Privatization Through an Overseas Listing: Evidence from China's H-Share Firms

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We study the partial privatization of 53 Chinese state-owned enterprises (by their listings on the Hong Kong Exchange over the period July 1993 to December 2002. We find that listing has led to a median increase of 70% in real net profits, 80% in real sales, 50% in capital spending, and a mild but nonsignificant improvement in coverage ratios, but no improvement in return on sales and a significant underperformance of returns against several market index benchmarks. Further investigation shows that firm performance is negatively related to state ownership, but positively related to legal-personal ownership and foreign ownership.

Ever since Margaret Thatcher's government implemented a program of privatization in the United Kingdom in the late 1970s, the privatization of state-owned enterprises (SOEs) has become a significant economic phenomenon that has attracted a great deal of interest from academics. Although there are many studies on western SOEs, this is not the case for China, where a large-scale privatization program was only examined recently by Sun and Tong (2003). Using a sample of 634 SOEs in China that went through share issue privatization (SIP) in 1994-1998, they found limited success in the privatization program. They argued that selling too few government shares to private owners means that the governing structure of the partially privatized SOEs cannot undergo fundamental changes. Boubakri, Cosset, and Guedhami (2002) examined 201 cases of privatization in 32 developing countries and found that the relinquishment of control by the government is one key determinant of changes to profitability. If the control on privatized SOEs is not contestable, which is the case in China, Sun and Tong's (2003) findings may not be too surprising after all. However, given the fact that privatization is typically sequential, whereby governments sell their shares bit by bit, it may not be that critical to shift controlling shares to private hands to obtain improvements in the performance of privatized SOEs.

Indeed, the Singapore government still maintains controlling power over privatized SOEs (called government-linked corporations) but these firms seem to operate quite efficiently, according to a study by Feng, Sun, and Tong (2004). Another recent paper by Gupta (2005) showed that in India, the government privatized only a very small portion of the equity in SOEs, but the operating performance of such firms still improved significantly after privatization. Gupta argued that this was because India has a well-established stock market that long pre-dates privatization. Boubakri et al. (2002) also found more improvements in efficiency and output for firms in countries where stock markets are more developed and where property rights are better protected and enforced. Economic growth and foreign ownership were found to be other key determinants.

In this article, we examine 53 Chinese state-owned enterprises (SOEs) that were partially privatized through SIP in a well-established foreign market, the Stock Exchange of Hong Kong (SEHK) during 1993-2002 by listing a relatively small amount of "H-shares."[1] If foreign (i.e., non-Chinese) ownership and a sophisticated stock market are important to the degree to which privatization succeeds, then Chinese SOEs that have privatized by issuing shares in Hong Kong should show significant performance improvements after privatizing.

However, Chinese SOEs that listed in Hong Kong went through a process that was not necessarily based on the economic merits of the firms, especially in the early days. There were stories circulated about favoritism and the misuse of funds raised by the listed firms. In fact, H-shares are issued at discount relative to the local shares. Hence, we wish to see if China's privatization program, as a whole, can leverage on the Hong Kong market to improve the SOE performance. Our study provides evidence on this.

Since the Hong Kong stock market houses most of China's overseas listings, our study also has a direct bearing on the effectiveness of this foreign-listing strategy as a way to vitalize SOEs. On the other hand, as H-share firms already account for about 20% of the market capitalization in Hong Kong, our study is also important to international investors interested in the Hong Kong market.

We compare changes in the performance of sample SOEs before and after an SIP by using Wilcoxon tests and cross-sectional regressions, by looking at the stock returns of these SOEs after listing, and finally by a panel data analysis. We find that our sample SOEs show a median increase of 70% in real net profits, 80% in real sales, 50% in capital spending, and a mild but nonsignificant improvement in coverage ratios, although the return on sales shows no increase after privatization and the return performance is worse than several market index benchmarks. We find that the remaining state ownership in SIP firms is negatively related to profitability measures both across firms and over time, but that legal persons have a positive impact on firm performance in some circumstances. More importantly, foreign ownership plays a significantly positive role on H-share performance. Thus, our overall results suggest that doing a SIP in a mature stock market and allowing foreign ownership are helpful in changing the performance of SOEs.

Section I of our article briefly describes the process of listing Chinese SOEs in Hong Kong, their share structures and the implications for governance. In Section II, we compare firm performance before and after privatization. In Section III, we analyze the impact of various types of ownership on privatized firms after privatization. Section IV concludes.

I. H-Share Issuance, Ownership, and Governance

It is not unusual for governments to sell SOEs abroad. Bortolotti, Fantini, and Scarpa (2000) explain that governments in developing countries might want to sell privatized firms abroad because economically, limited bank financing and small debt markets could drive them to seek external financing. Politically, selling firms to foreign investors could signal that a government is committed to supporting market-oriented policies. Biais and Perotti (1997) suggest that right-wing governments tend to issue shares to domestic investors

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[1]Some SOEs have also issued shares in New York as "N-shares," mostly in the form of ADRs, which are thinly traded, and the underlying shares are mostly H-shares. Listings made elsewhere, for instance, London and Singapore, are very few during our sample period and cannot be compared to those made in Hong Kong in terms of proceeds. There are also "B-shares", which are open to foreign investors, but these shares are listed locally in China on either the Shanghai Stock Exchange (SHSE) or the Shenzhen Stock Exchange (SZSE).

instead of to foreign ones because doing so can increase domestic political support for market-oriented policies.

China's case is different. The Chinese government is hardly concerned about sending signals to the market or gaining political support. Its main target at the early stage was to raise foreign capital. "Crossing the river through touching stones", which is a Chinese saying that means doing things by trial and error, is the way the Chinese government is approaching economic reforms. This is also the approach it is following on overseas listings.

