ceteris paribus*. We proxy the SOE's internal cash generation by EBITDA/total assets and expect it to bear a negative relation with the decision to issue new shares post-SIP. Furthermore, a high debt ratio could indicate that the firm has reached its borrowing limits and even more so when bank loans account for a large proportion of total debt outstanding. So, we hypothesize that leverage and the proportion of bank loans in total debt in particular will have a positive impact on the probability of raising more equity in the public A share market, *ceteris paribus*.

## 2.2. Promoting Operating and Financial Performance

The privatization literature has generally agreed that one of the most important motives for privatization lies in the disappointing operating and financial performance of state-owned enterprises. When the government is unable to effectively monitor the SOE's management, a clear incentive is provided for it to divest its stake in SOEs (e.g., Shleifer, 1998; Megginson and Netter, 2001). The intuition here is that poor firm performance *necessitates* a change in ownership structure to reduce the agency problems between managers and shareholders (e.g., Bethel *et al.*, 1998; Heiss and Köke, 2004). Following a gradual approach in privatization now may allow building domestic support and avoid social turmoil. Also, it may allow to better identify the owners that are able to maximize firm value. Hence, the government may further reduce its stake in a partially privatized SOE over time by selling shares to an institution with more capabilities as well as incentives to monitor, especially when the SOE performs poorly (e.g., Shleifer and Vishny, 1986).

In a related paper on the determinants of public share allocation at SIP-time, we fail to find evidence that the Chinese government allocates more shares to the general public in SOEs that are performing poorly. The reason likely is that China, an emerging-market economy, lacks an established institutional framework for efficient corporate governance by means of the stock market. On the one hand, the shares in the free float are largely held by retail investors, who lack the incentives as well as capabilities to monitor. As a result, the free-rider problem that was pointed out by Grossman and Hart (1986) is likely to be serious in the Chinese stock market. Moreover, Allen *et al.* (2005) conclude that in terms of law enforcement, China scores significantly below all average measures of the countries included in the sample of La Porta *et al.* (1998), regardless of their legal origins. On the other hand, about two-thirds of the shares in publicly quoted Chinese SOEs remain non-tradable end 2005; state shares and state-owned legal person shares represent nearly 80% of these. Hence, the market for corporate control is almost non-existent in China and the threat of a hostile takeover bid thus is not going to discipline SOE managers either. In sum, the lack of an external governance mechanism in China casts doubt about whether poor firm performance will lead the government to further allocate shares to the general public by means of new shares issuance. On the contrary, doing so could further enlarge the free cash flows that SOE managers could waste. Yet, the government may consider the divestment of state shares to non-state-owned institutions as an effective way of strengthening firm monitoring. Indeed, as shown by Shleifer and Vishny (1997), Denis and McConnell (2003) and Boubakri *et al.* (2005), a weak external governance mechanism usually induces a stronger internal mechanism, either by means of higher managerial ownership or by the introduction of large blockholders. In the case of China, managerial ownership of equity typically is trivial, which makes it unlikely as an effective internal mechanism. The disciplining role of the managerial labor market is also weak in China, especially for the SOEs where the government retains a large stake and continues to appoint and dismiss managers (e.g., Xu and Wang, 1997).

Hence, this paper focuses on the divestment of state shares to external blockholders after stock market introduction as a potential alternative disciplining mechanism.<sup>17</sup>

Under this hypothesis, we expect that SOEs with poorer operating or financial performance are more likely to experience a divestment of state shares to a non-state-owned institution post-SIP. We will proxy firm operating efficiency by the ratio of administrative expenses to sales and the ratio of sales to total assets, and firm financial performance by EBITDA/total assets. Besides, apart from the absolute level of firm performance, we will also take into account the possibility that the government is more likely to divest its stake when a deterioration in firm performance actually takes place after SIP. To that end, we will relate the probability of divestment to *changes* in firm performance post-SIP.<sup>18</sup>

To the extent that some firm characteristics have an impact on the benefits and costs of blockholder monitoring (e.g., Demsetz and Lehn, 1985; Jensen *et al.*, 1992; Himmelberg *et al.*, 1999), we expect that these may also influence ownership dynamics after partial privatization. Specifically, information asymmetries and the size of agency problems between insiders (managers) and outsiders (owners) could increase the benefits of building an ownership block for monitoring purposes. First, as argued by Su (2004), among others, a high debt ratio in the case of Chinese SOEs cannot be regarded as evidence of strong debtholder disciplining; rather, it may reflect bad performance and soft budget constraints. As the corporate bond market is virtually non-existent in China, bank loans are an important component of total debt outstanding. According to Gao and Schaffer (1998), bank loans to badly performing SOEs have been a major source of soft budget constraints. The threat to punish SOE failure by letting poor-performing

---

<sup>17</sup> For these SOEs, an outright sale of state shares to a monitoring private shareholder rather than an SIP may not have been achievable. For one thing, it was almost financially impossible for an institution to buy out a large SOE in a one-time sale. Indeed, the SOEs that are being introduced on the Chinese stock markets typically are the largest SOEs, for which a gradual approach is required to build domestic support for the privatization and avoid possible social turmoil. Also, it may allow the government to identify the owners that are able to maximize firm value.

<sup>18</sup> Alternatively, when the government is partly responsible for the decline in SOE performance after SIP through, for example, its pursuit of other objectives than profit maximization, bad performance is unlikely to be related to state ownership divestment after SIP. The reason is that firm management is not to blame for the bad SOE performance and the government likely is aware of this. So, there is no agency problem between the SOE management and the government, as the largest shareholder, in this case. Rather, there is an incentive problem between the majority owner and small retail investors in the A share market.

SOEs go bankrupt and be liquidated was seldom credible, especially for the largest SOEs (as studied in this sample). The reason is that the bankruptcy of such large SOEs could have engendered social instability because of the associated employment losses.<sup>19</sup> Consequently, we expect a positive relation between the likelihood of divestment and the debt ratio as well as the proportion of bank loans in total debt. Second, according to Gertler and Hubbard (1993) and Himmelberg *et al.* (1999), firms with more hard assets have a smaller scope for discretionary spending by their management and thus the needs and potential benefits of monitoring should be lower. If this hypothesis holds true, we expect that the percentage of hard assets (property, plant and equipment) will negatively impact the likelihood of divestment to a non-state-owned institution. Likewise, we also examine the impact of intangible assets/total assets, which is not highly correlated with the percentage of hard assets in our sample, and expect a positive coefficient on this variable. Third, a high dividend payout ratio is expected to ameliorate agency problems of equity since it reduces the opportunities for discretionary managerial spending (e.g., Rozeff, 1982; Jensen *et al.*, 1992). Hence, we conjecture that the percentage of earnings that are paid out as dividends significantly negatively affects the divestment decision. Fourth, according to Demsetz and Lehn (1985), among others, firm-specific risk is another important factor that increases the benefits of a more concentrated ownership structure. Indeed, when the volatility of stock returns is high, information asymmetries are larger, *ceteris paribus*, which increase the scope for managerial spending. Conversely, external investors may incur mal-diversification costs when owning a large stake in a risky firm, which suggests a negative relation between firm risk and the likelihood of building an ownership block. Like Himmelberg *et al.* (1999), we measure firm idiosyncratic risk by the standard deviation of the residuals from the market model on the basis of daily firm stock and market returns. Finally, we expect a negative relation between firm size and the likelihood of divestment for monitoring purposes since larger firms are

---

<sup>19</sup> Before the revision of the bankruptcy law on June 21, 2004, there simply was no unified bankruptcy procedure that could be applied to all debtors throughout the country. Also, before 2004 the rules governing bankruptcy differed across state-owned and other enterprises (Freshfields Bruckhaus Deringer, 2004). According to Su (2002), by the end of 1996, only 675 out of more than 11,000 SOEs (6.14%) were *ever* declared bankrupt. In more recent years, SOE bankruptcy rates remain artificially low.



usually subject to less information asymmetries, thereby decreasing the benefits of monitoring. Alternatively, the government may be reluctant to divest its stake in the largest SOEs for political reasons.

### 2.3. Signaling Costs of Underpricing

Based on the signaling models of Grinblatt and Hwang (1989) and Welch (1989), owners of high-quality firms can signal their firm's quality by offering investors larger underpricing at the moment of stock market introduction, which they expect to recoup over time by selling new shares at a higher price in future offerings, after firm quality is revealed. In other words, IPO underpricing can be used to leave a good taste in the investors' mouth. In the context of privatizations, Perotti (1995), however, argues that a larger reduction in state ownership at SIP needs to be offset with more underpricing, to compensate outside investors *ex ante* for the fact that the government may have greater incentives to continue interfering with the newly privatized SOE post-SIP. The reason is that if the government owns a smaller stake in the SOE after privatization – though without giving up its control over the partially privatized SOE – it can continue to pursue political objectives but with a smaller impact on its own wealth, as the adverse consequences of these actions on SOE value can now be shared with outside shareholders. As a result, to facilitate the privatization, governments should limit the fraction of shares floated at SIP or significantly underprice the offering when state ownership is reduced to a larger extent. This model has been supported empirically by Jones *et al.* (1999) and Quan and Huyghebaert (2006), among others.

To differentiate between underpricing that was needed to make the SIP possible and signaling to reveal firm quality, we calculate the residual underpricing after taking into account the positive relation between the fraction of shares floated and underpricing (see Quan and Huyghebaert, 2006).<sup>20</sup> We expect that this residual underpricing at SIP may possibly affect the

---

<sup>20</sup> In a first step, we estimate an OLS regression model for the fraction of A shares sold to general public at SIP-time using a number of firm and market variables that are measured in the year before the SIP as explanatory variables.

likelihood of new shares issuance post-SIP when it is used to leave a good taste in the investors' mouth. Alternatively, SIP underpricing could positively influence the government divestment decision post-SIP. Gomes (2000) and Habib and Ljungqvist (2001), among others, argue that when underpricing is costly, large owners may try to maximize their overall proceeds from divesting by limiting the shares to be sold at the moment of stock market introduction and selling shares gradually afterwards.

#### 2.4. Windows of Opportunity

As suggested by many IPO and SEO studies (e.g., Ritter, 1991; Booth and Chua, 1996; Van Bommel, 2002), firms tend to time new shares issuance in times of good market assessment. The reason is that fewer new shares need to be issued to collect a particular amount of financing when the firm's stock is highly valued, *ceteris paribus*. In addition, since the Chinese government has kept a rather tight control on share issuance every year, fearing that too many issues might crash the fledgling market, SOEs may have been allowed to issue more shares when market conditions were favorable. Besides stock prices, stock liquidity may also matter. Indeed, a higher turnover of shares means that the market for the firm's stock is deeper, so that the creation of new shares is less likely to have a large adverse price impact. Consistent with these ideas, Helwege *et al.* (2006) show that firm stock market performance and stock liquidity are the main determinants of ownership dynamics for US IPO firms during 1970–2001. Yet, they link a higher liquidity to a smaller price impact of insider sales of stock.

---

Using the predicted value of public share allocation, we try to explain underpricing in a second step (instrumental variable estimation). Underpricing is hereby defined as the first-day stock return (over the offer price) minus the corresponding Shanghai stock market return. In this model, we control for SALES GROWTH (the growth rate of real sales from two to one year before SIP), FIRM SIZE (the logarithm of total assets), LISTINGLAG (the logarithm of the number of days elapsed between the start of the share offering and share listing), LEVERAGE (book value of total debt divided by total assets), DEBT MIX (the ratio of short-term and long-term bank loans to total debt), PREALLOCATION (equals one if pre-allocation of shares to institutional investors took place and zero otherwise), MARKET RETURN (the return on the Shanghai stock exchange in the year before SIP), VOLUME (the number of SIPs in the previous year scaled by the total number of SIPs), FOREIGN (equals one if there was a B or H share offering before the SIP and zero otherwise), REGULATED (equals one if the firm is from a regulated industry and zero otherwise), and INDUSTRY DUMMIES (for each industry that contains at least ten sample firms). For more details, please refer to Quan and Huyghebaert (2006).

Likewise, Clarke *et al.* (2004) find that insiders are able to gain from timing the sale of their own shares in secondary equity offerings. Yet, we are unsure whether the sale of government shares is going to be affected by market timing behavior. The reason is that the shares sold by the government to another institution are not tradable on the secondary market. Nevertheless, when the transaction price of this sale is based to some extent upon the market price of the firm's shares in the free float, we may also find a window-of-opportunity effect here. Finally, we do not expect stock liquidity to have an impact on the divestment decision. Indeed, stock liquidity is included in Helwege *et al.* (2006) to capture the idea that a large block of shares can be sold without too much of a price impact. However, the sale of shares in a private transaction is not going to have a liquidity effect on the shares being traded in the free float.

### 3. Sample Selection and Summary Statistics

Our database includes the consolidated financial statement information on 599 non-financial firms issuing A shares for the first time on the Shanghai stock exchange during 1994–2002. It was obtained from Shenyin & Wanguo Securities Company Ltd, one of the most respectable investment bankers in China. We used 1994 as a starting year since new accounting rules closer to international standards were introduced in January 1994. As a result, including data before 1994 might cause comparability problems (see also Sun and Tong, 2003). As the data collection process was time consuming, we only included SOEs that became listed on the Shanghai stock exchange in our sample. While the listing requirements on SHSE are more rigorous than on SZSE, Sun and Tong (2003) find that SOEs do not behave differently upon SIP across these two exchanges. To be included in our sample, firms were required to have at least one year of pre-privatization consolidated financial statements in the database.

To focus exclusively on former SOEs, we selected firms in which the Chinese government – directly or indirectly via state-owned legal persons – owned a stake of at least 20% just before listing (see also La Porta *et al.*, 1999; Dinç, 2005). Detailed ownership data were

collected from the SINA Finance database, which provides information on the type of legal person, state-owned or not. Finally, as noted by many studies using Chinese stock market data (e.g., Chan *et al.*, 2004), there is usually a time lag between stock offering and the actual listing of shares. In some extreme cases, there is a lag of several years for stocks with ‘pending historical problems’. We deleted SOEs where this time lag exceeded six months, to take into account that the privatization process and thus also the post-SIP ownership dynamics may be different for those firms. Our final sample includes data on 430 SOEs. We follow these firms’ ownership structure in the first five years after SIP. The latest ownership data in our sample is for the year 2005. Hence, for companies listed in 2001 and 2002, we only have access to four and three years of post-SIP ownership information, respectively. Since the driving forces of ownership changes after 2005 may be different from those before, limiting the observation window at December 2005 enables us to isolate the effects of the recent ownership reform.<sup>21</sup> For all 430 sample firms, we obtained the issue prospectus and the consolidated financial statements as of one year before SIP. The firm and aggregate stock market return data and the stock turnover data were collected from Thomson Financial’s Datastream.

Table 2 presents information on the annual number of firms going public on SHSE during 1994–2002. Also, we report the annual distribution for the 430 sample firms as well as for a limited sample of 368 SOEs where the Chinese state still owns a majority stake right before SIP. Panel A shows that the annual number of SIPs is fairly large – except for 1995 – but not evenly spread over the period 1994–2002. Panel B presents information on the industry distribution of the sample firms, using the CSRC industry classification code. A majority of the sample firms (61.40%) is active in manufacturing. This is not surprising as Chinese SOEs mainly developed out of the needs of heavy industries and products of strategic importance, such as energy resources, primary metals and basic life necessities (Lin *et al.*, 1998).

---

<sup>21</sup> There are 17 firms in our sample that were allowed to implement the ownership reform in the fall of 2005. For these firms, we used the ownership information included in the SINA Finance database right before the implementation of the reform as a proxy for the 2005 ownership structure. We also checked the robustness of our results when removing these firms from the sample.

\*\*\*\*\*  
Insert Table 2  
\*\*\*\*\*

Table 3 provides descriptive statistics on firm characteristics, ownership structure and SIP transaction terms for our sample. Firm characteristics are measured in the year before SIP. Firm size differs largely across firms, independent of whether it is proxied by sales or total assets. The typical listed firm had sales of RMB 176,590,000 and total assets of RMB 243,640,000.<sup>22</sup> Various measures are computed to capture the SOE's investment opportunities. The average sales growth rate amounts to 15.57% in the year before listing whereas assets grow by 23.81%. The market-to-book ratio is calculated as the sum of market value of equity (using two alternative measures, the offer price and the first-day trading price) and book value of financial debt divided by the book value of total assets, and averages 1.48 and 3.17, respectively. The investment rate, calculated as capital expenditures relative to total assets, is 9.85% in the year before SIP.

Regarding operating efficiency, administrative expenses represent 6.86% of sales and the ratio of sales to total assets (fixed assets) averages to 1.13 (4.42). As far as profitability is concerned, the average SOE has an EBITDA/total assets of 16.56% and an EBIT/total assets of 13.17%. Since only firms with three consecutive years of profits are eligible for listing by Chinese corporate law, it comes as no surprise that profitability in the year before SIP is always positive. Leverage (book value of debt to total assets) averages to 53.63% in the year before SIP. As far as the composition of the debt (debt mix) is concerned, we find that bank loans on average represent 48.43% of total debt outstanding. Given the under-development of the corporate bond market, the other debt largely consists of loans and trade credit extended by other SOEs (known as the Chinese *triangular debt problem*).

The average firm has a state ownership of 78.69% before and 56.63% after SIP, but the high standard deviation indicates a large variation across firms. The average percentage of non-

---

<sup>22</sup> All absolute numbers are expressed in 1990 terms to take the annual inflation rate into account. Also, by October 2006, 1 USD≈7.89RMB.

tradable legal person shares is 11.88% before and 8.28% after SIP. For the 278 SOEs with legal person shares pre-SIP, these percentages amount to 18.37% and 12.80%, respectively.

Finally, the average (median) fraction of shares floated at SIP is 27.76% (27.99%) and the average (median) proceeds raised amount to RMB 242,334,818 (151,890,000), after adjusting for the annual inflation rate (all figures expressed in 1990 terms).<sup>23</sup> Compared to the international figures reported by Jones *et al.* (1999), Chinese SOEs float a far smaller stake at SIP. After adjusting for the market return between the moments of share offering and listing, the average (median) underpricing amounts to 135.77% (121.29%), which is comparable to that reported in other studies on Chinese IPOs, but considerably higher than for SIPs in other countries. Dewenter and Malatesta (1997) and Laurin *et al.* (2004), however, point out that initial returns are significantly larger in relatively primitive stock markets, which could explain our findings. In the case of China, large underpricing may also have been necessary to deal with the cultural aversion to stock ownership and to elicit the appetite of the relatively poor middle-class to participate in one of the largest privatization programs worldwide. The average (median) number of days elapsed between share offering and listing is 33 (23) in our sample.

\*\*\*\*\*

Insert Table 3

\*\*\*\*\*

Table 4 displays changes in firm characteristics and ownership structure during the first five years after SIP for all sample firms. First, we find that SOE sales and assets grow more quickly in the first two years after SIP whereas the growth rate moderates from year three onwards. The mean and median market-to-book ratio and investment rate show a declining pattern over time. Second, Table 4 shows that the operating and financial performance of partially privatized SOEs deteriorates after SIP. Administrative expenses relative to sales increase over the years whereas the median total (fixed) assets turnover ratio deteriorates from the first to the fifth year after privatization. Consistent with these results, we find that the

---

<sup>23</sup> Note that the difference between average state ownership before (78.69%) and after (56.63%) SIP is not equal to the average percentage of shares floated (27.76%), due to the difference in denominator when calculating average state ownership before and after SIP (i.e. the total number of shares outstanding before and after SIP, respectively).

median ratio wages/sales increases from the third year after SIP.<sup>24</sup> EBITDA (EBIT) to total assets falls over the years, with the median value dropping from 9.17% (7.15%) in first year post-SIP to 6.47% (4.31%) in the fifth year post-SIP. Every year, the percentage of firms with a negative EBITDA increases, from 3.95% in the first year after SIP to already 14.61% five years later. As far as a firm's debt status is concerned, leverage keeps rising from an average of 39.03% in the first year after SIP to 45.73% in year five. Furthermore, when looking at the composition of the debt, we find that the percentage of bank loans in total debt rises above the pre-SIP level to an average (median) of 49.69% (54.99%) in the fifth year after SIP. This might suggest that the SOEs in our sample continue to rely on bank loans as an important financing source, even after they obtained access to the stock market (see also Huyghebaert *et al.*, 2006). The percentage of property, plant and equipment varies slightly over the years whereas the intangible assets as a proportion of total assets marginally increase. Not surprisingly, the dividend payout ratio declines steadily over time. In the first post-listing year, 69.53% of the firms paid a dividend whereas this percentage varies around 50% afterwards. Overall, our findings are consistent with those of Tian (2001), Sun and Tong (2003), and Quan and Huyghebaert (2004) that Chinese SOEs that experienced an SIP do not perform very well in the years thereafter.

State ownership on average represents 55.61% at the end of the first listing year and falls over the years to 48.38% by year five. As indicated by median values, the government keeps a majority stake in more than half of the sample firms even in fifth year after SIP (the median value is 54.13%). On the other hand, non-state-owned legal person ownership increases steadily over the years, from an average of 8.68% in the first post-SIP year to 11.93% in the fifth year. However, the median values appear much smaller, indicating that 1) the variation in non-state-owned legal person ownership is large across firms and 2) changes in legal person ownership concentrate in a limited number of SOEs. As far as public ownership is concerned, we see a

---

<sup>24</sup> We do not have the information on this variable pre-SIP. Also, it was only as of the year 1998 that the disclosure of cash flow information is mandatory. Hence, the ratio of WAGES/SALES can be calculated only as of 1998, unless the firms voluntarily disclosed this information..

clear upward trend in the percentage of tradable A shares outstanding, with the average increasing from 29.46% in the first post-SIP year to 34.74% in the fifth year after SIP. The change in tradable B shares, which used to be available only to foreign investors, is minimal, however. When focusing only on the SOEs with B shares outstanding, the average amounts to 32.81% in the first year after SIP and 32.71% five years later. The latter results suggest that SOEs with B shares outstanding do not engage in seasoned equity offerings. We also find that the change in tradable H shares is quite small. When focusing only on SOEs with H shares outstanding, the average amounts to 27.44% in the first year and 27.31% five years later.

\*\*\*\*\*  
Insert Table 4  
\*\*\*\*\*

#### 4. Empirical Analyses

In this section, we discuss the research design and the results of our empirical analyses. Specifically, in Section 4.1, we elaborate on how we decided upon the dependent variables for all models. In Section 4.2, we present the explanatory variables included in the various models. Finally, Section 4.3 reports and discusses the results from the analyses.

##### 4.1. Dependent Variables

In this section, we build probit models to examine the driving forces behind the post-SIP ownership dynamics in newly privatized Chinese SOEs. The ownership stake of the government may decrease when the SOE issues new shares and the government's participation in the offering is less than its proportional holdings of SOE shares, thereby allowing for an ownership dilution (hereafter referred to as an *issuance decision*).<sup>25</sup> Alternatively, government ownership may

---

<sup>25</sup> Stock dividends usually lead to a proportional increase in the various types of ownership, *without* the percentage composition being affected. Yet, in the case of China, state ownership might dilute when the Chinese government chooses to take cash dividends whereas other shareholders receive stock dividends. This effect could impact our issuance decision dummy, but only if the stock dividend represents more than 3%, 5%, or 10%, respectively, of equity. Hence, this effect is likely to be marginal. Also, Huyghebaert *et al.* (2006) find that stock dividends were



decrease when the Chinese state actually divests some of its own shares by selling them to a non-state-owned institutional investor (hereafter referred to as a *divestment decision*). We attempt to find out what firm characteristics and market variables have an impact on the issuance and divestment decision, respectively, during the first five years after partial privatization. For this purpose, the dependent variable in the issuance decision model is equal to one when a significant decrease in government ownership is combined with a significant increase in public ownership – typically A shares, but B/H shares are also included in this definition – and zero otherwise. Likewise, the dependent variable in the divestment decision model equals one when there is a significant decrease in government ownership while, at the same time, the increase in non-state-owned legal person ownership is significant.

Helwege *et al.* (2006) determine a change as significant when the ownership stake changes by five percent or more in a given year compared with the previous year. The reason is that the regulatory threshold for reporting ownership blocks in the USA, as dictated by Rule 13d-1(a), is 5%. In the case of China, regulations also require that shareholders file a special report whenever their stake has changed by more than 5% of total ownership. Nevertheless, as we have exact ownership information in the SINA Finance database, we are able to also detect changes smaller than 5%. Hence, we will use 3%, 5% and 10% as alternative cutoff points to see whether and how the determinants of ownership dynamics vary across various definitions.

The change in state ownership, ownership held by investors in the free float, and non-state-owned legal person ownership, respectively, ( $\Delta\alpha_t$ ) is calculated as the change in its percentage ownership outstanding from  $t-1$  to  $t$ . We therefore have  $\Delta\alpha_t = S_t/N_t - S_{t-1}/N_{t-1}$ , where  $S_t$  ( $S_{t-1}$ ) is the number of shares held by a specific owner category in year  $t$  ( $t-1$ ) and  $N_t$  ( $N_{t-1}$ ) is the total number of shares outstanding in that year. For example, based upon our 5% definition, a decrease in the percentage of state ownership from 60% to 58% is not a significant change whereas that from 60% to 54% is.

---

paid by only 6.17% of the SOEs that became listed during 1994–1999 during their first five SIP-years. Even in these cases, the Chinese state did not always demand for cash dividends.

However, as indicated by the formula (see also Helwege *et al.*, 2006):

$$\Delta\alpha_t = \frac{L_t}{N_t} - \frac{L_{t-1}}{N_{t-1}} = \frac{L_t}{N_t} - \frac{L_t - \Delta L}{N_{t-1}} = \frac{\Delta L}{N_{t-1}} + \frac{L_t}{N_t} - \frac{L_t}{N_{t-1}} = \frac{\Delta L}{N_{t-1}} + \frac{L_t N_{t-1}}{N_t N_{t-1}} - \frac{L_t N_t}{N_{t-1} N_t} = \frac{\Delta L}{N_{t-1}} - \frac{L_t \Delta N}{N_t N_{t-1}} = \frac{\Delta L}{N_{t-1}} - \alpha_t \frac{\Delta N}{N_{t-1}},$$

where  $L_t$  and  $L_{t-1}$  is the number of shares held by non-state-owned legal persons in year  $t$  and  $t-1$ , respectively, the importance of an increase in non-state-owned legal person shares as a result of government divestment will be mitigated if there is a simultaneous capital increase ( $\frac{\Delta N}{N_{t-1}} > 0$ ).

Therefore, our definition of divestment when using the 3%, 5% and 10% cutoff points is a somewhat stronger case than when just considering the change in the number of legal person shares outstanding ( $\frac{\Delta L}{N_{t-1}}$ ). Hence, as a robustness check, we will relax this assumption by

labeling the divestment decision as significant as soon as  $\frac{\Delta L}{N_{t-1}} > 3\%$  (5%, 10%), i.e. before the capital increase. We find that our results remain robust under this alternative definition.

A last and important remark is that we will keep the reference group of no ownership changes constant when varying the cutoff points (3%, 5% or 10%). Indeed, the purpose of the additional analyses is – in part – to examine whether the results become stronger when examining larger changes in government ownership. Re-classifying a firm that experienced a government ownership change of 4% as belonging to the “no change” group (dependent variable = 0) when enlarging the cutoff from 3% to 5% is likely to introduce noise into the model, as the change in state ownership in the latter case (4%) is relatively large.

In Table 5, we report the number of cases where state ownership decreases by more than 3%, 5%, and 10%, respectively, in a given year during the first five listing years, differentiating between the cases of issuance (the free float has increased by 3%, 5%, and 10% as well) and divestment (non-state-owned legal person ownership has also increased significantly). The issuance decision (divestment decision) occurs in 152 (83) firm-years when using the 3% cutoff, 66 (77) firm-years when using the 5% cutoff and 16 (65) firm-years when using the 10% cutoff. Table 5 also shows that a change is more likely to take place from the second year after stock

market introduction onwards. The percentage of SOEs that experience a decrease in state ownership as a result of the issuance decision is highest in the third year after SIP under all cutoffs. The percentage of firms where the government divests its stake is largest in the fourth year after SIP under the 3% and 5% cutoff, and in the third year after SIP under the 10% cutoff. Finally, the data suggest that the more significant decreases in government ownership, especially those larger than 5%, are usually engendered by the divestment decision.

\*\*\*\*\*  
Insert Table 5  
\*\*\*\*\*

#### 4.2. Explanatory Variables

We build probit models for the two decisions, respectively. The explanatory variables in the baseline models are included based on the hypotheses developed in Section 2. All variables are measured in year  $t-1$ , unless stated otherwise. We use SALES GROWTH, the growth rate of real sales from year  $t-2$  to year  $t-1$ , to capture firm investment opportunities. For a firm's operating efficiency, we include ADMIN/SALES, measured by the ratio of administrative expenses to sales, and TOTAL ASSETS TURNOVER. EBITDA to total assets is used to proxy for an SOE's internal cash generation. LEVERAGE is measured as the book value of total debt divided by total assets and DEBT MIX is the ratio of bank loans to total debt. FIRM SIZE is measured by the logarithm of total assets. For benefits and costs of active monitoring, PPE/ASSETS is calculated as the ratio of property, plant and equipment to total assets; INTANGIBLES/ASSETS is measured as the percentage of intangible assets to total assets; DIVIDEND/NET INCOME is calculated as dividends (including both cash and stock dividends) divided by bottom-line earnings; and FIRM RISK is captured by the standard deviation of the residuals from a market model that is based on daily stock and market returns, and that is estimated for every firm-year. In addition, we include RESIDUAL UNDERPRICING, i.e. the residual from the regression model developed by Quan and Huyghebaert (2006). To capture

prevailing market conditions, we use FIRM RETURN, i.e. the firm's average monthly stock return in the preceding year; MARKET RETURN, i.e. the average monthly return on the Shanghai stock market composite A share index during a one-year window; and STOCK LIQUIDITY, i.e. the firm's average daily stock turnover ratio in the previous year. Next, REGULATED equals one when the SOE is in a regulated industry, which is included to take into account that the government may open ownership to a smaller extent in highly regulated SOEs. China regulates utilities, energy, telecommunications, and financial industries (see also Sun and Tong, 2003). Yet, an initial check on the data showed that only three divestment decisions took place in regulated industries, so we are not able to include REGULATED in the divestment decision model. However, this finding already suggests that the Chinese state is less likely to divest shares in SOEs from regulated industries. Other industry dummies are based on the Chinese CSRC industry classification. To ensure model validity, we require that for each industry dummy we have at least five observations when estimating the models. Hence, the number of industry dummies varies across the models. In the issuance decision models we have 12 whereas in the divestment decision models we have 9 industry dummies, apart from REGULATED. Also, we include dummies for firm location, to account for potential differences in ownership dynamics due to geographical factors. Following Wei *et al.* (2005), firms are categorized into three geo-economic regions. Specifically, based on the average GDP per capita during the 1990s, cities or provinces in the top 25<sup>th</sup> percentile are classified as rich whereas those in the bottom 25<sup>th</sup> percentile are considered poor.

Finally, as indicated by earlier studies on the determinants of ownership dynamics (e.g., Jones and Mygind, 1999; Helwege *et al.*, 2006), ownership structure is likely to be path-dependent, i.e. the initial ownership status may have an impact on the changes in ownership thereafter. Hence, we will also elaborate our models by including STATE OWNERSHIP, the percentage of ownership either directly or indirectly held by the Chinese government in the previous year, as an additional control variable in some of the models to check this path

dependency. Alternatively, we will employ a dummy variable that equals one if the government holds a majority ownership stake (i.e. 50% or more of total shares outstanding) in the previous year and zero otherwise.

To limit the influence of outliers, all variables – except for dummy variables – are winsorized at 5–95%, i.e. the corresponding percentiles replace extreme values. Multicollinearity poses no problem as pairwise correlations among explanatory variables never exceed 0.5. The variance inflation factors of the variables in the various models confirm this conclusion.

Table 6 presents the summary statistics on the explanatory variables used in the various models, based on whether and how government ownership exhibits a significant decrease in a given year, and using various cutoff points. Also, we report the results of a two-sample t-test and Wilcoxon rank-sum test on the differences in means and medians between the cases (firm-years) of no significant decrease in state ownership and the cases of issuance and divestment, respectively. As pointed out above, the status-quo case remains the same for all comparisons.

The statistics as well as the univariate analyses give us a first idea of what might be the driving forces behind the ownership dynamics post-SIP. First, under the 3% cutoff, we find that firms issuing new shares have larger financing needs resulting from higher sales growth (although their assets growth rate is significantly lower) and larger capital expenditures. In addition, stock-issuing SOEs perform significantly better than those without a significant change in government ownership. Specifically, they report a lower ratio of administrative expenses to sales, a higher volume of sales given a particular amount of assets used, and a higher ratio of EBITDA (EBIT) to total assets. The fixed assets turnover ratio and the ratio of wages to sales point in the same direction, but the differences here are not statistically significant. Next, stock-issuing SOEs have higher leverage, a larger percentage of property, plant and equipment and a higher return variability in the previous year. Finally, they exhibit higher firm-level and aggregate stock returns in the previous year. When the threshold is raised to 5%, we find that

only assets growth, total assets turnover, EBITDA/total assets, EBIT/total assets, and the stock market variables remain statistically significant.<sup>26</sup>

When we now turn our attention to the SOEs where the government divests its stake, we discern a completely different picture. Specifically, under the 3% cutoff point, SOEs where the government divests part of its stake have a lower asset growth rate and market-to-book ratio than those where the state hangs on to its ownership stake (although their sales growth is significantly higher). Also, they perform worse in terms of total assets turnover, EBITDA and EBIT. They are more leveraged, smaller, and have a lower percentage of property, plant and equipment, a larger percentage of intangible assets, and a lower dividend payout ratio. Interestingly, we find that SOEs that experience a divestment decision later on offer more underpricing at SIP than can be explained by the model of Quan and Huyghebaert (2006). As far as market variables are concerned, we find that firm risk, the market return in the year preceding the divestment decision, and stock liquidity are generally lower than in the comparison group. These conclusions generally hold across the 5% and 10% cutoff, which is not surprising given the large overlap in divestment decisions under these alternative cutoff points (in other words, divestment decisions by and large are major events whereas this does not necessarily hold true for stock issuance decisions; see also Table 5). The only exception occurs for the variables SALES GROWTH and PPE/ASSETS, which are no longer significant when considering larger divestment decisions.