However, its moves to tap the international market through foreign listings do not seem to have been well planned. For instance, the Chinese government was rumored to have been thinking of confining primary overseas listings to New York before testing other markets. Subsequently, it concentrated on Hong Kong (*Euroweek*, 1994). Also, the government published the "Special Regulation of the State Council on Raising Capital and Listing Overseas by a Joint-Stock Company Limited" on April 9, 1993, only few months before the first H-share listing in July 1993.

Later, the Chinese government wished to use foreign listings as means of improving the quality of SOEs and of making them role models for locally listed SOEs. On one occasion, when the former chairman of the CSRC, Zhou Daojong, talked with the CEOs of foreign-listed SOEs, he said that:

"Overseas-listed companies are all outstanding enterprises that are representatives of their respective industries to an extent. I hope you can also be the models of listed companies. The behavior of an overseas-listed company is not only the company's own business, it relates to our country's image of reform and openness ... I hope you can solidly turn all your companies into world-class enterprises, bringing honor to the country." (May 26, 1995, *CSRC* web news)

On another occasion, when he talked with some newspaper reporters, Zhou said that:

"Recommending medium-to-large SOEs for overseas listing is useful in raising necessary foreign capital; but more importantly, it prods SOEs to learn from the successful experiences of overseas companies, helping them to match international standards, and making it possible for them compete in the international market." (July 26, 1995, *CSRC* web news)

However, despite Zhou's remarks, to keep up with the socialist doctrine of public ownership, the government has maintained control in the SOEs by holding a significant portion of ownership in the firms in the form of state shares.

From the listing of Qingdao Beer on the SEHK on July 15, 1993, to the end of 2002, 53 Chinese companies issued H-shares and 27 also issued A-shares, many within a year after their Hong Kong IPO. Hence, the A-share offerings were probably planned at the same time as the H-share offerings. As Table I shows, 41 firms were listed before 1998, when the Asian Economic Crisis hit Hong Kong. Up to 2002, Chinese overseas listed companies raised a total of about US$18.25 billion. The IPO proceeds were about $17.08 billion, with the rest being convertible bond issues (We exclude from our sample 22 H-share firms that listed during the period 2001-2002 in the Hong Kong Growth Enterprise Market, which was established at the end of 1999, because they are either private or small high tech firms). Except for the bond issues, no H-share firm had any seasoned offerings in Hong Kong between 1993 and 2002.

Table I. Distribution of Sample Firms across Industries and Incorporation Place

H-share companies listed on the Hong Kong Exchange Mainboard between 1993 and 2002

Panel A. Industrial Distribution										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Manufacturing	2	5	1	3	2				1	1
Petrochemical	1	2	1		1			2		1
Transportation	1	1		2	6			1		1
Utilities					1	1	2			
Agricultural	1									
Basic Materials	1	1			4	1				
Technology							1		1	1
Health				1	1					
Property					1					
Total	6	9	2	6	16	2	3	3	2	4
Panel B. Location Distribution										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Coastal	4	4	1	4	11	1	3	3	1	3
Inland	2	5	1	2	5	1	0	0	1	1

Note: The following provinces (municipalities) would be considered coastal area: Liaoning, Beijing, Tianjin, Shandong, Jiangsu, Shanghai, Zhejiang, Fujian, Guangdong, and Hainan. The rest are considered inland areas.

A. H-Share Listing Process

The China Securities and Regulatory Commission (CSRC) was responsible for selecting the SOEs and approving their applications for an overseas listing. The CSRC required every listing to go through a "pre-selection" process. Although the selection criteria were not exactly clear and were changing, we can note some general principles. For instance, firms had to be a certain size and had to show good performance with high growth potential. Firms also had to demonstrate a genuine need for capital: the net assets of a listed company had to be higher than RMB400 million, the pre-listing ROE above 10%, and the proceeds of the offering above US$50 million. The Chinese government had to have a controlling stake in these companies and retained absolute control in critical industries or enterprises.[2]

However, such a tightly controlled selection process induced keen competition for IPOs, so the process was subjected to lobbying and political pressure. Selection was often based on noneconomic factors such as political connections, geographical quotas, "protected" industry status, etc. Thus, it is conceivable that the firms selected to list in Hong Kong, at least in the early stage, might not necessarily have been the "best." When the prices of H-shares plunged during the Asian financial crisis, the CSRC admitted that: "Quite a number of enterprises … failed to demonstrate sustained growth. Some companies have made wrong moves facing global competition and consequently incurred great losses. Most of the companies have been vulnerable to various risks" (Department of International Cooperation, *CSRC*, 2003).

In recent years, the CSRC has smoothed the foreign listing process. In July 1999, the CSRC issued "A Notice about Questions Related to Enterprises Applying for Overseas Listings." When Hong Kong's Growth Enterprise Market (GEM) was opened on November 25, 1999,

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[2]See the *Handbook of State-owned Shareholders* (1999) for details.

the CSRC issued the "Selection and Monitoring Guidelines for Listing Applications of Local Enterprises in the Hong Kong Growth Enterprise Market" on September 21, 1999. Since then, all SOEs that have undergone restructuring to become shareholding companies, and that meet overseas listing requirements, have been allowed to voluntarily apply for an overseas listing through the CSRC.

B. Ownership and Structure of Governance

H-share firms also have state shares and legal-person shares. State shares were created in China to designate holdings in SOEs by the central government, provincial governments, or enterprises owned solely by the government. Our sample of H-share companies shows that the level of state ownership is about 40%, which is higher than the average of 34% for all domestically listed firms.[3]

State ownership is typically viewed as being the cause of immense agency problems in SOEs. However, by arguing that government bureaucrats may play a positive role in promoting private activities, Walder (1995) suggests a "helping-hand model." Frye and Shleifer (1997) also argue in their study on Russia and Poland that many different relationships can exist between government and business. Whether or not state ownership in China's SIP firms acts as a helping hand is an empirical issue.

Legal-person shares are shares owned by domestic institutions, most of which are themselves partially owned by the central or provincial government. On average, legal persons hold about 20% of the shares of H-share firms.[4]

Legal persons are typically business agencies or local-government enterprises that have helped to start up the public companies. They do so either by giving the companies the permission to operate or by allowing resources under their control to be used for the start-up. In addition, both state shares and legal-person shares are nontradable. Therefore, some economists argue that legal persons are similar to state shareholders.[5]

However, there may be subtle differences between the two. Che and Qian (1998) argue that in an environment without secure property rights against state encroachment, private ownership leads to excessive hiding of revenue. State ownership fails to provide incentives for managers, but local government ownership limits state predation and reduces costly revenue hiding. Xu and Wang (1997) find that legal-person ownership has a positive impact on firms. They suggest that legal persons in China are similar to institutional investors in market economies. Because they can monitor managers more actively, legal persons enhance firm performance. They often have direct business and financial links with SIP firms.

Some legal-person shares result from debt-equity swaps. Legal persons benefit directly from good firm performance. Likewise, since legal-person shares are not tradable, if a firm's performance is poor and the value of its shares keeps declining, legal persons will suffer directly. Hence, they have more incentive than do holders of tradable shares to see to it that the SOEs are involved in value-increasing activities.

A shares are tradable only for Chinese domestic investors. The CSRC has mandated that when a company issues its IPO, A shares must account for no less than 25% of total

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[3]See Appendix for ownership distribution over the years.

[4]For comparison, we note that the corresponding figure for domestically listed firms is about 27%.

[5]See Chen (1998). Also, a well-known Chinese economist has said that the fundamental problem with China's stock market is the split between tradable and nontradable shares. This economist argues that the interests of the two groups of shareholders are incompatible. When nontradable shareholders control a firm, they do not maximize the interests of circulating shareholders (*Liberation Daily*, September 28, 2001).

outstanding shares. This requirement does not apply to H-share firms. Only 27 firms in our sample, representing an average firm ownership of less than 6%, also issue A-shares. A-share investors are typically not major shareholders, because normally, the top ten shareholders are the state and legal persons.

On average, H-shares account for 35% of the total shares in our sample firms. Boycko, Shleifer, and Vishny (1996) argue that privatization is more effective when both ownership and control are transferred to private foreign hands. The majority of outstanding H-shares are registered with the Hong Kong Securities Clearing Company Nominees Limited, which often appears as a major shareholder of H-share companies. Consequently, many H-share firms include on their boards independent nonexecutive directors from Hong Kong. The managers of such firms may then be subject to better monitoring.

H-share ownership is expected to have a positive impact on firm performance. However, the impact may be limited for several reasons. First, in H-share firms, H-share ownership is mostly below 50% of the total ownership (see Appendix). Second, although some strategic institutional investors hold H-shares, H-shares are widely held by individual investors. Last, Hong Kong directors are unfamiliar with the way Chinese firms do business, and thus are often not active on the board.

II. Tests of Changes in Performance

We present the test results of performance changes around the SIP in this section.

A. Wilcoxon Test Results

We first follow studies by Megginson, Nash and Van Randenborgh (1994), Boubakri and Cosset (1998), and D'Souza and Megginson (1999), among others, to compare changes in performance before and after privatization. We focus on changes in profitability, changes in output, and changes in leverage, using similar testing proxies and methods.[6]

We obtain our data from the prospectuses and annual reports of 53 SOEs that had held their IPOs in Hong Kong over the period July 1993 to December 2002. The prospectuses of the firms list financial information going back up to three years before the IPO. Data after the IPO come from the China Securities Market and Accounting Research (CSMAR) Database and the Taiwan Economic Journal (TEJ) database. We supplement this data with information from company annual reports, the Company Analysis database of Thomson Financial, and the Pacific Basin Capital Market (PACAP) database.

We pay particular attention to one special feature of China's SIPs, because this feature may have had a significant impact on our measures of profitability. Unlike many other cases of SIPs in which the issuing proceeds went to the government (the so-called "secondary issue"), in all of China's SIPs, the proceeds were plowed back to the privatized SOEs (the so-called "primary issue"). Thus, the typical profitability measures of return on assets (ROA) and return on equity (ROE) may have been affected in at least two ways. First, the net income could have been distorted by the profits and losses from the short-term investment of the proceeds of the issue on marketable securities. Since it was difficult to identify the exact amounts, we assumed that they were not significant. The second impact

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[6]Previous studies also examine dividend payouts and employment. However, because of limitations to the data, we do not examine these variables. Data on dividends are not available for the years before the listing, and employment data are only available for some firms in the year before the listing.

could have affected the computation of total assets and total equities. The one-time increase in equity capital would automatically exert a downward bias on the ROE and ROA figures. By the same token, the commonly used leverage measures of debt-equity ratio (DE) and debt-assets ratio (DA) would also be downwardly biased. This bias would be especially acute in the year of privatization.

We follow Sun and Tong (2003) in tackling the problem by excluding the year of privatization so that the immediate impact on total equity and total assets would not be an issue. Furthermore, we use inflation-adjusted real net profit (RNP) and return on sales (ROS) as the measures of profitability, and times-interest-earned (TIE) and operating cash flow per unit of debt (OCF/TD) as alternative measures of leverage for the comparisons.

We define TIE as the ratio of EBIT to interest expense, which indicates a firm's long-term debt-paying ability. OCF/TD indicates a firm's ability to cover its total debt with its yearly cash flow. Strictly speaking, these are coverage measures, rather than leverage measures. The purpose of using these ratios instead of other, more commonly used leverage ratios is to avoid including total assets or total equities in the measures. We note that contrary to the interpretation of DE and DA, the higher the OCF/TD and TIE ratios, the better the firm's leverage condition.