Overall, the results of this univariate analysis show that share issuance is more likely to take place in the better-performing SOEs whereas the government is more likely to divest its stake in bad-performing companies. Leverage affects both the issuance and the divestment decision in the same direction. In addition, the analysis reveals that firms having more hard assets and capital expenditures tend to evolve towards a more dispersed (public) ownership structure whereas firms having fewer hard assets and with a lower dividend payout ratio are more likely to involve an external blockholder over time. The latter results seem to indicate that

---

<sup>26</sup> The results for the issuance decision using the 10% cutoff point should be taken with caution since there are only 16 cases. Hence, we report these results in Table 6 but do not discuss them in the main text of the paper.

firm characteristics that capture potential managerial incentive problems have an impact on the decision to divest. Nevertheless, the true relation of these variables with the probability of changes in state ownership can only become clear after controlling for various other firm characteristics. Hence, in the next section we discuss our multivariate regression results.

\*\*\*\*\*  
Insert Table 6  
\*\*\*\*\*

4.3. Empirical Results

4.3.1. What Drives the Government’s Issuance Decision?

Table 7 presents the results of various probit models on the issuance decision. Since only 16 SOEs experience a decrease in government ownership of at least 10% as a result of an issuance decision, we encountered convergence problems when trying to estimate the models for this cutoff point. Hence, we only report the results for the 3% and 5% cutoffs. The first column under each definition reports the results without STATE OWNERSHIP. Columns 2–4 present the results of different specifications, using STATE OWNERSHIP (column 2) and its square term (column 3), and using a dummy variable that equals one when the Chinese state owns a majority of the shares in the year before the issuance decision is made (column 4), respectively, as control variables. The results show that the parameter estimates and significance levels of the other variables are not affected after controlling for government ownership status right before the issuance decision. In columns 5–7, we report the results of more simplified models. To be specific, we first exclude the firm-level variables that are not significant in the full model, except for SALES GROWTH and FIRM SIZE (reported in column 5). Furthermore, we remove EBITDA/ASSETS (column 6) and various market variables (column 7) from the simplified model in order to check whether these variables may have captured some effects of SOE investment prospects.

First, we find that financing needs resulting from investment opportunities (SALES GROWTH) and/or restructuring needs (ADMIN/SALES and TOTAL ASSETS TURNOVER) do not significantly affect the issuance decision in columns 1–4. Yet, EBITDA/ASSETS is significantly positive in all models, under both cutoffs. The same holds when using EBIT/ASSETS as a measure of financial performance (not reported). Overall, we fail to find any evidence that issuing more new shares to the general public is a response by the SOE when performing poorly. Indeed, the positive coefficient on EBITDA/ASSETS suggests that the *better*-performing SOEs are more likely to issue a significant portion of new shares after SIP, resulting in a decrease of government ownership. The latter result may also be due to the minimum performance requirements for SEOs, as imposed by the CSRC. The specific criteria vary across years, but generally require three consecutive years of making profits to be able to implement a seasoned equity offering. SALES GROWTH only becomes significantly positive under the 3% cutoff point after removing EBITDA/ASSETS from the model (reported in column 6 of each panel), which seems to indicate that EBITDA/ASSETS may also capture some of the effects of firm investment opportunities. However, when we replace the sales growth rate by the assets growth rate, the market-to-book ratio or the investment rate, none of these measures is significantly different from zero, even not in a simplified model without EBITDA/ASSETS.

When we use the difference in EBITDA/ASSETS (calculated as the lagged change in EBITDA/ASSETS) or EBIT/ASSETS (calculated as EBIT/ASSETS in the year before the issuance decision minus its value in the year before SIP),<sup>27</sup> the above conclusions remain intact: there are no signs that firms experiencing deteriorating performance decrease the government's ownership stake through issuing more shares. The latter results are reported in Table 8. In columns 1–3 of Table 8, we report the results when using one-year lagged changes in EBITDA/ASSETS whereas those with the change in EBIT/ASSETS relative to the pre-SIP year

---

<sup>27</sup> We have a lot of missing observations for EBITDA one year before the SIP. Therefore, we use EBIT/ASSETS to calculate the change in financial performance relative to the pre-SIP level. Also, we have estimated models that include the change in operating performance (ADMIN/SALES and TOTAL ASSETS TURNOVER), but find that these variables are not significant either.



are shown in columns 4–6. The results are generally the same as in Table 7, column 6, where SALES GROWTH is always significantly positive under the 3% cutoff point. Similar conclusions are obtained when replacing the change in EBITDA (EBIT) with a dummy variable that equals one if financial performance improved compared with the previous year (not reported). Importantly, the models with absolute financial performance (Table 7) generally have a higher explanatory power (pseudo R-square) than those with changes in performance (Table 8). Henceforth, we focus on the results in Table 7.

LEVERAGE is significantly positive, mainly under the 3% cutoff, and especially when controlling for EBITDA/ASSETS, whereas DEBT MIX is never significant. The DEBT MIX variable also does not become significant after leaving out LEVERAGE. We explain these results as follows: SOEs with a relatively high debt ratio use the public equity market to rebalance their capital structure and this process can be affected by the SOE's performance record as only the better-performing SOEs seem to have access to the public equity market. Yet, the proportion of bank loans in total debt may not matter when bank borrowing limits depend on the overall debt ratio rather than the debt composition. Also, Quan and Huyghebaert (2006) point out the role of the triangular debt problem in the case of China. As the non-bank debt largely involves loans and trade credit extended by other SOEs, the total debt ratio rather than its composition is likely to reflect soft budget constraints. Not surprisingly, FIRM SIZE has no significant impact on the issuance decision.

PPE/ASSETS is significantly positive, especially under 5% cutoff point. This finding indicates that capital-intensive firms are more likely to raise new equity post-SIP (see also Fazzari *et al.*, 1998). The percentage of intangible assets as well as the dividend payout ratio are not significant in any model, which, consistent with our arguments, indicates that information asymmetries and agency problems do not play an important role in the issuance decision. FIRM RISK is significantly positive under the 3% cutoff, but not under the 5% cutoff. Given that the public equity market is not able to play a disciplining role in China, this finding cannot be seen

as supporting evidence for the monitoring hypothesis. Arguably, firms with more volatile returns may be growing faster and therefore need more external financing. When we delete FIRM RISK from the models in Table 7, we indeed find that SALES GROWTH becomes marginally significant, even when keeping EBITDA/ASSETS in the model (not reported).

RESIDUAL UNDERPRICING is not significantly related to the issuance decision. Nevertheless, we find strong evidence that market timing plays an important role in the issuance decision. Specifically, FIRM RETURN is significantly positive under both definitions whereas MARKET RETURN is significantly positive under the 5% cutoff point only. The latter finding shows that favorable overall market conditions incite SOEs to implement larger seasoned equity offerings, *ceteris paribus*. On the whole, these results are comparable to what has been found for SEOs in more developed countries, where owners time the offering when their shares are overvalued by the market (e.g., Helwege *et al.*, 2006). Alternatively, the government (CSRC) may look at the overall market conditions in order to decide whether to allow firms to issue a larger proportion of shares in a given year since the negative impact of too many issues on the fledgling market is less severe when the market is buoyant. The sign on STOCK LIQUIDITY is significantly negative, which is surprising as the univariate results showed a positive relation. Interestingly, when we delete the market variables from the model (see column 7), we find that the significance level of SALES GROWTH is hardly affected. So, these market variables do not seem to capture part of the SOE's investment prospects, thereby leading to the spurious conclusion that the relation between growth opportunities and share issuance is only weak.

Finally, the level of state ownership as well as the dummy for state majority ownership are significantly positively related to the issuance decision in the following year under both cutoffs whereas the squared term of government ownership is never significant. This is consistent with the argument that post-SIP ownership dynamics is path dependent (see also Jones and Mygind, 1999). More specifically, our results point out that firms with higher government ownership are more likely to issue new shares to the general public. This seems to suggest that

SOEs where the government has retained a large (majority) stake are less constrained to issue new shares post-SIP, *ceteris paribus*.

\*\*\*\*\*

Insert Tables 7 – 8

\*\*\*\*\*

We also implement a split-sample regression analysis, using 1999 as a dividing year. Table 9 reports the results.<sup>28</sup> We find that SALES GROWTH becomes significant in later privatization years, but only under the 3% cutoff. Yet, we find no such significant relation when using the other proxies for investment opportunities. EBITDA/ASSETS has a positive impact, although not significant in the earlier period (1994–1998) under the 5% cutoff. LEVERAGE has a significantly positive impact under both cutoff points in earlier years whereas this is no longer the case for the larger issuance decisions in the period 1999–2005. FIRM SIZE becomes marginally significant in early privatization years, with a negative sign, but only for the larger seasoned equity offerings. Under the 3% cutoff, there is also some marginal evidence that PPE/ASSETS affects share issuance in the second subperiod (1999–2005) whereas this variable has no impact during 1994–1998. Overall, these results suggest that firm-level financing needs become more important during the later period as sales growth and capital intensity are only significantly related to the issuance decision in later privatization years (using the 3% cutoff). These results are consistent with Quan and Huyghebaert (2006), who find that the variables capturing investment opportunities at the SOE positively affect the issuance of primary shares at the moment of stock market introduction (SIP) mainly in the later privatization years.<sup>29</sup>

Given that FIRM RISK was found earlier to proxy in part for firm growth opportunities, it does not surprise that we find it to be important only in the second subperiod (under the 3% cutoff). Furthermore, we find that MARKET RETURN is important for issuance decisions in

---

<sup>28</sup> To be noted, for the 5% cutoff point, we are not able to include industry dummy variables in the model because of a convergence problem (too many explanatory variables are included).

<sup>29</sup> When we used 1999 as dividing year in our paper on the determinants of public share allocation at SIP, we found some important differences across these two sampling periods. Most importantly, we found that in early privatization years, highly leveraged SOEs and firms that received more subsidies issue more primary shares at the moment of SIP. The sales growth rate significantly positively affects public share allocation whereas profitability has a negative impact only in later privatization years.

the later period only, independent of the cutoff being used. The latter findings contrast with those of Quan and Huyghebaert (2006), who find no relation between the overall stock market return and public share allocation at the moment of SIP. There, the government may wish to establish a reputation of not expropriating the wealth of external investors, who will consider the moment of SIP as the moment of privatization. These effects may play a smaller role for SOEs once publicly quoted. On the whole, a positive relation between MARKET RETURN and shares issuance that is significant only in the second subperiod – where markets had become more developed than in the earlier period – allows us to reject the idea that this positive relation in the full sample is driven by the government (CSRC) being concerned that too many issues might lead to a collapse of the fledgling market. Finally, a larger proportion of state ownership always leads to a higher probability of shares issuance, independent of the time period studied.

In sum, the results in this paper are consistent with our earlier findings regarding the determinants of the decision to issue (new) shares at the moment of SIP. Specifically, we find in this study that during the early privatization years the stock market was mainly welcomed as an alternative financing mechanism by the smaller and highly leveraged SOEs. In later years, SOEs with better growth prospects became more likely to issue new shares and financial performance turned out to be more important, especially when the firm needed to issue a larger portion of shares. The motive to restructure assets and operations and finance these reforms through shares issuance in the public equity market has, up till now, not played any role in China. Also, we do not find any evidence that SOEs that could benefit most from monitoring widen their ownership structure via the stock market, consistent with the idea that retail investors in the A (B/H) share market do not have the incentives nor the capabilities to monitor. Finally, the evidence indicates that market timing became more influential in later years, suggesting that over time SOEs have started to behave more like private enterprises in developed economies.

\*\*\*\*\*  
Insert Table 9  
\*\*\*\*\*

#### 4.3.2. What Drives the Government's Divestment Decision?

Table 10 shows the results of various probit models on the determinants of the divestment decision. The first column under each definition (based on various cutoff points) reports the results without STATE OWNERSHIP. Columns 2–4 present the results of different specifications, using STATE OWNERSHIP (column 2) and its square term (column 3), and using a dummy that equals one when the Chinese state owns a majority of the shares in the year before the issuance decision is made (column 4), respectively, as control variables. The results again show that the parameter estimates and significance levels of the other variables are not largely affected after controlling for government ownership status. Finally, column 5 contains the results of a simplified model that excludes some non-significant variables from the full model.

First, SALES GROWTH is significantly positive, which is not driven by the firm's financing needs since no new funds will flow to the SOE when a divestment of government shares takes place. Yet, this relation could indicate that the Chinese state is highly interested in strengthening the monitoring of SOEs with a larger growth potential, fearing that more value can be destroyed in these firms. Again, we fail to find a significant relation of divestment with the firm's operating efficiency, as captured by ADMIN/SALES and TOTAL ASSETS TURNOVER.<sup>30</sup>

In contrast to the issuance decision model, we find that EBITDA/ASSETS is significantly negative in all models, which implies that the government tends to sell (part of) its shares to another institution when the SOE performs badly. This result is consistent with our hypothesis that the government may have more incentives to divest its stake in bad-performing SOEs in order to promote their performance by introducing external blockholders. Next, we replace the absolute value of EBITDA/ASSETS with the lagged change in EBITDA/ASSETS (relative to

---

<sup>30</sup> When we include WAGES/SALES as an alternative proxy for operating efficiency, we find that it is not significant either. We also tried removing EBITDA/ASSETS from the model and find that ADMIN/SALES and TOTAL ASSETS TURNOVER again do not become significant.

the year before) and with the lagged change in EBIT/ASSETS (relative to the pre-SIP year), to check the influence of performance deterioration on the divestment decision. The results are reported in Table 11. The lagged change in EBITDA/ASSETS (relative to the year before) is significantly negative under the 3% cutoff. This is consistent with our previous findings in Table 10 that bad firm performance induces the government to divest. The results in Table 11 are qualitatively similar to those in Table 10, except that LEVERAGE becomes highly significant whereas FIRM RISK loses its statistical significance. Yet, the absolute level of financial performance seems more important for the divestment decision than the changes in performance over time, as the models in Table 11 have a lower pseudo  $R^2$  compared with those in Table 10, column 3. Henceforth, we focus on the results in Table 10.

LEVERAGE is found to be positively related to the divestment decision, but only significantly so when considering the larger divestment decisions. Hence, highly leveraged SOEs are more likely to experience a significant drop in government ownership through actual share divestment. Coupled with the finding that divestment is more likely in bad-performing firms, the significantly positive sign on LEVERAGE echoes the conjecture that the government is more likely to divest its shares because of monitoring considerations. However, there is no indication that this decision is related to the proportion of bank loans in total debt outstanding.

FIRM SIZE is significantly negative, which is consistent with the notion that smaller SOEs usually are subject to more serious information asymmetries and therefore will realize greater benefits from active monitoring. Alternatively, in the Chinese context, the negative impact of firm size could also indicate that the government is more cautious about divesting its shares in the larger SOEs. The latter explanation may seem more likely as the other variables that proxy for potential managerial incentive problems, i.e. PPE/ASSETS, INTANGIBLES/ASSETS and DIVIDEND/NET INCOME, are not significant. However, when we leave out EBITDA/ASSETS, we find that PPE/ASSETS and DIVIDEND/NET INCOME do become significantly negative, consistent with the univariate results and our hypotheses. Alternatively,

when we replace PPE/ASSETS, INTANGIBLES/ASSETS and DIVIDEND/NET INCOME by an interaction term with EBITDA/ASSETS,<sup>31</sup> we find that none of these interaction terms are significant. So, we cannot conclude from these results that bad performance is not the result of agency problems of equity. Overall, these results suggest that the agency hypothesis does play a role in the divestment decision, but that firm performance already incorporates all information that may be included in the variables that measure managerial opportunities to waste free cash flows.

Next, FIRM RISK is significantly negative, which is inconsistent with the notion that SOEs with highly volatile returns have more to gain from an active monitoring by external blockholders and therefore should show a higher probability of state divestment. Yet, a negative coefficient could be due to the fact that non-state owned legal persons do not hold a well-diversified portfolio in the case of China and hence incur mal-diversification costs when holding a larger stake in riskier firms, *ceteris paribus*.

RESIDUAL UNDERPRICING, which was significant in the univariate analysis, is no longer related to government divestment post-SIP once other variables are controlled for. The same holds true for FIRM RETURN and STOCK LIQUIDITY. In contrast, MARKET RETURN is significantly negatively related to government divestment. This result is strange, given that favorable market conditions should positively impact the transaction price in the sale, making the government more willing to divest, *ceteris paribus*. Yet, a higher sales price may simultaneously imply that the institutional investor is buying a larger – in absolute terms – investment in the SOE for a given ownership percentage. Then, given the mal-diversification costs of buying such a stake, legal persons may be reluctant to buy a large monitoring block when market conditions are buoyant, although the government may be more willing to sell. The fact that MARKET RETURN is significant only when the cutoff point is raised to 5% is consistent with this interpretation.

---

<sup>31</sup> We cannot keep the simple terms in the model because their correlation coefficients with the respective interaction terms are 0.70 or higher.