We compute yearly empirical proxies for every firm for a seven-year period, counting from three years before the privatization to three years after. We also compute the mean of each proxy for each firm over the pre- and post-privatization periods. We exclude Year 0 from the calculations because it includes both the public and private ownership phases of the enterprises. We use the two-tailed Wilcoxon signed-rank test to test for any significant differences in the median changes of the proxy for the pre- and post-privatization periods.

The first major row in Table II shows the contrasts between the three-year profitability averages of the SOEs before and after privatization. The median (mean) RNP, which we normalize to one in the year in which the firm was privatized, changes from 0.56 (0.74) before privatization to 0.95 (1.12) after privatization. The real net profit shows a median increase of 70% after privatization, although the Wilcoxon Z value of 1.72 is only marginally significant at the 10% level. We note that in the last column of the table, the number of firms with a higher real net profit after privatization is 33. This figure also indicates that the real net profit of more firms improved after privatization.

When we measure by return on sales (ROS), profitability tends to decline after privatization. The median (mean) ROS changes from 0.1 (0.17) to 0.09 (0.15) after privatization, but the Wilcoxon signed-rank test of the median change of 1.54 is too low to be statistically significant. Hence, the ROS decline is mild, although only 18 firms show an increase in ROS after privatization.

We perform the above tests on various groupings. We use the two-tailed Wilcoxon Rank Sum test to examine if the median changes of these measures before and after privatization across the two subgroups are- the same. We base the first grouping on whether a firm also issues A-shares in China. It is possible that A-shares further diffuse the ownership of public investors, which in turn further exacerbates the agency problem, and thus hinders a firm's ability to improve its profitability. Indeed, as we see in the second major row of the table, the drop in ROS for H-firms that also issue A-shares is significant at the 10% level (Wilcoxon value of 1.82), but the firms that issue only H-shares have a statistically nonsignificant increase in mean ROS and a statistically nonsignificant decrease in median ROS. On the other hand, the increase in RNP of the two groups of firms has no statistical significance, and neither does the difference in the increases between them.

We base the second grouping on whether a firm has a Hong Kong director on its board.

Table II. Results for the Profitability of H-Share Companies

The table presents the number of observations, the mean and median values of the profitability proxies for the average of three years before and after the listing period, the mean and median changes in the profitability proxies (after-before), and the tests of significance of the median change for each empirical proxy in various samples. The real net profit (RNP) is standardized to one in year 0 (the year of privatization). We use the Wilcoxon Z-test to test for any significant changes in the median value (paired observation), and for any significant differences in changes between any two groups. The table also shows the number of positive compared to negative changes.

Sample (-3 To +3)	Var.		N	Median (Mean) Before	Median (Mean) After	Median (Mean) Change	Wilcoxon Test Paired Obs.	Between Groups	+ve/-ve Ratio
Whole Sample	RNP		53	0.5636 (0.7406)	0.9491 (1.1210)	0.3855 (0.3804)	1.7235*		33/20
	ROS		53	0.1055 (0.1768)	0.0904 (0.1559)	-0.0151 (-0.021)	1.5453		18/35
A Share Dual-listings	RNP	With	27	0.4854 (0.6343)	0.6038 (0.9103)	0.1184 (0.2760)	0.8275	0.5249	18/9
		Without	26	0.7096 (0.8403)	1.0274 (1.3304)	0.3178 (0.4902)	1.6435		15/11
	ROS	With	27	0.0970 (0.1275)	0.0627 (0.1187)	-0.0343 (-0.008)	1.8271*	0.1690	9/18
		Without	26	0.1553 (0.2323)	0.1659 (0.1988)	0.0106 (-0.033)	0.8131		9/17
Foreign Director	RNP	With	28	0.6962 (0.8685)	0.9906 (1.2620)	0.2944 (0.3935)	1.3996	0.2227	16/12
		Without	25	0.5158 (0.5862)	0.6927 (0.9534)	0.1769 (0.3672)	0.9608		17/8
	ROS	With	28	0.1433 (0.2349)	0.1086 (0.2155)	-0.0347 (-0.019)	1.0575	0.4722	10/18
		Without	25	0.0855 (0.1162)	0.0564 (0.0936)	-0.0291 (-0.023)	1.3634		8/17
Change of CEO	RNP	With	23	0.5179 (0.6692)	0.5213 (0.6775)	0.0034 (0.0083)	0.2784	1.5703	12/11
		Without	30	0.6762 (0.7861)	1.0732 (1.4529)	0.3970 (0.6668)	2.4919**		21/9
	ROS	With	23	0.0806 (0.1128)	0.0382 (0.0845)	-0.0424 (-0.028)	1.6599*	0.0090	7/16
		Without	30	0.1748 (0.2296)	0.1375 (0.2144)	-0.0373 (-0.015)	1.0981		11/19

Note: *, **, and *** denote significance at the 0.1, 0.05, and 0.01 levels, respectively (two-tails).

We expect firms with Hong Kong directors to perform better than those without. However, our results do not show much support for the conjecture, as there is a general lack of statistical significance in both the RNP and ROS comparison.

    We base our third grouping on whether a firm changes its CEO after listing. La Porta and Lopez-de-Silanes (1997) find that if the government fires its CEO when it restructures -the firm, then the performance of an SOE improves dramatically. Hence, firms that change their CEO should show more increase in profitability than firms that do not. However, we do not find much supporting evidence for this conjecture. If anything, changing the CEO worsens the situation. For instance, firms that do not change their CEO show a significant increase in

RNP of 0.39 (Wilcoxon value of 2.49), and firms that do change their CEO have a significant drop in ROS of 0.04 (Wilcoxon value of 1.66) after privatization.

In unreported results, we also conducted tests on groupings based on whether the firms are in regulated or non-regulated industries and whether it was a "control privatization" (in which the government sells more than 50% of the shares) or a "revenue privatization" (in which government sells less than 50% of the shares). The results all showed no significant differences across groups.