Interestingly, in all models, we find an inverse U-shaped relation between government ownership and divestment. While the dummy for majority state ownership is significantly negative in all models, the inverse U-shaped explanation has higher explanatory power (as can be seen from the models' pseudo R-square). Hence, in SOEs where the government has already drastically reduced its stake, it is more willing to further divest its ownership, *ceteris paribus*. In the SOEs with a higher (possibly major) state ownership stake, the Chinese government is more reluctant to divest its shares for monitoring purposes. In these firms, the government may hang on to its stake and continue to pursue other objectives than profit maximization. Then, even if the SOE performs badly, the management may not be to blame for this and the government may be aware of it. So, in these SOEs, the government's incentives of divesting for more monitoring purposes likely are limited, *ceteris paribus*.

Since most of the divestment decisions take place after the year 1999 (only 9 cases under the 3% cutoff point take place before 1999), we are not able to implement a split-sample regression analysis as we did for the issuance decision. The latter may not be surprising as Quan and Huyghebaert (2006) already documented that the SOEs going public before 1999 were more profitable on average.

In sum, the government is more likely to further divest a significant portion of its ownership in the smaller, bad-performing and highly leveraged SOEs after their stock market introduction by selling this stake in a large block. This suggests that the government hopes to promote SOE performance by transferring its ownership to a non-state-owned institution that is better able to monitor the firm. However, the evidence that this decision is related to firm characteristics that capture the size of potential managerial incentive problems, as identified by the earlier literature, is rather weak. Nevertheless, our results do suggest that part of the bad performance may have been attributable – or at least this is what the government seems to reason – to inappropriate managerial incentives as we find that the variables measuring discretionary



managerial spending do play a role but are already incorporated in the variables measuring SOE performance.

\*\*\*\*\*  
Insert Tables 10 – 11  
\*\*\*\*\*

#### 4.3.3. Other Sensitivity Tests

In unreported regressions on both the issuance and divestment decisions, we also included the percentage of managerial ownership. We fail to find any relation between either of these decisions and managerial ownership, suggesting that the shareholdings of managers in Chinese SOEs are too small to counteract the potential agency problems and therefore to exert any significant influence on the firm's post-SIP ownership dynamics.

### 5. Conclusions

This paper studies the determinants of the ownership dynamics in 430 Chinese state-owned enterprises that experienced a share issuing privatization on the Shanghai stock exchange during 1994–2002. We follow these firms during their first five listing years. Our analysis is built on a framework similar to that of Helwege *et al.* (2006), as we focus on the cases where the government experiences a significant decrease (3%, 5%, and 10%) in its ownership in a given year, either as a result of new shares issuance in the public equity market or as a result of divestment to a non-state-owned legal person.

Consistent with the results of a related study on the determinants of the government's decision to issue new shares at the moment of SIP using the same sample of SOEs (see Quan and Huyghebaert, 2006), we find that the government's decision process post-SIP is not a black box, being driven merely by politicized considerations, either. In particular, we find that firm profitability plays a central role in whether and how government ownership decreases after the initial public offering. For better-performing SOEs, government ownership tends to dilute as

shares are being issued to the general public whereas shares are being divested to a non-state-owned institution in bad-performing firms. This result echoes the idea from the privatization literature that the government's privatization decision is a response to firm performance. However, previous studies mainly focus on the divestment decision at SIP. In the case of China, the results of Quan and Huyghebaert (2006) suggest that SOE profitability is not an influential factor at the moment of stock market introduction but emerges as dominant force in the further privatization post-SIP. Overall, the Chinese government seems to follow a strategy where on the one hand the ownership structure of the better-performing SOEs is opened further to the general public after SIP by allowing these firms to raise new funds. Alternatively, it actually divests its stake in the bad-performing firms to institutions that may be better able to monitor. This strategy may be a defensible one. Dewatripont and Roland (1995) and Biais and Perotti (2000), among others, indeed have argued that compared with a radical ownership change that could generate irreversible losses, a gradual approach may give the privatizing government more time to identify the owners that are able to maximize firm value.

Many studies so far show that the financial and operating performance of SOEs in China deteriorates after their SIP. Furthermore, Chinese stock markets have endured serious price falls during the period 2001–2005, despite the country's high economic growth. A lot of authors have assigned this to the partial nature of privatizations in China, where the government continues to control most newly privatized enterprises post-SIP (e.g., Xu and Wang, 1997; Chen *et al.*, 2002). Yet, in other countries, such as India, partial privatization has significantly improved the performance of SOEs (e.g., Gupta, 2005). Consequently, the deteriorating performance in China, apparently, cannot be solely attributed to the partial nature of these privatizations. Interestingly, our findings show that SOEs where the government has retained a large stake post-SIP are less likely to experience a divestment. This finding confirms the notion that the government may continue to pursue other objectives than profit maximization in these firms. Hopeful in this paper, though, is that the divestment of state shares to an institution with more capabilities as

well incentives to monitor has become a more frequent practice in recent years. Indeed, as established by the corporate governance literature, either a strong external mechanism or internal mechanism is needed to protect the welfare of shareholders (e.g., Boubakri *et al.* 2005). Hence, the ultimate solution for performance improvement does not lie in who owns the shares, but whether there is an effective monitoring mechanism. If there is an effective external mechanism, such as sound legal regulations and/or an efficient stock market that delivers information on managerial performance and allows firms that are not maximizing shareholder value to be taken over, partial privatization in which the government remains an influential shareholder may be able to deliver firm efficiency. When these external mechanisms are lacking, as is the case in China, divestment of state shares to a monitoring blockholder may be the only way to solve the lack of focus on shareholder wealth maximization, whether this is resulting from managerial incentive problems or pursuing political objectives. The ultimate test of this idea will come from examining the true relation between involving more institutional monitoring and SOE performance, which we consider as an important avenue for further research.

## References

- Allen, F., Qian, J. and Qian, M., 2005, Law, finance and economic growth in China, *Journal of Financial Economics* 77(1), 57-116.
- Barclay, M.J. and Holderness, C.G., 1991, Negotiated block trades and corporate control, *Journal of Finance* 46(3), 861-878.
- Bethel, J.E., Liebeskind, J.P. and Opler, T., 1998, Block Share Purchases and Corporate Performance, *Journal of Finance* 53(2), 605-634.
- Biais, B. and Perotti, E., 2002, Machiavellian privatization, *American Economic Review* 92(1), 240-258.
- Bishop, K., Filatotchev, I. and Mickiewicz, T., 2002, Endogenous ownership structure: Factors affecting the post-privatisation equity in the largest Hungarian firms, *Acta Oeconomica* 52(4), 443-471.
- Bolton, P., 1995, Privatization and the separation of ownership and control: Lessons from Chinese enterprise reform, *Economics of Transition* 3(1), 1-11.
- Booth, J.R. and Chua, L., 1996, Ownership dispersion, costly information, and IPO underpricing, *Journal of Financial Economics* 41(2), 291-310.
- Boubakri, J.R., Cosset, J. and Guedhami, O., 2005, Post-privatization corporate governance: The role of ownership structure and investor protection, *Journal of Financial Economics* 76(2), 369-399.
- Boycko, M., Shleifer, A. and Vishny, R.W., 1996, A theory of privatisation, *Economic Journal* 106(435), 309-319.
- Brada, J.C., 1996, Privatization is transition-Or is it? *Journal of Economic Perspectives* 10(2), 67-86.
- Carlin, W. and Aghion, P., 1996, Restructuring outcomes and the evolution of ownership patterns in Central and Eastern Europe, *Economics of Transition* 4(2), 371-388.
- Chan, K., Wang, J. and Wei, K.C.J., 2004, Underpricing and long-term performance of IPOs in China, *Journal of Corporate Finance* 10(3), 409-430.
- Clarke, J., Dunbar, C. and Kahle, K., 2004, The long-run performance of secondary equity issues: A test of the windows of opportunity hypothesis, *Journal of Business* 77(3), 575-604.
- Cornelli, F. and Li, D.D., 1997, Large shareholders, private benefits of control, and optimal schemes of privatization, *Rand Journal of Economics* 28(4), 585-604.
- Cox, D.R., 1975, Partial likelihood, *Biometrika* 62(2), 269-276.
- Crutchley, C.E. and Hansen, R.S., 1989, A test of the agency theory of managerial ownership, corporate leverage, and corporate dividends, *Financial Management* 18(1), 36-46.
- Demsetz, H., 1983, The structure of ownership and the theory of the firm, *Journal of Law and Economics* 26(2), 375-390.
- Demsetz, H. and Lehn, K., 1985, The structure of corporate ownership: Causes and consequences, *Journal of Political Economy* 93(6), 1155-1177.
- Denis, D.K. and McConnell, J.J., 2003, International corporate governance, *Journal of Financial and Quantitative analysis* 38(1), 1-36.
- Dewatripont, M. and Roland, G., 1995, The design of reform packages under uncertainty, *American Economic Review* 85(5), 107-123.
- Dewenter, K. and Malatesta, P.H., 1997, Public offerings of state-owned and privately-owned enterprises: An international comparison, *Journal of Finance* 52(4), 1659-1679.
- Dinç, S., 2005, Politicians and banks: Political influences on government-owned banks in emerging countries, *Journal of Financial Economics* 77(2), 453-479.
- Fama, E.F., 1980, Agency problems and the theory of the firm, *Journal of Political Economy* 88(2), 288-307.
- Fazzari, S. M., Hubbard, R. G. and Petersen, B. C., 1988, Financing constraints and corporate investment, *Brookings Papers on Economic Activity* 1, 141-195.
- Franks, J., Mayer, C. and S. Rossi, 2004, Ownership: evolution and regulation, working paper London Business School.

- Gertler, M. and Hubbard, R.G., 1993, Corporate financial policy, taxation and macroeconomic risk, *Rand Journal of Economics* 24(2), 286-303.
- Goergen, M. and Renneboog, L., 1999, Prediction of ownership and control concentration in German and UK initial public offerings, Discussion paper, Tilburg University.
- Gomes, A., 2000, Going public without governance, *Journal of Finance* 55(2), 615-646.
- Grinblatt, M. and Hwang, C., 1989, Signaling and the pricing of unseasoned new issues, *Journal of Finance* 44(2), 393-420.
- Grossman, S. and Hart, O., 1986, The costs and benefits of ownership: A theory of vertical and lateral integration, *Journal of Political Economy* 94(4), 691-719.
- Gupta, N., 2005, Partial privatization and firm performance, *Journal of Finance* 60(2), 987-1015.
- Habib, M.A and A.P. Ljungqvist, 2001, Underpricing and entrepreneurial wealth losses in IPOs: theory and evidence, *The Review of Financial Studies* 14(2), 433-458.
- Heiss, F and Köke, J., 2004, Dynamics in ownership and firm survival: Evidence from corporate Germany, *European Financial Management* 10(1), 167-195.
- Helwege J. and Liang N., 1996, Is there a pecking order? Evidence from a panel of IPO firms, *Journal of Financial Economics* 40(3), 429-458.
- Helwege, J., Pirinsky, C. and Stulz, R.M., 2006, Why do firms become widely held? An analysis of the dynamics of corporate ownership, *Journal of Finance*, forthcoming.
- Himmelberg, C.P., Hubbard, R.G. and Palia, D., 1999, Understanding the determinants of managerial ownership and the link between ownership and performance, *Journal of Financial Economics* 53(3), 353-384.
- Holderness, C.G., and Sheehan, D.P., 1985, Raiders or saviors? The evidence on six controversial investors, *Journal of Financial Economics* 14(4), 555-579.
- Huyghebaert, N. and Van Hulle, C., 2006, Structuring the IPO: Empirical evidence on the portions of primary and secondary shares, *Journal of Corporate Finance* 12(2), 296-320.
- Huyghebaert, N., Quan, Q. and Sun, L., 2006, Financing decisions in newly privatized Chinese firms: Does a stock market quotation really provide disciplining?, Working Paper, K.U.Leuven.
- Jefferson, G., 1998, China's state enterprises: public goods, externalities, and Coase, *American Economic Review* 88(2), 428-432.
- Jensen, G.R., Solberg, D.P., and Zorn, T.S., 1992, Simultaneous determination of insider ownership, debt, and dividend policies, *Journal of Financial and Quantitative Analysis* 27(2), 247-263.
- Jones, D.C. and Mygind, N., 1999, The nature and determinants of ownership changes after privatization: evidence from Estonia, *Journal of Comparative Economics* 27(3), 422-441.
- La Porta, R., Lopez-de Silanes, F., Shleifer, A. and Vishny, R., 1998, Law and finance, *Journal of Political Economy* 106(6), 1113-1155.
- La Porta, R., Lopez-de-Silanes, F. and Shleifer, A., 1999, Corporate ownership around the world, *Journal of Finance* 54(2), 471-517.
- Laffont, J.J. and Tirole, J., 1993, *A theory of incentives in procurement and regulation*, MIT press, Cambridge, MA.
- Laurin, C., Boardman, A.E. and Vining, A.R., 2004, Government underpricing of share issue privatization, *Annals of Public and Cooperative Economics* 75(3), 399-429.
- Lin, J., Cai, F. and Li, Z., 1998, Competition, policy burdens, and state-owned enterprise reform, *American Economic Review* 88(2), 422-427.
- Lu, M., 2002, SEO practice and supervision in listed firms (Chinese), Research report, Shenzhen stock exchange research center.
- McConnell, J.J. and Servaes, H., 1990, Additional evidence on equity ownership and corporate value, *Journal of Financial Economics* 27(2), 595-612.
- Morck, R., Shleifer, A. and Vishny, R., 1988, Management ownership and firm value: an empirical analysis, *Journal of Financial Economics* 20(1), 293-315.

- Meggison, W.L., Nash, R.C. and Van Randenborgh, M., 1994, The financial and operating performance of newly privatized firms: An international empirical analysis, *Journal of Finance* 49(2), 403-452.
- Meggison, W.L. and Netter, J.M., 2001, From state to market: a survey of empirical studies on privatization, *Journal of Economic Literature* 39(2), 321-389.
- Meggison, W.L., Nash, R.C., Netter, J.M. and Poulsen, A., 2004, The choice between private and public markets: Evidence from privatizations, *Journal of Finance* 59(6), 2835-2870.
- Meggison, W.L. and Tian, L., 2006, Extreme underpricing: determinants of Chinese IPO initial returns, SSRN working paper series.
- Mok, H.M.K. and Hui, Y.V., 1998, Underpricing and the aftermarket performance of IPOs in Shanghai, China, *Pacific-Basin Finance Journal* 6(5), 453-474.
- Park, A. and Shen, M., 2003, Joint liability lending and the rise and fall of China's township and village enterprises, *Journal of Development Economics* 71(2), 497-531.
- Perotti, E., 1995, Credible privatization, *American Economic Review* 85(4), 847-859.
- Quan, Q. and Huyghebaert, N., 2004, Privatization: Issues at stake in the case of China, *Tijdschrift voor Economie en Management* 49(4), 647-688.
- Quan, Q. and Huyghebaert, N., 2006, Share issuing privatization in China: the determinants of public share allocation and underpricing, Discussion paper 162/2005, LICOS.
- Ritter, J.R., 1991, The long-run performance of initial public offerings, *Journal of Finance* 46(1), 3-27.
- Rozeff, M., 1982, Growth, beta and agency costs as determinants of dividend payout ratios, *Journal of Financial Research* 5(3), 249-259.
- Schindele, I. and Perotti, E.C., 2002, Pricing Initial Public Offerings in Premature Capital Markets: The Case of Hungary, FEEM Working Paper No. 116.2002.
- Shleifer, A., 1998, State versus private ownership, *Journal of Economic Perspectives* 12(4), 133-150.
- Shleifer, A. and Vishny, R.W., 1986, Large shareholders and corporate control, *Journal of Political Economy* 94(3), 461-488.
- Shleifer, A. and Vishny, R.W., 1997, A survey of corporate governance, *Journal of Finance* 52(2), 737-783.
- Shome, D.K. and Singh, S., 1995, Firm value and external blockholdings, *Financial Management Journal* 24(4), 3-14.
- Su, D., 2002, Corporate finance and state enterprise reform in China, SSRN working paper
- Sun, Q. and Tong, W.H.S., 2003, China share issue privatization: the extent of its success, *Journal of Financial Economics* 70(2), 183-222.
- Tian, L., 2001, Government shareholding and the value of China's modern firms, working paper William Davidson.
- Van Bommel, J., 2002, Messages from market to management: The case of IPOs, *Journal of Corporate Finance* 8(2), 123-138.
- Wei, Z., Xie, F. and Zhang, S., 2005, Ownership structure and firm value in China's privatized firms: 1991-2001, *Journal of Financial and Quantitative Analysis* 40(1), 87-108.
- Welch, I., 1989, Seasoned offerings, imitation costs and the underpricing of initial public offerings, *Journal of Finance* 44(2), 421-449.
- Xu, X. and Wang, Y., 1997, Ownership structure, corporate governance, and firms' performance: The case of Chinese stock companies, working paper, World Bank, Washington D.C.