Overall, we find that the SIP of Chinese firms in Hong Kong show some significant improvement in real net profit, and a mild but nonsignificant drop in return on sales after the SIP.

However, for output, the theoretical relationship is not clear. Better incentives, more flexible financing opportunities, increased competition, and a greater scope for entrepreneurial initiative should all work to increase real sales after privatization. On the other hand, effective privatization may lead to a reduction in output, since the government can no longer use subsidies to entice managers to maintain inefficiently high levels of output. Thus, output levels can go either up or down after privatization.

Table III presents the changes in real output associated with SIP. We note that the real output is normalized to one in Year 0, the listing year. For the whole sample, the median value increased from 0.71 to 1.28, an 80% increase after privatization, with a highly significant Wilcoxon test statistic of 7.17. In fact, real output increased throughout all subsamples based on various groupings. All increases are statistically significant. Second, 51 firms show a positive change in output, while only two firms show a negative change. The increase in output for firms that do not change their CEO is larger than that for firms that do change CEOs. The difference between the two is statistically significant at the 5% level.

If we assume that privatized firms should increase output, then the fact that a change in CEO is associated with a decrease in output is a bit surprising. However, it is possible that reverse causality is responsible, i.e., poor output leads to the replacement of a CEO because, due to the data available, our grouping is based on a change in CEO after the listing, not before. In any case, the increase in real output after privatization is largely consistent with previous findings. Partial privatization in China leads to increases in real output.

We expect SOEs to have high leverage for two reasons. Their cost of borrowing is lower, because SOEs carry (implicit or explicit) government guarantees. Also, borrowing is the only avenue by which SOEs can raise funds (apart from equity injections by the government and retained earnings), since they do not have access to private investors. Hence, after privatization, we expect the leverage of former SOEs to drop, since the state's withdrawal of debt guarantees will increase their cost of borrowing. Also, former SOEs will now have access to public equity markets.

However, since the H-share firms are strongly backed by the government, and since the government does not want to see the H-share firms fail, it may still provide a de facto guarantee for the firm's loans. With access to the equity market, these firms may actually increase their borrowing capacity. Hence, we may observe an increase in leverage after privatization. This is an empirical issue.

The results in Table IV indicate that for the whole sample, the median TIE ratio increases from 4.09 before privatization to 4.55 after privatization, while the OCF/TD ratio increases from 0.21 to 0.24. However, both measures lack statistical significance. This is generally the case across various subgroups. Hence, there is a tendency for the coverage ratios to improve after SIP.

For the primary-issue reason discussed earlier, the "standard" debt ratios are unreliable leverage measures. However, we check the total debt ratio (i.e., total liabilities/total assets,

Table III. Results for the Output of H-Share Companies

The table presents the number of observations, the mean and median values of the real output for the average of three years before and after the listing period, the mean and median changes in the profitability proxies (after-before), and the tests of significance of the median change for real output in various samples. The output is standardized to one in year 0 (the year of privatization). We use the Wilcoxon Z-test to test for any significant changes in the median value (paired observation), and for any significant differences in changes between any two groups. The table also shows the number of positive changes compared to negative changes.

Sample (-3 To +3)	Real Output	N	Median (Mean) Before	Median (Mean) After	Median (Mean) Change	Wilcoxon Test Paired Obs.	Wilcoxon Test Between Groups	+ve/-ve Ratio
Whole Sample		53	0.7085 (0.8128)	1.2835 (1.5632)	0.5750 (0.7504)	7.1737***		51/2
A Share Dual-listings	With	27	0.6935 (0.8170)	1.3056 (1.4830)	0.6121 (0.666)	4.8587***	0.1690	25/2
	Without	26	0.7097 (0.8127)	1.2286 (1.6582)	0.5189 (0.8455)	5.3630***		26/0
Foreign Director	With	28	0.7482 (0.8403)	1.3503 (1.7531)	0.6021 (0.9128)	5.0542***	1.2918	27/1
	Without	25	0.6806 (0.7865)	1.2133 (1.3628)	0.5327 (0.5763)	5.2616***		24/1
Change of CEO	With	23	0.7128 (0.8140)	1.1882 (1.3471)	0.4754 (0.5331)	4.6291***	2.144**	21/2
	Without	30	0.7006 (0.8156)	1.3777 (1.7391)	0.6771 (0.9235)	5.5892***		30/0

Note: *, **, and *** denote significance at the 0.1, 0.05, and 0.01 levels, respectively (two-tails).

TL/TA) and the debt-equity ratio (i.e., total liabilities/total equity, TL/TE). Although we do not report them here, we find that TL/TA have no significant change and that TL/TE decrease significantly after privatization. Given that TE would increase due to the plowing back in of the SIP proceeds, such results suggest that SOEs might increase their long-term investments after privatization and finance partly through debt.[7] To look into such a possibility, we compare the investments on plants, properties, and equipments (PPE) and PPE/TA before and after privatization.

Table V shows that for the full sample, PPE indeed shows an increase in median (mean) value from 0.85 (1.07) to 1.28 (2.13), a median increase of 50%. The Wilcoxon test statistic of 1.74 suggests that the increase is statistically significant at the 10% level. The subgroup analysis suggests that the increase is particularly important for the pure H-share firms that do not issue A-shares and for the firms that do not change their CEOs. On the other hand, the PPE/TA ratio comparison shows a nonsignificant decline after privatization for both the full sample and across various subgroups. This mean indicates that not all increases in TA come from the increase in PPE.

B. Cross-Sectional Regression Analysis

Although the Wilcoxon test results are robust across various groupings, they do not

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[7]We thank the referee for suggesting this to us.

Table IV. Results for Coverage Ratios of H-Share Companies

The table presents the number of observations, the mean and median values of the leverage proxies for the average of three years before and after the listing periods, the mean and median changes in the profitability proxies (after-before), and the tests of significance of the median change for each empirical proxy in various samples. We use the Wilcoxon Z-test to test for any significant changes in the median value (paired observation), and for any significant differences in changes between any two groups. The table also shows the number of positive changes compared to negative changes.

Sample (-3 To +3)	Variables		N	Median (Mean) Before	Median (Mean) After	Median (Mean) Change	Wilcoxon Test Paired Obs.	Between Groups	+ve/-ve Ratio
Whole Sample	TIE		47	4.0383 (9.4106)	4.5526 (15.3077)	0.5143 (5.8971)	0.0302		23/24
	OCF/TD		37	0.2110 (0.6243)	0.2456 (0.6108)	0.0346 (-0.0135)	0.3351		15/22
Firms with a Share Dual-listings Vs	TIE	With	27	4.2224 (8.3611)	4.0293 (11.3939)	-0.1931 (3.0328)	0.3114	0.6347	11/16
Firms without a Share Dual-listings		Without	20	4.0155 (10.8275)	5.9372 (20.5915)	1.9217 (9.764)	0.3652		12/8
	OCF/TD	With	22	0.2405 (0.4019)	0.2659 (0.4071)	0.0254 (0.0052)	0.2934	1.0363	8/14
		Without	15	0.1728 (0.9505)	0.1636 (0.9096)	-0.0092 (-0.0409)	0.1244		7/8
Firms with Foreign Directors Vs	TIE	With	25	4.6149 (10.2533)	5.7748 (24.7980)	1.1599 (14.5447)	0.5433	0.9274	14/11
Firms without Foreign Directors		Without	22	3.3644 (8.4529)	3.9214 (4.5234)	0.557 (-3.9295)	0.6220		9/13
	OCF/TD	With	17	0.1728 (0.4481)	0.1498 (0.2111)	-0.023 (-0.237)	0.4822	0.5943	6/11
		Without	20	0.2405 (0.7740)	0.3249 (0.9506)	0.0844 (0.1766)	0.0406		9/11
Firms with Change of CEO Vs	TIE	With	22	3.9271 (10.7565)	4.0228 (13.9061)	0.0957 (3.1496)	0.8802	0.6289	10/12
Firms without Change of CEO		Without	25	4.2224 (8.2262)	5.3021 (16.5412)	1.0797 (8.315)	0.7179		13/12
	OCF/TD	With	17	0.1690 (0.2875)	0.1543 (0.3269)	-0.0147 (0.0394)	0.1378	0.5029	6/11
		Without	20	0.2378 (0.9105)	0.2659 (0.8521)	0.0281 (-0.0584)	0.6086		9/11

Note: *, **, and *** denote significance at the 0.1, 0.05, and 0.01 levels, respectively (two-tails).

Table V. Results for the PPE of H-Share Companies

The table presents the number of observations, the mean and median values of the PPE measures for the average of three years before and after the listing period, the mean and median changes in the profitability proxies (after-before), and the tests of significance of the median change for each empirical proxy in various samples. The real net profit (RNP) is standardized to one in year 0 (the year of privatization). We use the Wilcoxon Z-test to test for any significant changes in the median value (paired observation), and for any significant differences in changes between any two groups. The table also shows the number of positive compared to negative changes.

Sample	Variables		N	Median (Mean) Before	Median (Mean) After	Median (Mean) Change	Wilcoxon Test Paired Obs.	Wilcoxon Test Between Groups	+ve/ -ve Ratio
Whole Sample (-3 To +3)	PPE		18	0.8553	1.2850	0.4297	1.7429*		11/7
				(1.0756)	(2.1296)	(1.054)			
	PPE/TA		22	0.0711	0.0607	-0.0104	1.3623		6/16
				(0.0892)	(0.0622)	(-0.027)			
A Share Dual-Listings	PPE	With	5	0.7783	0.9261	0.1478	0.7856	0.7961	3/2
				(1.2814)	(2.0285)	(0.7471)			
		Without	13	0.8854	1.8605	0.9751	1.5286		8/5
				(0.9964)	(2.2378)	(1.2414)			
	PPE/TA	With	7	0.0806	0.0615	-0.0191	1.2758	1.0421	1/6
				(0.0984)	(0.0621)	(-0.0363)			
		Without	15	0.0672	0.0489	-0.0183	0.9954		5/10
				(0.0848)	(0.0623)	(-0.0225)			
Foreign Director	PPE	With	11	0.8253	1.4377	0.6124	1.5895	0.5303	6/5
				(0.9523)	(2.1232)	(1.1709)			
		Without	7	0.8854	1.2850	0.3996	0.5293		5/2
				(1.2693)	(2.1437)	(0.8744)			
	PPE/TA	With	11	0.0672	0.0614	-0.0058	1.1904	0.3534	3/8
				(0.0827)	(0.0609)	(-0.0218)			
		Without	11	0.0806	0.0607	-0.0199	0.8160		3/8
				(0.0957)	(0.0637)	(-0.032)			
Change of CEO	PPE	With	6	0.7672	0.8106	0.0434	0.7396	0.4125	4/2
				(0.8853)	(1.4979)	(0.6126)			
		Without	12	0.9548	2.0700	1.1152	1.8774*		7/5
				(1.1707)	(2.8063)	(1.6356)			
	PPE/TA	With	6	0.0868	0.0489	-0.0379	1.6038	0.3958	2/4
				(0.0775)	(0.0554)	(-0.0221)			
		Without	16	0.0676	0.0648	-0.0028	0.6218		4/12
				(0.0935)	(0.0682)	(-0.0253)			

Note: *, **, and *** denote significance at the 0.1, 0.05, and 0.01 levels, respectively (two-tails).

control for factors that may affect comparisons of performance. Therefore, we conduct a cross-sectional regression analysis on the changes in performance of various proxies.

$$\Delta PP_i = \alpha_i + \beta_1 \Delta GDPGR_i + \beta_2 CTRL_i + \beta_3 REG_i + \beta_4 ASHARE_i + \beta_5 FD_i + \beta_6 CEO_i + \varepsilon_i \qquad (1)$$

The sign "Δ" is the difference in the three-year averages of the variable in question before and after privatization. PP is the three-year average of the performance proxy and GDPGR is

the three-year average of real GDP growth. Putting in GDPGR allows us to capture the impact of general economic conditions on firm profitability, output, and leverage.