Table 1: Summary of Hypotheses

All variables are measured in the year before an observation on the decision is made. INVESTMENT OPPORTUNITIES is calculated as the growth rate of real sales from two to one year before. Alternatively, it is proxied by the assets growth rate, the market-to-book ratio and the investment rate (capital expenditures to total assets). OPERATING EFFICIENCY is measured by ADMIN/SALES, the ratio of administrative expenses to sales, and TOTAL ASSETS TURNOVER, the ratio of sales to total assets. As an alternative proxy, we use WAGES/SALES. PROFITABILITY is a measure of internal cash generation (EBITDA, EBIT) whereas LEVERAGE is the book value of total debt divided by total assets. DEBT MIX is the ratio of short-term and long-term bank loans to total debt. FIRM SIZE is the logarithm of total assets. PPE/ASSETS is the ratio of property, plant and equipment to total assets. INTANGIBLES/ASSETS is the percentage of total assets that are intangible. DIVIDEND/NET INCOME is dividends (including both cash and stock dividends) divided by net income. FIRM RISK is captured by the standard deviation of the residuals from the market model based on daily firm and market returns, and estimated over a one-year window. RESIDUAL UNDERPRICING is the residual from the regression model explaining underpricing at SIP as developed by Quan and Huyghebaert (2006) (see footnote 20). FIRM RETURN is the firm's average monthly stock return and MARKET RETURN is the average monthly return on the Shanghai stock market composite A share index. STOCK LIQUIDITY is the average daily stock turnover ratio calculated on an annual basis.

	The Issuance Decision	The Divestment Decision
Overcoming Financing Constraints	INVESTMENT OPPORTUNITIES: + OPERATING EFFICIENCY: – PROFITABILITY: – LEVERAGE: + DEBT MIX: + FIRM SIZE: –/+	
Promoting Financial and Operating Performance		OPERATING EFFICIENCY: – PROFITABILITY: – LEVERAGE: + DEBT MIX: + PPE/ASSETS: – INTANGIBLES/ASSETS: + DIVIDEND/NET INCOME: – FIRM RISK: +/- FIRM SIZE: –
Signalling Costs of Underpricing	RESIDUAL UNDERPRICING: +	RESIDUAL UNDERPRICING: +
Windows of Opportunity	FIRM RETURN: + MARKET RETURN: + STOCK LIQUIDITY: +	FIRM RETURN: + MARKET RETURN: + STOCK LIQUIDITY: 0

Table 2. Annual and Industry Distribution of the Sample

Panel A: Annual Number of IPOs and SIPs

The raw data sample includes information on 599 non-financial firms issuing A shares for the first time on the Shanghai stock exchange during 1994–2002. Firms in the final sample were required to have state shares or state-owned legal person shares that account for at least 20% of total shares outstanding before SIP; also, the time lag between share offering and share listing should not exceed six months. The sample that is used in the analyses therefore includes data on 430 SIPs. Finally, we also constructed a limited sample of 368 firms where the government owns a majority stake right before SIP.

	Raw sample (including private-firm IPOs)	Full sample (including only the SIPs that meet the selection criteria)	Limited sample (including only sample SIPs with a government majority stake)
<b>1994</b>	66	38	33
<b>1995</b>	15	5	4
<b>1996</b>	103	60	48
<b>1997</b>	85	56	46
<b>1998</b>	53	45	44
<b>1999</b>	45	34	29
<b>2000</b>	86	70	60
<b>2001</b>	78	65	55
<b>2002</b>	68	57	49
<b>Total number of firms</b>	<b>599</b>	<b>430</b>	<b>368</b>

Panel B: Industry Distribution of the Sample Firms

Column one reports the industry distribution for the total sample of 430 SIPs based on the Chinese Central Securities Regulatory Commission (CSRC) industry classification code whereas column two is based on the limited sample of 368 firms where state ownership right before SIP exceeds 50%.

	Total sample	Limited sample
<b>Agriculture, forestry and fishing</b>	16	13
<b>Mining</b>	6	6
<b>Electricity, gas and water production and supply</b>	18	16
<b>Construction</b>	9	9
<b>Transportation and storage</b>	27	26
<b>Information technology</b>	17	15
<b>Retail and wholesale trade</b>	39	28
<b>Real estate</b>	8	7
<b>Services</b>	14	11
<b>Media</b>	2	2
<b>Conglomerates</b>	10	7
<b>Manufacturing</b>	264	228
<i>Food &amp; beverages</i>	24	22
<i>Textile</i>	16	9
<i>Printing</i>	11	10
<i>Petroleum, chemicals and plastic products</i>	48	44
<i>Electronics</i>	11	8
<i>Metal &amp; non-metal</i>	50	49
<i>Machines</i>	70	62
<i>Pharmaceuticals</i>	28	20
<i>Other manufacturing</i>	6	4
<b>Total number of firms</b>	<b>430</b>	<b>368</b>



Table 3. Summary Statistics for one year before SIP

Firm characteristics are measured in the year before SIP. SALES and TOTAL ASSES have been deflated. SALES (ASSETS) GROWTH is the growth rate of real sales (total assets) from two to one year before SIP. MARKET-TO-BOOK is the sum of market value of equity and book value of debt scaled by book value of total assets. INVESTMENT RATE is capital expenditures scaled by total assets. ADMIN/SALES is administrative expenses to sales. TOTAL (FIXED) ASSETS TURNOVER is the ratio of sales to total (fixed) assets. LEVERAGE is book value of total debt/book value of total assets. DEBT MIX is the ratio of short-term and long-term bank loans to total debt. STATE OWNERSHIP is the fraction of shares owned by the government (directly and indirectly via state-owned legal persons) before and right after SIP. LEGAL PERSON OWNERSHIP is the fraction of non-state-owned legal person shares before and right after SIP. PUBLIC ALLOCATION is the fraction of shares (A shares) sold to the general public relative to the total number of shares outstanding before SIP. PROCEEDS is the number of shares offered times the offer price and has been deflated. UNDERPRICING is the first-day stock return minus the corresponding market return. LISTINGLAG is the number of days elapsed between share offering and share listing.

Variable	Mean	Median	Std. Dev.	Min	Max
<b>FIRM CHARACTERISTICS</b>					
SALES (RMB)	814,146,257	176,590,000	7,827,468,394	6,888,650	161,069,000,000
TOTAL ASSETS (RMB)	1,112,935,379	243,640,000	8,854,271,784	30,280,523	170,040,000,000
SALES GROWTH	0.1557	0.0877	0.2342	-0.1944	0.8387
ASSETS GROWTH	0.2381	0.1762	0.3020	-0.1125	1.1405
MARKET-TO-BOOK (using the offer price)	1.4758	1.4486	0.3186	0.9463	2.1574
MARKET-TO-BOOK (using first-day trading price)	3.1690	2.9721	1.1514	1.4762	5.7475
INVESTMENT RATE	0.0985	0.0834	0.0960	-0.0001	0.3801
ADMIN/SALES	0.0686	0.0559	0.0429	0.0163	0.1741
TOTAL ASSETS TURNOVER	1.1344	0.8887	0.7753	0.2507	3.2567
FIXED ASSETS TURNOVER	4.4230	2.5398	5.2765	0.4696	22.3257
EBITDA/ASSETS	0.1656	0.1536	0.0690	0.0637	0.3513
EBIT/ASSETS	0.1317	0.1263	0.0560	0.0447	0.2574
LEVERAGE	0.5363	0.5713	0.1341	0.2315	0.6975
DEBT MIX	0.4843	0.5252	0.2226	0.0013	0.8072
<b>OWNERSHIP STRUCTURE</b>					
STATE OWNERSHIP BEFORE SIP	0.7869	0.8836	0.2167	0.2000	1.0000
STATE OWNERSHIP AFTER SIP	0.5663	0.6030	0.1620	0.1345	0.8786
LEGAL PERSON OWNERSHIP BEFORE SIP	0.1188	0.0217	0.1735	0.0000	0.8000
LEGAL PERSON OWNERSHIP AFTER SIP	0.0828	0.0152	0.1191	0.0000	0.6000
<b>SIP TRANSACTION</b>					
PUBLIC ALLOCATION	0.2776	0.2799	0.0894	0.0277	0.5480
PROCEEDS (RMB)	242,334,818	151,890,000	467,127,979	18,287,612	5,793,740,001
UNDERPRICING	135.77%	121.29%	85.70%	-13.38%	655.33%
LISTINGLAG	33	23	29	9	175

Table 4. Summary statistics over time (Mean and Median)

Firm characteristics are measured based on post-SIP years. Year 1 indicates the first year after SIP and so on. SALES and TOTAL ASSES have been deflated. SALES (ASSETS) GROWTH is the annual growth rate of real sales (total assets). MARKET-TO-BOOK is the sum of market value of equity (calculated on the basis of the SOE's stock price at the end of the calendar year) and book value of financial debt scaled by book value of total assets. INVESTMENT RATE is capital expenditures scaled by total assets. ADMIN/SALES is ratio of administrative expenses to sales. TOTAL (FIXED) ASSETS TURNOVER is the ratio of sales to total (fixed) assets. EBITDA/ASSETS is earnings before interest, taxes, depreciation and amortization scaled by total assets. EBIT/ASSETS is earnings before interest and taxes divided by total assets. LEVERAGE is book value of total debt/book value of total assets. DEBT MIX is the ratio of short-term and long-term bank loans to total debt. PPE/ASSETS is the ratio of property, plants and equipment to total assets whereas INTANGIBLES/ASSETS is the ratio of intangible assets to total assets. DIVIDEND/NET INCOME is dividends (including both cash and stock dividends) scaled by net income. We also offer some summary statistics on ownership structure. STATE OWNERSHIP is the fraction of shares owned by the government (directly and indirectly via state-owned legal persons). LEGAL PERSON OWNERSHIP is the fraction of non-state-owned legal person shares. PUBLIC OWNERSHIP OF DOMESTIC (FOREIGN) INVESTORS is the proportion of tradable A (B/H) shares relative to the total number of outstanding shares.

Variables	Year 1	Year 2	Year 3	Year 4	Year 5
<b>FIRM CHARACTERISTICS</b>					
SALES (RMB)	966,464,644	1,171,636,416	1,464,424,044	741,226,591	986,343,747
	218,944,926	266,095,627	312,440,232	299,467,820	318,014,918
TOTAL ASSETS (RMB)	1,503,568,460	1,641,891,371	1,822,121,695	1,112,602,362	1,389,474,815
	478,950,470	574,508,376	652,795,248	675,762,068	725,341,659
SALES GROWTH	0.1753	0.1920	0.1893	0.1423	0.1389
	0.1271	0.1713	0.1413	0.1173	0.1060
ASSETS GROWTH	0.1623	0.2057	0.1541	0.1320	0.1004
	0.1115	0.1436	0.1044	0.0778	0.0631
MARKET-TO-BOOK	2.6649	2.3860	2.1982	2.3436	2.0414
	2.5122	2.1430	1.8381	2.0736	1.8018
INVESTMENT RATE	0.1034	0.0894	0.0676	0.0594	0.0531
	0.0762	0.0688	0.0465	0.0355	0.0322
ADMIN/SALES	0.0821	0.0866	0.0916	0.0983	0.1051
	0.0710	0.0698	0.0766	0.0835	0.0859
TOTAL ASSETS TURNOVER	0.5635	0.5596	0.5770	0.5532	0.5756
	0.4607	0.4585	0.4826	0.4580	0.4441
FIXED ASSETS TURNOVER	2.2347	2.1658	2.2547	2.2386	2.2835
	1.4513	1.4073	1.4068	1.3253	1.3389
WAGES/SALES	0.0786	0.0794	0.0788	0.0834	0.0858
	0.0671	0.0685	0.0703	0.0738	0.0786
EBITDA/ASSETS	0.0968	0.0884	0.0800	0.0715	0.0604
	0.0917	0.0853	0.0739	0.0692	0.0647
EBIT/ASSETS	0.0749	0.0666	0.0579	0.0541	0.0434
	0.0715	0.0633	0.0556	0.0532	0.0431

LEVERAGE	0.3903	0.4102	0.4354	0.4403	0.4573
	0.3956	0.4141	0.4426	0.4438	0.4659
DEBT MIX	0.4617	0.4811	0.5024	0.5008	0.4969
	0.4923	0.5121	0.5385	0.5497	0.5499
PPE/ASSETS	0.3680	0.3822	0.3841	0.3665	0.3751
	0.3400	0.3665	0.3663	0.3514	0.3531
INTANGIBLES/ASSETS	0.0198	0.0220	0.0237	0.0257	0.0277
	0.0106	0.0133	0.0149	0.0165	0.0151
DIVIDEND/NET INCOME	0.4572	0.4100	0.3700	0.3412	0.3180
	0.4524	0.3762	0.2727	0.2534	0.1913
<b>OWNERSHIP STRUCTURE</b>					
STATE OWNERSHIP	0.5561	0.5396	0.5071	0.5126	0.4838
	0.6000	0.5914	0.5690	0.5590	0.5413
LEGAL PERSON OWNERSHIP	0.0868	0.0960	0.1065	0.1107	0.1193
	0.0154	0.0154	0.0164	0.0203	0.0342
PUBLIC OWNERSHIP OF DOMESTIC INVESTORS (% Tradable A shares)	0.2946	0.3017	0.3337	0.3383	0.3474
	0.2970	0.3023	0.3333	0.3315	0.3409
PUBLIC OWNERSHIP OF FOREIGN INVESTORS (% Tradable B shares)	0.0130	0.0130	0.0131	0.0150	0.0149
	0.0000	0.0000	0.0000	0.0000	0.0000
% Tradable B shares for 17 firms with B shares outstanding	0.3281	0.3281	0.3314	0.3300	0.3271
	0.3181	0.3181	0.3181	0.3164	0.3164
PUBLIC OWNERSHIP OF FOREIGN INVESTORS (% Tradable H shares)	0.0113	0.0113	0.0115	0.0078	0.0078
	0.0000	0.0000	0.0000	0.0000	0.0000
% Tradable H shares for 16 firms with H shares outstanding	0.3038	0.3040	0.3086	0.3028	0.3025
	0.2744	0.2745	0.2745	0.2731	0.2731
N observations	430	430	430	308	308

Table 5. Statistics on the cases of issuance and divestment decisions based on post-SIP year as well as different cutoff points

In the first five columns, we report the number of issuance (divestment) cases in the various post-SIP years, based on the different cutoff points that we use. The figure in each cell above reports the number of issuance (divestment) decisions whereas the figure below – in parentheses – reports the percentage of these cases relative to the total number of observations in that particular post-SIP year. The last two columns of the table report the total number of cases summed over all five post-SIP years and the number of firms involved, respectively.

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Total Number of Cases</b>	<b>Number of Firms Involved</b>
<b>The Issuance decision</b>							
<i>3% Cutoff point</i>	16 (3.72%)	42 (9.77%)	52 (12.09%)	19 (6.17%)	23 (7.47%)	152 (7.97%)	133
<i>5% Cutoff point</i>	9 (2.09%)	16 (3.72%)	19 (4.42%)	11 (3.57%)	11 (3.57%)	66 (3.46%)	61
<i>10% Cutoff point</i>	3 (0.70%)	1 (0.23%)	7 (1.63%)	3 (0.97%)	2 (0.65%)	16 (0.84%)	15
<b>The Divestment Decision</b>							
<i>3% Cutoff point</i>	4 (0.93%)	22 (5.12%)	23 (5.35%)	18 (5.84%)	16 (5.19%)	83 (4.35%)	76
<i>5% Cutoff point</i>	4 (0.93%)	20 (4.65%)	21 (4.88%)	17 (5.52%)	15 (4.87%)	77 (4.04%)	70
<i>10% Cutoff point</i>	4 (0.93%)	18 (4.19%)	20 (4.65%)	12 (3.90%)	11 (3.57%)	65 (3.41%)	62
N observations	430	430	430	308	308		

Table 6. Summary statistics of main explanatory variables used in probit models based on whether and how the government experiences a significant decrease using different cutoff points (3%, 5% and 10%)

All the variables are measured in the year before an observation is made. SALES (ASSETS) GROWTH is the growth rate of real sales (total assets) from year  $t-2$  to year  $t-1$ . MARKET-TO-BOOK is the sum of market value of equity and book value of financial debt scaled by book value of total assets. INVESTMENT RATE is capital expenditures scaled by total assets. ADMIN/SALES is the ratio of administrative expenses to sales. TOTAL (FIXED) ASSETS TURNOVER is the ratio of sales to total (fixed) assets. WAGES/SALES is wages scaled by sales (for most of the firms, the data is available only from 1998 onwards). EBITDA/ASSETS is earnings before interest, taxes, depreciation and amortization scaled by total assets whereas EBIT/ASSETS is earnings before interest and taxes scaled by total assets. LEVERAGE is the ratio of book value of total debt to total assets and DEBT MIX is bank loans relative to total debt. FIRM SIZE is measured by the logarithm of total assets. PPE/ASSETS is the ratio of property, plant and equipment to total assets whereas INTANGIBLES/ASSETS is the ratio of intangible assets to total assets. DIVIDEND/NET INCOME is dividends (including both cash and stock dividends) divided by earnings. FIRM RISK is calculated as the standard deviation of the residuals from the market model based on daily stock returns. RESIDUAL UNDERPRICING is the residual from the regression model developed by Quan and Huyghebaert (2006) (see footnote 20). FIRM RETURN is the firm's average monthly stock market return. MARKET RETURN is the average monthly return on the Shanghai stock market composite A share index in the previous year. STOCK LIQUIDITY is the average daily stock turnover ratio calculated on an annual basis. In each column, we report for each subsample the mean (figure above) and median (figure below) for each variable. \*\*\* (\*\*, \*) indicates that the difference in mean and median between the issuance (divestment) decision and the no-change case is significant at the 1% (5%, 10%) level, based upon a t-test (assuming unequal variance) and a Wilcoxon rank-sum test, respectively.