We construct several dummy variables to control for various factors. CTRL takes a value of one if state shares occupy less than 50% of the total outstanding shares after privatization, and zero otherwise. REG takes a value of one for firms in regulated industries (utilities, energy, and basic materials), and zero otherwise. ASHARE takes a value of one for firms that also issue A-shares, and zero otherwise. CEO takes a value of one if a firm changes its CEO after privatization, and zero otherwise. FD takes a value of one if a firm has any Hong Kong directors on its board, and zero otherwise.

Since we have only 53 observations for the cross-sectional regression, the degree of freedom could be a concern. Hence, we run our regressions both with and without control dummy variables to see how the performance variables change after privatization. If the performance before and after privatization is different, the regression constant should differ significantly from zero.

The results in Table VI, Panel A, confirm the Wilcoxon test results in Tables II through IV. The intercept terms for changes in real net profits (RNP), real sales (RSALES), and capital spending (PPE) are positive and significant. RNP has an intercept of 0.56 with a t-value of 2.42 and RSALES has an intercept of 0.68 with a t-value of 5.28. Both t-values are statistically significant at the 1% level. PPE has an intercept of 1.41 with a t-value of 1.69, which is statistically significant at the 10% level.

These results suggest that controlling GDP growth before and after privatization does not change the conclusion obtained from Tables II through V.

In Panel B, the results, which included the control dummy variables in the regression, showed essentially the same picture, but the intercept term in the ΔPPE regression becomes statistically insignificant with a coefficient of 0.29 and a t-value of 0.23.

C. Performance after Privatization

We examine changes in the share price of the privatized firms up to five years after privatization. Our idea is that it may take some time before privatized firms can improve their performance, yet accounting measures do not capture the market's view of the future prospects of privatized firms. If the market believes that privatization is good for the firm, then this should be reflected in the firm's share prices. Following Dewenter and Malatesta (2001) and Megginson, Nash, Netter, and Schwartz (2000), we looked at the adjusted yearly stock returns of firms after privatization to determine whether the privatized firms outperformed the market. We calculate the market-adjusted buy-and-hold return for each firm using the following formulation:

$$ ER_{i(a\_b)} = \prod_{t=a}^{b} (1 + R_{it}) - \prod_{t=a}^{b} (1 + MR_t) \tag{2} $$

where ER is the market-adjusted cumulative return, R is a firm's daily stock return, MR is the relevant daily market return, and t = (a to b) is the timeframe of one to five years.

The market proxies we use for comparison are the Hong Kong Hang Seng Index, the Shenzhen B-share Index, the Shanghai B-share index, and the Hang Seng China Affiliated Corporations

Table VI. Cross-Sectional Regression of Performance Change on Ownership Change

This table presents the empirical results of our cross-sectional regression analysis on the full sample of H-share firms. We use the following model:

$$\Delta PP_i = \alpha_i + \beta_1 \Delta GDPGR_i + \beta_2 CTRL + \beta_3 CEO_i + \beta_4 FD_i + \beta_5 REG_j + \beta_6 ASHARE_j + \varepsilon_i$$

PP is the performance proxy, which includes real net profit (RNP), return on sales (ROS), real output (RSALES), times-interest-earned (TIE), and operating cash flow over total debt (OCF/TD). GDPGR is China's real GDP growth rate. The difference sign "_" is the average of the three-year post-privatization data minus the average of the three-year pre-privatization data of the variable in question, which captures the difference in the mean of the variable before and after the privatization. Other variables are controlling dummies. CTRL takes a value of one if the state has less than 50% of the total share ownership after listing. CEO takes a value of one if the firm changes its CEO of the board of directors after listing. FD takes a value of one if there are foreign (Hong Kong) directors on the board. REG takes a value of one if a firm is in a regulated industry (petrochemicals, utilities, and some of the basic materials). ASHARE takes a value of one if a firm has A-share offerings. Panel A presents the results of the regression without the control dummy variables. Panel B presents the results with full specifications.

	ΔRNP	ΔROS	ΔRSALES	ΔTIE	ΔOCF/TD	ΔPPE	ΔPPE/TA
Panel A. Without Control of Dummy Variables							
C	0.5688	0.0079	0.6812	1.7621	-0.0208	1.4160	0.0151
	(2.42)**	(0.31)	(5.28)***	(0.24)	(-0.09)	(1.69)*	(0.51)
ΔGDPGR	9.1096	1.3985	-3.5339	327.890	-0.3437	16.992	-0.2880
	(1.12)	(1.64)*	(-0.79)	(1.35)	(-0.05)	(0.58)	(-0.26)
Adjusted R^2	0.0049	0.0294	-0.0073	0.0176	-0.0285	-0.0501	-0.0579
Observation	53	53	53	47	37	15	18
Panel B. Full Specification							
C	0.8542	0.0024	0.7275	7.5199	0.1263	0.2947	0.0639
	(1.96)*	(0.05)	(3.19)***	(0.53)	(0.26)	(0.23)	(1.36)
ΔGDPGR	7.0854	1.5381	-3.8326	202.8011	-1.4670	-6.2626	0.1159
	(0.85)	(1.65)*	(-0.88)	(0.84)	(-0.18)	(-0.15)	(0.08)
CTRL	0.3044	-0.0109	0.2242	-19.456	-0.1270	2.0363	-0.0228
	(0.89)	(-0.29)	(1.25)	(-2.02)**	(-0.36)	(1.85)	(-0.60)
REG	-0.24024	-0.01509	-0.16058	16.78855	0.07391	0.1156	-0.0662
	(-0.67)	(-0.38)	(-0.86)	(1.64)	(0.21)	(0.09)	(-1.56)
ASHARE	-0.10978	0.03208	-0.08427	-2.58993	-0.00870	1.0943	0.0203
	(-0.33)	(0.85)	(-0.48)	(-0.27)	(-0.03)	(0.88)	(0.45)
FD	-0.0240	0.0128	0.2518	20.0944	-0.4121	-0.1703	-0.0264
	(-0.07)	(0.33)	(1.38)	(1.99)**	(-1.16)	(-0.16)	(-0.60)
CEO	-0.6883	-0.0112	-0.4102	1.9570	0.0957	-1.3998	0.0118
	(-2.02)	(-0.30)	(-2.31)**	(0.21)	(0.28)	(-1.15)	(0.27)
Adjusted R^2	0.0052	-0.0507	0.0907	0.1041	-0.1310	-0.0813	-0.1637
Observation	53	53	53	47	37	15	18