Variables	No decrease (1679 firm- years)	Using 3% as cutoff point		Using 5% as cutoff point		Using 10% as cutoff point	
		Issuance decision (152 firm- years)	Divestment decision (83 firm- years)	Issuance decision (66 firm- years)	Divestment decision (77 firm- years)	Issuance decision (16 firm- years)	Divestment decision (65 firm- years)
SALES GROWTH	0.1574 0.1189	0.2213** 0.1551**	0.2257* 0.1481	0.1877 0.1117	0.2260 0.1754	0.2673 0.1698	0.2023 0.1243
ASSETS GROWTH	0.2952 0.1624	0.2217*** 0.1436	0.2167** 0.1339	0.1781*** 0.1088*	0.2243*** 0.1362*	0.1309*** 0.1148	0.2312*** 0.1493
MARKET-TO-BOOK	2.5985 2.3703	2.6704 2.5441	2.3908* 2.1912*	2.6700 2.5046	2.3813* 2.1767*	2.0951** 1.8630**	2.2959** 2.1767**
INVESTMENT RATE	0.0861 0.0603	0.1008** 0.0756**	0.0752 0.0587	0.0913 0.0755	0.0769 0.0587	0.0844 0.0579	0.0795 0.0594
ADMIN/SALES	0.0865 0.0722	0.0732*** 0.0558***	0.0982 0.0725	0.0842 0.0706	0.0997 0.0746	0.0797 0.0537	0.0991 0.0746
TOTAL ASSETS TURNOVER	0.5509 0.4513	0.6535*** 0.5602***	0.5000 0.3624**	0.6531** 0.5616***	0.4975 0.3606**	0.7272 0.6064*	0.4698* 0.3561**
FIXED ASSETS TURNOVER	2.2720 1.4545	2.4428 1.4826	2.4121 1.3988	2.3874 1.4271	2.4938 1.4215	2.7646 1.3427	2.4190 1.4215
WAGES/SALES	0.0801 0.0712	0.0760 0.0710	0.0808 0.0639	0.0810 0.0763	0.0822 0.0731	0.0721 0.0492	0.0861 0.0737
EBITDA/ASSETS	0.0894 0.0846	0.1138*** 0.1061***	0.0635*** 0.0660***	0.1100*** 0.1052***	0.0621*** 0.0646***	0.0754 0.0842	0.0606*** 0.0660***
EBIT/ASSETS	0.0678 0.0647	0.0900*** 0.0854***	0.0549*** 0.0538***	0.0917*** 0.0854***	0.0525*** 0.0524***	0.0674 0.0706	0.0523*** 0.0531***
LEVERAGE	0.3972 0.3947	0.4192* 0.4215*	0.4364** 0.4511***	0.4189 0.4240	0.4422** 0.4571***	0.5273*** 0.5375***	0.4384** 0.4511**
DEBT MIX	0.4764 0.5181	0.4788 0.4884	0.5147 0.5531	0.4945 0.4849	0.5129 0.5516	0.5891** 0.6403*	0.5171 0.5531
FIRM SIZE	20.1933 20.1273	20.2538 20.2033	20.0072** 19.9622*	20.2116 20.1947	19.9892** 19.9430**	20.2140 20.1045	19.9314*** 19.9354**
PPE/ASSETS	0.3602 0.3392	0.3856* 0.3705*	0.3259* 0.3022*	0.3809 0.3707	0.3184** 0.2978**	0.3953 0.3764	0.3263 0.3022
INTANGIBLES/ASSETS	0.0213 0.0118	0.0201 0.0116	0.0245 0.0175**	0.0208 0.0124	0.0249 0.0178**	0.0176 0.0067	0.0240 0.0146*
DIVIDEND/NET INCOME	0.4009 0.3635	0.3858 0.3290	0.3196** 0.2501***	0.3905 0.3301	0.3026** 0.1925**	0.2801* 0.2304	0.3171* 0.2189**
FIRM RISK	0.0176 0.0170	0.0194*** 0.0193***	0.0163*** 0.0152**	0.0191** 0.0190**	0.0164** 0.0152*	0.0189 0.0166	0.0162** 0.0152*
RESIDUAL UNDERPRICING	-0.0171 -0.1122	0.0087 -0.0260	0.1141* 0.0664*	0.0798 -0.0231	0.1441** 0.0782**	0.4240** 0.4716***	0.1528* 0.0782*
FIRM RETURN	-0.0052 -0.0100	0.0112*** 0.0136***	-0.0078 -0.0138	0.0166*** 0.0177***	-0.0080 -0.0148	0.0104* 0.0080*	-0.0103 -0.0178
MARKET RETURN	0.0078 0.0094	0.0148*** 0.0195***	0.0013*** -0.0123*	0.0194*** 0.0266***	0.0006*** -0.0123**	0.0170 0.0230*	-0.0005*** -0.0123***
STOCK LIQUIDITY	0.0339 0.0222	0.0355 0.0247	0.0251*** 0.0172***	0.0379 0.0258**	0.0248*** 0.0171***	0.0411 0.0208	0.0243** 0.0165***

Table 7. Determinants of the issuance decision

The dependent variable equals one when the percentage of public ownership (including A, B and H shares) in total shares outstanding increases by more than 3% (5%) whereas state ownership experiences a similar decrease in the same year and zero otherwise. All explanatory variables have been defined in Table 6 and are measured in the year before an observation is made. REGULATED equals one when the SOE is in a regulated industry. STATE OWNERSHIP is the percentage of ownership held directly or indirectly by the government. DUMMY STATE MAJORITY OWNERSHIP equals one if the government holds at least 50% of the SOE's shares and zero otherwise. In addition, we include 12 industry dummies based on the CSRC industry classification. Following Wei *et al.* (2005), we also include regional dummies based on the average GDP per capita during the 1990s. *p*-values are reported between parentheses.

	Using 3 percent cutoff point							Using 5 percent cutoff point						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intercept	<b>-2.7695</b> ( <b>0.0593</b> )	-2.3457 (0.1167)	-2.4525 (0.1236)	<b>-2.5450</b> ( <b>0.0858</b> )	-2.4873 (0.0816)	-3.3673 (0.0152)	-1.5014 (0.2265)	<b>-3.3451</b> ( <b>0.0846</b> )	-2.7977 (0.1621)	-2.9661 (0.1712)	-3.1599 (0.1099)	-1.7723 (0.3512)	-2.3396 (0.2101)	-2.0226 (0.2141)
SALES GROWTH	0.0950 (0.5422)	0.1852 (0.2429)	0.1843 (0.2456)	0.1418 (0.3679)	0.2158 (0.1661)	<b>0.4110</b> ( <b>0.0051</b> )	0.2199 (0.1572)	-0.0814 (0.6996)	-0.0256 (0.9060)	-0.0271 (0.9006)	-0.0615 (0.7756)	-0.0028 (0.9892)	0.1282 (0.5209)	0.0108 (0.9586)
ADMIN/SALES	-0.7361 (0.5001)	-0.6717 (0.5446)	-0.6708 (0.5454)	-0.6090 (0.5814)				1.6083 (0.2475)	1.4957 (0.2978)	1.5034 (0.2957)	1.6509 (0.2475)			
TOTAL ASSETS TURNOVER	0.1901 (0.3071)	0.1338 (0.4770)	0.1341 (0.4763)	0.1499 (0.4243)				<b>0.4120</b> ( <b>0.0962</b> )	0.3005 (0.2415)	0.3000 (0.2425)	0.3232 (0.2051)			
EBITDA/ASSETS	<b>5.8319</b> ( <b>&lt;.0001</b> )	<b>5.6041</b> ( <b>&lt;.0001</b> )	<b>5.6115</b> ( <b>&lt;.0001</b> )	<b>5.7516</b> ( <b>&lt;.0001</b> )	<b>5.8810</b> ( <b>&lt;.0001</b> )		<b>6.0015</b> ( <b>&lt;.0001</b> )	<b>4.1661</b> ( <b>0.0041</b> )	<b>4.1390</b> ( <b>0.0049</b> )	<b>4.1544</b> ( <b>0.0048</b> )	<b>4.3673</b> ( <b>0.0030</b> )	<b>3.8482</b> ( <b>0.0053</b> )		<b>4.3377</b> ( <b>0.0009</b> )
LEVERAGE	<b>1.0280</b> ( <b>0.0132</b> )	<b>1.1687</b> ( <b>0.0054</b> )	<b>1.1651</b> ( <b>0.0056</b> )	<b>1.1025</b> ( <b>0.0083</b> )	<b>1.2079</b> ( <b>0.0012</b> )	0.4340 (0.1879)	<b>1.2474</b> ( <b>0.0007</b> )	0.5715 (0.2941)	0.8179 (0.1459)	0.8098 (0.1508)	0.7712 (0.1675)	<b>0.9954</b> ( <b>0.0418</b> )	0.5170 (0.2446)	<b>0.9420</b> ( <b>0.0499</b> )
DEBT MIX	-0.1004 (0.6782)	-0.0521 (0.8312)	-0.0529 (0.8286)	-0.0569 (0.8158)				0.1908 (0.5585)	0.1758 (0.6011)	0.1765 (0.5999)	0.1829 (0.5860)			
FIRM SIZE	-0.0123 (0.8616)	-0.0655 (0.3704)	-0.0630 (0.3954)	-0.0349 (0.6255)	-0.0582 (0.4124)	0.0142 (0.8351)	-0.0914 (0.1595)	0.0104 (0.9105)	-0.0588 (0.5457)	-0.0555 (0.5738)	-0.0148 (0.8757)	-0.0907 (0.3376)	-0.0455 (0.6212)	-0.0873 (0.3049)
PPE/ASSETS	<b>0.5185</b> ( <b>0.0954</b> )	<b>0.5266</b> ( <b>0.0965</b> )	<b>0.5272</b> ( <b>0.0963</b> )	0.5046 (0.1092)	0.4306 (0.1532)	<b>0.6639</b> ( <b>0.0222</b> )	0.4800 (0.1030)	<b>0.8110</b> ( <b>0.0468</b> )	<b>0.8042</b> ( <b>0.0569</b> )	<b>0.8061</b> ( <b>0.0567</b> )	<b>0.7835</b> ( <b>0.0613</b> )	<b>0.7857</b> ( <b>0.0487</b> )	<b>0.9466</b> ( <b>0.0148</b> )	<b>0.7620</b> ( <b>0.0500</b> )
INTANGIBLES/ASSETS	0.3434 (0.8581)	1.2665 (0.5112)	1.2731 (0.5093)	0.9600 (0.6174)				-0.0232 (0.9928)	1.4463 (0.5777)	1.4478 (0.5775)	1.0489 (0.6857)			
DIVIDEND/NET INCOME	0.0420 (0.7413)	0.0311 (0.8079)	0.0311 (0.8081)	0.0354 (0.7819)				0.0872 (0.6053)	0.0583 (0.7362)	0.0594 (0.7318)	0.0699 (0.6857)			
FIRM RISK	<b>27.9566</b> ( <b>0.0125</b> )	<b>28.0934</b> ( <b>0.0129</b> )	<b>28.1492</b> ( <b>0.0128</b> )	<b>27.5544</b> ( <b>0.0144</b> )	<b>27.4671</b> ( <b>0.0144</b> )	<b>25.1070</b> ( <b>0.0207</b> )		-9.0557 (0.5409)	-7.3735 (0.6256)	-7.4370 (0.6229)	-7.6261 (0.6117)	-10.9266 (0.4638)	-11.2867 (0.4411)	
RESIDUAL UNDERPRICING	0.1206 (0.1001)	0.0826 (0.2687)	0.0831 (0.2657)	0.0921 (0.2160)				<b>0.1921</b> ( <b>0.0405</b> )	0.1292 (0.1814)	0.1293 (0.1811)	0.1454 (0.1309)			
FIRM RETURN	<b>2.5033</b> ( <b>0.0411</b> )	<b>2.1853</b> ( <b>0.0717</b> )	<b>2.1874</b> ( <b>0.0716</b> )	<b>2.3543</b> ( <b>0.0539</b> )	<b>2.0576</b> ( <b>0.0853</b> )	<b>2.2932</b> ( <b>0.0563</b> )		<b>3.8592</b> ( <b>0.0193</b> )	<b>3.4814</b> ( <b>0.0315</b> )	<b>3.4870</b> ( <b>0.0313</b> )	<b>3.6660</b> ( <b>0.0246</b> )	<b>3.3378</b> ( <b>0.0366</b> )	<b>3.4905</b> ( <b>0.0303</b> )	
MARKET RETURN	3.8115 (0.1594)	3.7465 (0.1702)	3.7382 (0.1712)	3.7854 (0.1647)	3.5921 (0.1881)	<b>4.4560</b> ( <b>0.0938</b> )		<b>9.7983</b> ( <b>0.0065</b> )	<b>9.7287</b> ( <b>0.0081</b> )	<b>9.7342</b> ( <b>0.0081</b> )	<b>9.6474</b> ( <b>0.0082</b> )	<b>9.6899</b> ( <b>0.0081</b> )	<b>10.0427</b> ( <b>0.0054</b> )	
STOCK LIQUIDITY	<b>-4.1110</b> ( <b>0.0231</b> )	<b>-4.1380</b> ( <b>0.0228</b> )	<b>-4.1392</b> ( <b>0.0228</b> )	<b>-4.0126</b> ( <b>0.0272</b> )	<b>-4.2095</b> ( <b>0.0194</b> )	-2.0222 (0.2321)		-1.2566 (0.5850)	-1.6213 (0.4865)	-1.6139 (0.4886)	-1.3847 (0.5510)	-2.0651 (0.3679)	-0.7124 (0.7448)	
REGULATED	-0.2958 (0.2890)	-0.3965 (0.1646)	-0.3875 (0.1790)	-0.3256 (0.2477)	-0.4266 (0.1252)	-0.3033 (0.2673)	-0.4190 (0.1261)	-0.6968 (0.1296)	<b>-0.8357</b> ( <b>0.0814</b> )	<b>-0.8233</b> ( <b>0.0883</b> )	-0.7201 (0.1256)	<b>-0.8722</b> ( <b>0.0618</b> )	<b>-0.8123</b> ( <b>0.0827</b> )	<b>-0.8334</b> ( <b>0.0636</b> )
STATE OWNERSHIP		<b>1.1029</b> ( <b>0.0004</b> )	1.3601 (0.3296)		<b>1.1600</b> ( <b>0.0001</b> )	<b>1.3063</b> ( <b>&lt;.0001</b> )	<b>1.1915</b> ( <b>&lt;.0001</b> )		<b>1.4958</b> ( <b>0.0008</b> )	1.9263 (0.3889)		<b>1.5437</b> ( <b>0.0004</b> )	<b>1.6510</b> ( <b>0.0001</b> )	<b>1.5692</b> ( <b>0.0002</b> )
(STATE OWNERSHIP) <sup>2</sup>			-0.2594 (0.8500)							-0.4167 (0.8443)				
DUMMY STATE MAJORITY OWNERSHIP				<b>0.3071</b> ( <b>0.0052</b> )							<b>0.4056</b> ( <b>0.0086</b> )			
Likelihood Ratio (Pr > Chisq)	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	0.0007
Pseudo R Square	11.83%	13.42%	13.42%	12.77%	13.09%	9.48%	10.24%	12.58%	15.02%	15.03%	14.03%	14.22%	12.52%	10.53%

Table 8. Determinants of the issuance decision (including lagged changes in performance)

The dependent variable equals one when the percentage of public ownership (including A, B and H shares) in total shares outstanding increases by more than 3% (5%) whereas state ownership experiences a similar decrease in the same year and zero otherwise. All explanatory variables have been defined in Table 6 and 7, and are measured in the year before an observation is made. Lagged change in EBITDA/ASSETS is calculated as the change in EBITDA/ASSETS relative to the level in the previous year ( $EBITDA/ASSETS_{t-1} - EBITDA/ASSETS_{t-2}$ ) and the lagged change in EBIT/ASSETS is calculated as the change in EBIT/ASSETS relative to the level in the year before SIP ( $EBIT/ASSETS_{t-1} - EBIT/ASSETS_{SIP-1}$ ). *p*-values are reported between parentheses.

	Using 3 percent cutoff point						Using 5 percent cutoff point					
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	<b>-2.6860</b> (0.0686)	<b>-3.4465</b> (0.0132)	-1.7925 (0.1437)	-2.3419 (0.1156)	<b>-2.9016</b> (0.0393)	-1.5308 (0.2152)	-2.9740 (0.1356)	-2.4580 (0.1911)	-2.1515 (0.1890)	-2.6756 (0.1836)	-1.9653 (0.3034)	-1.9832 (0.2311)
SALES GROWTH	<b>0.3503</b> (0.0234)	<b>0.4408</b> (0.0032)	<b>0.4174</b> (0.0052)	<b>0.3069</b> (0.0449)	<b>0.3766</b> (0.0113)	<b>0.3698</b> (0.0128)	0.1128 (0.5951)	0.1687 (0.4109)	0.1773 (0.3826)	0.0454 (0.8303)	0.0685 (0.7394)	0.0933 (0.6481)
ADMIN/SALES	-1.3795 (0.1947)			-1.2771 (0.2333)			1.0144 (0.4667)			1.2030 (0.3958)		
TOTAL ASSETS TURNOVER	<b>0.3348</b> (0.0614)			0.2514 (0.1742)			<b>0.4568</b> (0.0639)			0.3124 (0.2236)		
Lagged change in EBITDA/ ASSETS (relative to previous year)	-1.2070 (0.2085)	-0.9489 (0.3161)	-0.4691 (0.6030)				-1.3646 (0.2941)	-1.1486 (0.3685)	-0.6067 (0.6150)			
Lagged change in EBIT/ASSETS (relative to pre-SIP year)				1.2172 (0.1581)	<b>1.7383</b> (0.0346)	<b>1.7869</b> (0.0263)				<b>2.4023</b> (0.0452)	<b>2.7660</b> (0.0168)	<b>3.0235</b> (0.0074)
LEVERAGE	0.3953 (0.2974)	0.4170 (0.2070)	0.4390 (0.1786)	0.4356 (0.2527)	0.3990 (0.2299)	0.4179 (0.2031)	0.2514 (0.6271)	0.5173 (0.2475)	0.3820 (0.3808)	0.2615 (0.6175)	0.4356 (0.3377)	0.3030 (0.4946)
DEBT MIX	-0.0492 (0.8362)			-0.0902 (0.7077)			0.1908 (0.5634)			0.1255 (0.7091)		
FIRM SIZE	-0.0227 (0.7518)	0.0167 (0.8075)	-0.0458 (0.4727)	-0.0321 (0.6564)	-0.0023 (0.9740)	-0.0522 (0.4150)	-0.0335 (0.7288)	-0.0441 (0.6336)	-0.0604 (0.4772)	-0.0353 (0.7162)	-0.0559 (0.5517)	-0.0578 (0.5007)
PPE/ASSETS	<b>0.8345</b> (0.0063)	<b>0.6736</b> (0.0204)	<b>0.7089</b> (0.0122)	<b>0.7550</b> (0.0143)	<b>0.5958</b> (0.0421)	<b>0.6497</b> (0.0227)	<b>1.0554</b> (0.0101)	<b>0.9516</b> (0.0150)	<b>0.9582</b> (0.0116)	<b>0.9003</b> (0.0303)	<b>0.8198</b> (0.0383)	<b>0.8551</b> (0.0260)
INTANGIBLES/ASSETS	0.7118 (0.7069)			0.6848 (0.7182)			1.0484 (0.6825)			1.0326 (0.6903)		
DIVIDEND/NET INCOME	0.0295 (0.8128)			0.0410 (0.7424)			0.0777 (0.6438)			0.0786 (0.6441)		
FIRM RISK	<b>26.8442</b> (0.0149)	<b>25.3969</b> (0.0194)		<b>27.0817</b> (0.0137)	<b>26.1186</b> (0.0161)		-7.7640 (0.6021)	-8.2247 (0.5771)		-7.1138 (0.6310)	-7.3774 (0.6157)	
RESIDUAL UNDERPRICING	0.0723 (0.3278)			0.0617 (0.4051)			0.1297 (0.1781)			0.1087 (0.2623)		
FIRM RETURN	<b>2.4183</b> (0.0484)	<b>2.2841</b> (0.0585)		<b>2.3687</b> (0.0512)	<b>2.2066</b> (0.0654)		<b>3.7384</b> (0.0235)	<b>3.5086</b> (0.0299)		<b>3.5965</b> (0.0275)	<b>3.3822</b> (0.0348)	
MARKET RETURN	<b>4.5751</b> (0.0871)	<b>4.5162</b> (0.0894)		<b>4.4665</b> (0.0946)	<b>4.4401</b> (0.0950)		<b>10.1436</b> (0.0051)	<b>9.8611</b> (0.0066)		<b>9.9291</b> (0.0063)	<b>9.7013</b> (0.0076)	
STOCK LIQUIDITY	-1.9558 (0.2682)	-1.6352 (0.3458)		-2.8960 (0.1008)	-2.7630 (0.1114)		0.0713 (0.9751)	-2.4420 (0.8437)		-1.2092 (0.5979)	-1.8912 (0.4013)	
REGULATED	-0.2227 (0.4277)	-0.3030 (0.2683)	-0.2775 (0.2985)	-0.2739 (0.3323)	-0.3501 (0.2033)	-0.3287 (0.2216)	-0.7417 (0.1240)	<b>-0.8121</b> (0.0876)	<b>-0.7503</b> (0.0966)	<b>-0.8385</b> (0.0854)	<b>-0.8894</b> (0.0644)	<b>-0.8529</b> (0.0653)
STATE OWNERSHIP	<b>1.1794</b> (0.0001)	<b>1.3170</b> (0.0001)	<b>1.3812</b> (0.0001)	<b>1.2223</b> (0.0001)	<b>1.3572</b> (0.0001)	<b>1.4126</b> (0.0001)	<b>1.5687</b> (0.0004)	<b>1.7393</b> (0.0001)	<b>1.7830</b> (0.0001)	<b>1.6668</b> (0.0002)	<b>1.7877</b> (0.0001)	<b>1.8190</b> (0.0001)
Likelihood Ratio (Pr > Chisq)	<.0001	<.0001	0.0003	<.0001	<.0001	<.0001	0.0001	<.0001	0.0067	<.0001	<.0001	0.0008
Pseudo R Square	10.69%	9.60%	6.10%	10.74%	10.01%	6.67%	13.70%	12.67%	8.19%	14.28%	13.66%	9.63%

Table 9. Determinants of the issuance decision (split-sample regression analysis)

The dependent variable equals one when the percentage of public ownership (including A, B and H shares) in total outstanding shares increases by more than 3% (5%) whereas state ownership experiences a similar decrease in the same year and zero otherwise. All explanatory variables have been defined in Table 6 and are measured in the year before an observation is made. REGULATED equals one when the SOE is in a regulated industry. STATE OWNERSHIP is the percentage of ownership held directly or indirectly by the government. DUMMY STATE MAJORITY OWNERSHIP equals one if the government holds at least 50% of the SOE's shares and zero otherwise. In addition, we include 12 industry dummies based on the CSRC industry classification. Following Wei *et al.* (2005), we also include regional dummies based on the average GDP per capita during the 1990s. *p*-values are reported between parentheses.

	Using 3 percent cutoff point								Using 5 percent cutoff point							
	1994–1998				1999–2005				1994–1998				1999–2005			
Intercept	-0.8999 (0.7984)	-0.3053 (0.9289)	-0.1539 (0.9628)	-1.4038 (0.6435)	<b>-3.6524</b> <b>(0.0362)</b>	<b>-3.5155</b> <b>(0.0332)</b>	<b>-4.6374</b> <b>(0.0038)</b>	-2.3049 (0.1193)	1.8419 (0.6541)	3.8671 (0.3265)	4.2460 (0.2695)	0.9139 (0.7888)	<b>-4.7073</b> <b>(0.0346)</b>	-3.2857 (0.1175)	<b>-3.8083</b> <b>(0.0648)</b>	<b>-3.7335</b> <b>(0.0419)</b>
SALES GROWTH	-0.1980 (0.5630)	-0.2034 (0.5385)	-0.0095 (0.9760)	-0.1514 (0.6437)	<b>0.3526</b> <b>(0.0660)</b>	<b>0.3809</b> <b>(0.0422)</b>	<b>0.5750</b> <b>(0.0011)</b>	<b>0.3947</b> <b>(0.0338)</b>	0.0496 (0.8947)	0.0303 (0.9339)	0.1360 (0.6961)	0.0723 (0.8396)	0.0995 (0.7152)	0.0585 (0.8287)	0.1868 (0.4638)	0.0926 (0.7250)
ADMIN/SALES	1.6670 (0.5819)				-0.5806 (0.6355)				1.6328 (0.5971)				1.6030 (0.2760)			
TOTAL ASSETS TURNOVER	0.3775 (0.3930)				0.0784 (0.7190)				<b>0.6828</b> <b>(0.0769)</b>				-0.0854 (0.7552)			
EBITDA/ASSETS	<b>6.0942</b> <b>(0.0279)</b>	<b>7.0084</b> <b>(0.0062)</b>		<b>6.0417</b> <b>(0.0142)</b>	<b>5.2427</b> <b>(&lt;.0001)</b>	<b>5.3819</b> <b>(&lt;.0001)</b>		<b>5.5274</b> <b>(&lt;.0001)</b>	3.7617 (0.2295)	4.0722 (0.1375)		3.1140 (0.2410)	<b>3.6281</b> <b>(0.0329)</b>	<b>3.0813</b> <b>(0.0585)</b>		<b>3.5476</b> <b>(0.0211)</b>
LEVERAGE	<b>1.9891</b> <b>(0.0393)</b>	<b>1.9334</b> <b>(0.0215)</b>	1.1895 (0.1187)	<b>1.7176</b> <b>(0.0346)</b>	0.6129 (0.2149)	<b>0.7324</b> <b>(0.0978)</b>	-0.0472 (0.9033)	<b>0.8067</b> <b>(0.0643)</b>	1.7250 (0.1115)	<b>2.2391</b> <b>(0.0140)</b>	<b>1.7801</b> <b>(0.0317)</b>	<b>2.1306</b> <b>(0.0154)</b>	0.6214 (0.3526)	0.6351 (0.2703)	0.2176 (0.6746)	0.4835 (0.3815)
DEBT MIX	-0.3357 (0.5483)				0.0382 (0.8921)				0.2054 (0.7517)				0.1034 (0.7834)			
FIRM SIZE	-0.1521 (0.3866)	-0.1723 (0.3232)	-0.1360 (0.4166)	-0.1117 (0.4888)	0.0041 (0.9622)	-0.0036 (0.9653)	0.0801 (0.3087)	-0.0411 (0.5962)	-0.3228 (0.1093)	<b>-0.3805</b> <b>(0.0556)</b>	<b>-0.3754</b> <b>(0.0535)</b>	-0.2471 (0.1648)	0.0717 (0.5128)	0.0113 (0.9150)	0.0516 (0.6161)	0.0281 (0.7740)
PPE/ASSETS	0.3152 (0.6693)	0.3230 (0.6507)	0.4275 (0.5352)	0.6616 (0.3281)	0.5526 (0.1324)	0.4959 (0.1538)	<b>0.7113</b> <b>(0.0341)</b>	0.4767 (0.1599)	0.8825 (0.2654)	0.6693 (0.3618)	0.7141 (0.3200)	0.8770 (0.2025)	0.0402 (0.9301)	0.1422 (0.7386)	0.3148 (0.4372)	0.0302 (0.9413)
INTANGIBLES/ASSETS	-1.1184 (0.8219)				1.5981 (0.4647)				1.4361 (0.7952)				1.2669 (0.6697)			
DIVIDEND/NET INCOME	0.1330 (0.6467)				-0.0640 (0.6704)				0.4618 (0.1581)				-0.1282 (0.5490)			
FIRM RISK	26.4590 (0.2958)	27.4930 (0.2710)	19.4967 (0.4203)		<b>36.0856</b> <b>(0.0077)</b>	<b>35.5982</b> <b>(0.0080)</b>	<b>33.1963</b> <b>(0.0105)</b>		7.8833 (0.7753)	8.0154 (0.7669)	4.8818 (0.8542)		-12.481 (0.4980)	-12.321 (0.5008)	-13.435 (0.4543)	
RESIDUAL UNDERPRICING	-0.0799 (0.6324)				0.1238 (0.1638)				0.1225 (0.4939)				0.1628 (0.1873)			
FIRM RETURN	2.3290 (0.2016)	2.3857 (0.1839)	2.5284 (0.1735)		1.3587 (0.4694)	1.2448 (0.4977)	1.9493 (0.2762)		3.6458 (0.1060)	3.2300 (0.1306)	3.5802 (0.1000)		2.7472 (0.2983)	2.6488 (0.3009)	2.9619 (0.2410)	
MARKET RETURN	-8.3329 (0.2280)	-9.7936 (0.1421)	-8.0822 (0.2034)		<b>7.3537</b> <b>(0.0290)</b>	<b>7.0164</b> <b>(0.0364)</b>	<b>6.9275</b> <b>(0.0346)</b>		-3.1982 (0.6804)	-7.1013 (0.3542)	-6.4607 (0.3869)		<b>13.0030</b> <b>(0.0051)</b>	<b>12.5500</b> <b>(0.0061)</b>	<b>12.6172</b> <b>(0.0055)</b>	
STOCK LIQUIDITY	-3.2569 (0.2942)	-3.3747 (0.2590)	-2.0852 (0.4737)		<b>-6.1591</b> <b>(0.0233)</b>	<b>-5.9700</b> <b>(0.0253)</b>	-3.9800 (0.1113)		-4.6654 (0.1851)	<b>-6.1055</b> <b>(0.0722)</b>	-5.2124 (0.1169)		-2.1173 (0.5246)	-2.1202 (0.5135)	-1.2379 (0.6927)	
REGULATED	-0.9382 (0.1850)	-1.0307 (0.1361)	-0.8863 (0.1885)	-0.9321 (0.1668)	-0.2927 (0.3650)	-0.3128 (0.3226)	-0.1851 (0.5516)	-0.3145 (0.3040)	-4.7219 (0.9878)	-4.6336 (0.9888)	-4.5348 (0.9894)	-4.5655 (0.9895)	-0.4992 (0.2804)	-0.4530 (0.3158)	-0.4400 (0.3333)	-0.4897 (0.2622)
STATE OWNERSHIP	<b>2.1677</b> <b>(0.0073)</b>	<b>2.0485</b> <b>(0.0067)</b>	<b>2.1609</b> <b>(0.0030)</b>	<b>2.0965</b> <b>(0.0047)</b>	<b>0.8906</b> <b>(0.0096)</b>	<b>0.9033</b> <b>(0.0072)</b>	<b>1.0165</b> <b>(0.0023)</b>	<b>0.9309</b> <b>(0.0052)</b>	<b>1.5773</b> <b>(0.0850)</b>	<b>1.6366</b> <b>(0.0570)</b>	<b>1.7513</b> <b>(0.0376)</b>	<b>1.7081</b> <b>(0.0380)</b>	<b>1.2462</b> <b>(0.0157)</b>	<b>1.1754</b> <b>(0.0182)</b>	<b>1.2862</b> <b>(0.0102)</b>	<b>1.1505</b> <b>(0.0187)</b>
Likelihood Ratio (Pr > Chisq)	0.1339	0.0481	0.1739	0.0549	<.0001	<.0001	<.0001	<.0001	0.1091	0.0545	0.0681	0.0860	0.0020	0.0005	0.0009	0.0549
Pseudo R square	21.58 %	20.57 %	16.68 %	17.69 %	14.49 %	14.03 %	11.14 %	9.95 %	19.26 %	15.95 %	14.48 %	11.10 %	12.17 %	10.74 %	9.71 %	17.69 %



Table 10. Determinants of the divestment decision

The dependent variable equals one when the percentage of non-state-owned legal person shares in total outstanding shares increases by more than 3% (5%) whereas state ownership experiences a similar decrease in the same year and zero otherwise. All explanatory variables have been defined in Table 6 and are measured in the year before an observation is made. REGULATED equals one when the SOE is in a regulated industry. STATE OWNERSHIP is the percentage of ownership held directly or indirectly by the government. DUMMY STATE MAJORITY OWNERSHIP equals one if the government holds at least 50% of the SOE's shares and zero otherwise. In addition, we include 9 industry dummies based on the CSRC industry classification. Following Wei *et al.* (2005), we also include regional dummies based on the average GDP per capita during the 1990s. *p*-values are reported between parentheses.

	Using 3 percent cutoff point					Using 5 percent cutoff point					Using 10 percent cutoff point				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Intercept	<b>4.7998</b> (0.0200)	<b>4.7735</b> (0.0211)	3.3367 (0.1189)	<b>4.8237</b> (0.0199)	<b>3.7819</b> (0.0673)	<b>5.4224</b> (0.0124)	<b>5.3672</b> (0.0135)	<b>4.1001</b> (0.0661)	<b>5.3785</b> (0.0132)	<b>4.7226</b> (0.0286)	<b>7.4400</b> (0.0020)	<b>7.4253</b> (0.0022)	<b>6.0825</b> (0.0139)	<b>7.4106</b> (0.0022)	<b>6.2167</b> (0.0089)
SALES GROWTH	<b>0.4548</b> (0.0138)	<b>0.4298</b> (0.0206)	<b>0.4227</b> (0.0247)	<b>0.4289</b> (0.0209)	<b>0.4197</b> (0.0245)	<b>0.4501</b> (0.0180)	<b>0.4302</b> (0.0243)	<b>0.4262</b> (0.0275)	<b>0.4296</b> (0.0244)	<b>0.4213</b> (0.0280)	0.2967 (0.1533)	0.2764 (0.1852)	0.2788 (0.1879)	0.2775 (0.1835)	0.2692 (0.2000)
ADMIN/SALES	0.1696 (0.8825)	0.0362 (0.9749)	0.1959 (0.8677)	-0.1439 (0.9007)		0.1448 (0.9027)	0.0398 (0.9732)	0.2146 (0.8593)	-0.0898 (0.9398)		-0.6956 (0.5859)	-0.8009 (0.5309)	-0.5425 (0.6786)	-0.9337 (0.4665)	
TOTAL ASSETS TURNOVER	-0.0192 (0.9241)	-0.0009 (0.9965)	0.0306 (0.8820)	0.0088 (0.9653)		-0.0826 (0.6922)	-0.0653 (0.7550)	-0.0346 (0.8709)	-0.0566 (0.7869)		-0.2434 (0.2972)	-0.2273 (0.3317)	-0.1970 (0.4100)	-0.2206 (0.3474)	
EBITDA/ASSETS	<b>-4.7673</b> (0.0015)	<b>-4.7845</b> (0.0015)	<b>-4.4985</b> (0.0031)	<b>-4.8708</b> (0.0013)	<b>-4.7125</b> (0.0008)	<b>-4.4879</b> (0.0039)	<b>-4.5171</b> (0.0039)	<b>-4.2478</b> (0.0071)	<b>-4.5860</b> (0.0035)	<b>-4.8168</b> (0.0009)	<b>-4.8420</b> (0.0042)	<b>-4.8694</b> (0.0042)	<b>-4.6157</b> (0.0071)	<b>-4.9698</b> (0.0036)	<b>-4.8198</b> (0.0021)
LEVERAGE	0.6478 (0.1853)	0.5728 (0.2462)	0.5501 (0.2721)	0.5243 (0.2907)	0.6694 (0.1620)	<b>0.8699</b> (0.0878)	0.8098 (0.1153)	0.7829 (0.1316)	0.7672 (0.1364)	<b>0.8793</b> (0.0758)	<b>0.9795</b> (0.0757)	<b>0.9195</b> (0.0989)	0.8970 (0.1108)	0.8809 (0.1147)	<b>0.9175</b> (0.0855)
DEBT MIX	-0.0939 (0.7482)	-0.1312 (0.6552)	-0.1574 (0.5982)	-0.1665 (0.5717)	-0.1320 (0.6365)	-0.1575 (0.6049)	-0.1852 (0.5440)	-0.2016 (0.5144)	-0.2078 (0.4963)	-0.1553 (0.5906)	-0.1570 (0.6321)	-0.1836 (0.5765)	-0.1883 (0.5725)	-0.2098 (0.5242)	-0.0896 (0.7749)
FIRM SIZE	<b>-0.3024</b> (0.0027)	<b>-0.2850</b> (0.0052)	<b>-0.2604</b> (0.0125)	<b>-0.2890</b> (0.0045)	<b>-0.2868</b> (0.0049)	<b>-0.3355</b> (0.0015)	<b>-0.3208</b> (0.0028)	<b>-0.2993</b> (0.0060)	<b>-0.3223</b> (0.0025)	<b>-0.3364</b> (0.0016)	<b>-0.4356</b> (0.0002)	<b>-0.4226</b> (0.0004)	<b>-0.4003</b> (0.0009)	<b>-0.4224</b> (0.0004)	<b>-0.4220</b> (0.0003)
PPE/ASSETS	0.0615 (0.8709)	0.1086 (0.7736)	0.0202 (0.9582)	0.1316 (0.7272)		-0.0435 (0.9121)	-0.0020 (0.9959)	-0.0898 (0.8229)	0.0163 (0.9668)		0.1451 (0.7315)	0.1852 (0.6612)	0.0573 (0.8947)	0.2010 (0.6337)	
INTANGIBLES/ASSETS	-0.0673 (0.9756)	-0.5421 (0.8091)	-0.7970 (0.7265)	-0.6670 (0.7680)		0.2733 (0.9041)	-0.0631 (0.9782)	-0.3053 (0.8959)	-0.1526 (0.9474)		-0.9050 (0.7141)	-1.2588 (0.6163)	-1.5220 (0.5498)	-1.3664 (0.5888)	
DIVIDEND/NET INCOME	-0.1687 (0.2891)	-0.1534 (0.3367)	-0.1620 (0.3125)	-0.1538 (0.3359)		-0.2330 (0.1641)	-0.2207 (0.1881)	-0.2242 (0.1819)	-0.2195 (0.1905)		-0.1211 (0.4910)	-0.1044 (0.5533)	-0.1080 (0.5401)	-0.1013 (0.5653)	
FIRM RISK	<b>-26.4551</b> (0.0607)	<b>-26.7864</b> (0.0590)	<b>-25.5790</b> (0.0754)	<b>-27.4427</b> (0.0539)	<b>-25.1893</b> (0.0776)	<b>-25.7432</b> (0.0787)	<b>-26.0333</b> (0.0767)	<b>-24.9968</b> (0.0928)	<b>-26.6751</b> (0.0704)	<b>-24.8526</b> (0.0919)	<b>26.5646</b> (0.0912)	<b>-26.8308</b> (0.0897)	<b>-26.3742</b> (0.0992)	<b>-27.7688</b> (0.0799)	<b>-26.2461</b> (0.0981)
RESIDUAL UNDERPRICING	0.0789 (0.3841)	0.1034 (0.2608)	0.1171 (0.2080)	0.1249 (0.1759)		0.1045 (0.2620)	0.1221 (0.1958)	0.1337 (0.1604)	0.1378 (0.1456)		0.1072 (0.2825)	0.1255 (0.2148)	0.1336 (0.1919)	0.1435 (0.1574)	
FIRM RETURN	2.0200 (0.2689)	2.1993 (0.2343)	2.1552 (0.2463)	2.0747 (0.2646)	2.1915 (0.2282)	2.1763 (0.2523)	2.3112 (0.2278)	2.2475 (0.2421)	2.2149 (0.2492)	2.3284 (0.2147)	1.7460 (0.3978)	1.8999 (0.3619)	1.8530 (0.3759)	1.7819 (0.3945)	1.6362 (0.4229)
MARKET RETURN	-5.4466 (0.1190)	-5.4555 (0.1192)	-5.5892 (0.1130)	-5.5898 (0.1113)	<b>-5.8333</b> (0.0973)	<b>-7.0008</b> (0.0553)	<b>-6.9878</b> (0.0560)	<b>-7.0566</b> (0.0549)	<b>-7.0639</b> (0.0537)	<b>-7.1964</b> (0.0495)	<b>-8.1217</b> (0.0407)	<b>-8.1264</b> (0.0409)	<b>-8.0893</b> (0.0429)	<b>-8.1158</b> (0.0414)	<b>-8.0866</b> (0.0418)
STOCK LIQUIDITY	-1.8922 (0.4405)	-1.8811 (0.4452)	-2.5546 (0.3117)	-2.0695 (0.4027)	-2.6258 (0.2864)	-1.8501 (0.4704)	-1.8080 (0.4816)	-2.4021 (0.3601)	-1.9221 (0.4548)	-2.4207 (0.3421)	-2.0563 (0.4610)	-2.0283 (0.4688)	-2.6614 (0.3538)	-2.1624 (0.4409)	-2.6667 (0.3394)
STATE OWNERSHIP		<b>-0.5325</b> (0.0855)	<b>4.6083</b> (0.0068)		<b>4.5437</b> (0.0075)		-0.3932 (0.2221)	<b>4.1445</b> (0.0156)		<b>4.0410</b> (0.0182)		-0.4104 (0.2313)	<b>4.4946</b> (0.0184)		<b>4.6294</b> (0.0158)
(STATE OWNERSHIP) <sup>2</sup>			<b>-5.8323</b> (0.0018)		<b>-5.6819</b> (0.0023)			<b>-5.1425</b> (0.0063)		<b>-4.9816</b> (0.0080)			<b>-5.5553</b> (0.0081)		<b>-5.6135</b> (0.0077)
DUMMY MAJORITY STATE OWNERSHIP				<b>-0.3074</b> (0.0095)					<b>-0.2286</b> (0.0625)					<b>-0.2461</b> (0.0620)	
Likelihood Ratio (Pr > Chisq)		<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
Pseudo R square	13.39%	13.86%	15.70%	14.49%	15.22%	14.84%	15.09%	16.52%	15.43%	15.80%	16.76%	17.03%	18.56%	17.43%	17.91%

Table 11. Determinants of the divestment decision (including lagged changes in performance)

The dependent variable equals one when the percentage of non-state-owned legal person shares in total shares outstanding increases by more than 3% (5%) whereas state ownership experiences a similar decrease in the same year and zero otherwise. All explanatory variables have been defined in Table 6 and 10, and are measured in the year before an observation is made. Lagged change in EBITDA/ASSETS is calculated as the change in EBITDA/ASSETS relative to the level in the previous year ( $EBITDA/ASSETS_{t-1} - EBITDA/ASSETS_{t-2}$ ) and the lagged change in EBIT/ASSETS is calculated as the change in EBIT/ASSETS relative to the level in the year before SIP ( $EBIT/ASSETS_{t-1} - EBIT/ASSETS_{SIP-1}$ ). *p*-values are reported between parentheses.

	Using 3 percent cutoff point				Using 5 percent cutoff point				Using 10 percent cutoff point			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Intercept	3.2998 (0.1191)	<b>3.7126</b> <b>(0.0774)</b>	3.2619 (0.1237)	<b>3.6680</b> <b>(0.0815)</b>	<b>4.0461</b> <b>(0.0661)</b>	<b>4.5687</b> <b>(0.0364)</b>	<b>4.0375</b> <b>(0.0677)</b>	<b>4.5507</b> <b>(0.0379)</b>	<b>5.9316</b> <b>(0.0153)</b>	<b>6.3905</b> <b>(0.0085)</b>	<b>5.8840</b> <b>(0.0156)</b>	<b>6.3706</b> <b>(0.0084)</b>
SALES GROWTH	<b>0.3656</b> <b>(0.0517)</b>	<b>0.3443</b> <b>(0.0664)</b>	0.2961 (0.1079)	0.2844 (0.1221)	<b>0.3527</b> <b>(0.0675)</b>	<b>0.3307</b> <b>(0.0859)</b>	0.3112 (0.1007)	0.2978 (0.1158)	0.1568 (0.4518)	0.1359 (0.5138)	0.2082 (0.3248)	0.1800 (0.3937)
ADMIN/SALES	0.8757 (0.4467)	1.0192 (0.3677)	0.7822 (0.4962)	0.9167 (0.4166)	0.8708 (0.4616)	1.0745 (0.3547)	0.8072 (0.4954)	0.9960 (0.3904)	0.1771 (0.8899)	0.2079 (0.8683)	0.1905 (0.8813)	0.2333 (0.8522)
TOTAL ASSETS TURNOVER	-0.0465 (0.8221)	-0.0368 (0.8575)	-0.0425 (0.8400)	-0.0285 (0.8909)	-0.1034 (0.6278)	-0.0884 (0.6758)	-0.0958 (0.6592)	-0.0750 (0.7263)	-0.2995 (0.2218)	-0.2950 (0.2235)	-0.2822 (0.2408)	-0.2835 (0.2350)
Lagged change in EBITDA/ ASSETS (relative to previous year)	<b>-2.5336</b> <b>(0.0510)</b>	<b>-2.3256</b> <b>(0.0697)</b>			-1.7285 (0.1958)	-1.5142 (0.2489)					-1.8977 (0.1807)	-1.6887 (0.2273)
Lagged change in EBIT/ASSETS (relative to the pre-SIP year)			-0.7459 (0.4873)	-0.8151 (0.4371)			-0.6532 (0.5578)	-0.7658 (0.4807)	-0.1419 (0.9067)	-0.1811 (0.8783)		
LEVERAGE	<b>1.0087</b> <b>(0.0363)</b>	<b>1.1844</b> <b>(0.0125)</b>	<b>0.9962</b> <b>(0.0375)</b>	<b>1.1583</b> <b>(0.0141)</b>	<b>1.2120</b> <b>(0.0150)</b>	<b>1.4184</b> <b>(0.0038)</b>	<b>1.2011</b> <b>(0.0156)</b>	<b>1.3965</b> <b>(0.0043)</b>	<b>1.3516</b> <b>(0.0126)</b>	<b>1.5264</b> <b>(0.0041)</b>	<b>1.3492</b> <b>(0.0128)</b>	<b>1.5301</b> <b>(0.0040)</b>
DEBT MIX	-0.2118 (0.4807)	-0.2054 (0.4832)	-0.1700 (0.5696)	-0.1644 (0.5743)	-0.2571 (0.4075)	-0.2578 (0.3926)	-0.2218 (0.4741)	-0.2209 (0.4650)	-0.2511 (0.4536)	-0.2609 (0.4258)	-0.2709 (0.4174)	-0.2737 (0.3999)
FIRM SIZE	<b>-0.2807</b> <b>(0.0062)</b>	<b>-0.3140</b> <b>(0.0019)</b>	<b>-0.2811</b> <b>(0.0060)</b>	<b>-0.3138</b> <b>(0.0019)</b>	<b>-0.3174</b> <b>(0.0030)</b>	<b>-0.3587</b> <b>(0.0006)</b>	<b>-0.3190</b> <b>(0.0028)</b>	<b>-0.3599</b> <b>(0.0006)</b>	<b>-0.4144</b> <b>(0.0005)</b>	<b>-0.4483</b> <b>(0.0001)</b>	<b>-0.4119</b> <b>(0.0005)</b>	<b>-0.4471</b> <b>(0.0001)</b>
PPE/ASSETS	-0.1995 (0.5970)		-0.2077 (0.5825)		-0.3018 (0.4417)		-0.3110 (0.4289)		-0.1866 (0.6600)		-0.1592 (0.7071)	
INTANGIBLES/ASSETS	-0.4781 (0.8331)		-0.4107 (0.8552)		-0.0147 (0.9950)		0.0451 (0.9844)		-1.1159 (0.6560)		-1.1761 (0.6405)	
DIVIDEND/NET INCOME	<b>-0.2627</b> <b>(0.0999)</b>		-0.2297 (0.1501)		<b>-0.3173</b> <b>(0.0575)</b>		<b>-0.2909</b> <b>(0.0819)</b>		-0.1921 (0.2733)		-0.2105 (0.2286)	
FIRM RISK	-23.6102 (0.1023)	-23.0838 (0.1078)	-22.6211 (0.1158)	-22.3695 (0.1180)	-22.3503 (0.1334)	-21.9218 (0.1379)	-21.8952 (0.1409)	-21.7490 (0.1411)	-22.6200 (0.1557)	-23.2518 (0.1433)	-23.5964 (0.1401)	-24.0574 (0.1309)
RESIDUAL UNDERPRICING	0.1162 (0.2078)		0.1139 (0.2199)		0.1313 (0.1639)		0.1324 (0.1639)		0.1201 (0.2373)		0.1273 (0.2075)	
FIRM RETURN	1.7261 (0.3507)	1.8484 (0.3044)	1.6891 (0.3546)	1.7939 (0.3122)	1.7922 (0.3461)	1.9390 (0.2922)	1.7579 (0.3525)	1.8956 (0.3003)	1.2604 (0.5368)	1.2568 (0.5258)	1.3317 (0.5187)	1.3250 (0.5084)
MARKET RETURN	<b>-6.1608</b> <b>(0.0806)</b>	<b>-6.4456</b> <b>(0.0667)</b>	<b>-6.2549</b> <b>(0.0751)</b>	<b>-6.5258</b> <b>(0.0626)</b>	<b>-7.6348</b> <b>(0.0376)</b>	<b>-7.8543</b> <b>(0.0318)</b>	<b>-7.6604</b> <b>(0.0368)</b>	<b>-7.8794</b> <b>(0.0311)</b>	<b>-8.6861</b> <b>(0.0289)</b>	<b>-8.8402</b> <b>(0.0258)</b>	<b>-8.6206</b> <b>(0.0305)</b>	<b>-8.7876</b> <b>(0.0270)</b>
STOCK LIQUIDITY	-3.4358 (0.1784)	-3.4783 (0.1656)	-4.1049 (0.1068)	-4.0625 (0.1038)	-3.5500 (0.1809)	-3.6067 (0.1649)	-3.9946 (0.1320)	-3.9356 (0.1287)	-4.5890 (0.1159)	-4.4986 (0.1157)	-3.8365 (0.1866)	-3.8585 (0.1760)
STATE OWNERSHIP	<b>4.7037</b> <b>(0.0053)</b>	<b>4.6008</b> <b>(0.0063)</b>	<b>4.8899</b> <b>(0.0040)</b>	<b>4.7916</b> <b>(0.0047)</b>	<b>4.2856</b> <b>(0.0119)</b>	<b>4.1654</b> <b>(0.0142)</b>	<b>4.4114</b> <b>(0.0099)</b>	<b>4.2869</b> <b>(0.0120)</b>	<b>4.7494</b> <b>(0.0124)</b>	<b>4.6577</b> <b>(0.0139)</b>	<b>4.5973</b> <b>(0.0148)</b>	<b>4.5245</b> <b>(0.0163)</b>
(STATE OWNERSHIP) <sup>2</sup>	<b>-5.9513</b> <b>(0.0013)</b>	<b>-5.7913</b> <b>(0.0017)</b>	<b>-6.1858</b> <b>(0.0009)</b>	<b>-6.0305</b> <b>(0.0012)</b>	<b>-5.3058</b> <b>(0.0045)</b>	<b>-5.1463</b> <b>(0.0057)</b>	<b>-5.4677</b> <b>(0.0035)</b>	<b>-5.3050</b> <b>(0.0045)</b>	<b>-5.8387</b> <b>(0.0051)</b>	<b>-5.6780</b> <b>(0.0063)</b>	<b>-5.6819</b> <b>(0.0061)</b>	<b>-5.5360</b> <b>(0.0075)</b>
Likelihood Ratio (Pr > Chisq)	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
Pseudo R square	14.85%	14.03%	14.27%	13.55%	15.52%	14.35%	15.28%	14.48%	17.09%	16.44%	17.45%	16.72%