Note: *, **, and *** denote significance at the 0.1, 0.05, and 0.01 levels, respectively (two-tails).

(red-chip) index.[8] Red chip companies are essentially Chinese conglomerates that operate in China, although some also have businesses in Hong Kong. They are controlled by, and many have direct ownership ties with, political and economic decision-makers at the provincial or central government levels, but they are registered under Hong Kong's corporate ordinances as Hong Kong companies. Contrasting H-share SOEs with these red-chip companies can be illuminating, as the results reflect the market's view of the performances of China-registered SOEs against non-China registered SOEs listed in Hong Kong.

Table VII presents the mean and median market-adjusted cumulative returns and the corresponding t- and Wilcoxon statistics.

The results indicate that the privatized SOEs underperform the Hang Seng Index up to five years after their listing. In the first year, H-share firms underperform the Hong Kong market by an average of 10%. Such underperformance increases yearly until it reached 51% in the fifth year. Except for the first year, the corresponding t-statistics for the differences are all significant at 1%.

Using the difference in median return yields a similar pattern. Even compared to B-share firms, H-share firms underperform significantly and the difference grows in Years 4 and 5. The larger Years 4 and 5 underperformance may be due to the big jump in B-share prices in 2001 after the B-share market was partially opened to domestic investors. However, compared to the red-chip index, the underperformance in H-shares is not obvious except in the third and fourth years.

The long-run underperformance of H-share stock returns indicates that investors do not particularly favor China's privatized firms. Hence, the result is different from that in Megginson et al. (2000), who finds that the returns of SIP firms topped industrial, country, and world benchmarks from the first to the fifth years after listing. Foerster and Karolyi (2000) study the long-term return performance of 333 global equity offerings in the US in the form of American depository receipts (ADRs) from 35 countries. On average, the three-year return after the issuance of the ADRs, under-performs local market benchmarks of comparable firms by 8% to 15%. This underperformance is greater for offerings from emerging markets than from developed markets.

Even for the subsample of 68 ADRs resulting from government privatization, the three-year returns also tend to be lower than both the local market indexes and the matched firms, although there is statistical significance only with the seasoned offerings. Schaub (2003) finds that the long-term underperformance of ADRs is greater for IPO issues than for SEO issues, and for emerging market issues than for developed market issues. Aybar (2001) focuses on privatization-related ADRs and confirmed that the long-term return performance of emerging market issues is poor. Our findings are consistent with all of these studies.

We could argue that IPO firms typically underperform in the long run (Ritter, 1991; Aggarwal, Leal, and Hernandez, 1993; Loughran and Ritter, 1995 and 1997). But recent studies indicate that such documentation should be interpreted with care (see Brav and Gompers, 1997; Ritter and Welch, 2002; and Gompers and Lerner, 2003; among others). Furthermore, our underperformance results are greater than those documented elsewhere, even after taking into consideration the long-run IPO performance phenomenon.

We could also argue that the SOEs managed their earnings prior to listings (Teoh, Welch, and Wong, 1998a and 1998b; DuCharme, Malatesta, and Sefcik, 2001) but the continuous decline of stock prices year after year cannot be due solely to earnings management before

[8]The reason we did not look at A-share indices is because A-shares are open to Chinese local investors only and B-shares are open to foreign investors only, although the B-share market has been open up to Chinese local investors since March 2001.

Table VII. Excess Long-run Buy-and-Hold Returns of H-Share Firms after Stock Issuing Privatization

We calculate the market-adjusted buy-and-hold return for each firm using the following formulation:

$$ER_{i(a\_b)} = \prod_{t=a}^{b}(1+R_{it}) - \prod_{t=a}^{b}(1+MR_t)$$

where ER is the market-adjusted cumulative return. R_i denotes daily stock return for firm i, MR is the relevant daily market return and t = (a to b) is the timeframe of one to five years. We use the Hang Seng index (HSI), Shanghai B-share index (SH-B), Shenzhen B-share index (SZ-B), and China Affiliated Enterprise (Red-Chip) index as the market proxies. To compare the means and medians of the buy-and-hold returns, we provide t-statistics and Wilcoxon Z statistics, respectively.

Holding Pd.		H Share	HSI	Diff	Test	SZ-B	Diff	Test	SH-B	Diff	Test	Red Chip	Diff	Test
One Year	Mean	-0.1574	-0.0527	-0.1047	-1.83*	0.0111	-0.1685	-1.79*	-0.0190	-0.1384	-1.53	-0.1210	-0.0364	-0.60
	Median	-0.2374	-0.0186	-0.2188	2.45**	-0.3337	0.0963	1.02	-0.2030	-0.0344	0.94	-0.2182	-0.0192	0.01
	Obs.	53	53			53			53			53		
Two Years	Mean	-0.2788	0.0475	-0.3263	-3.41***	0.0750	-0.3538	-3.02***	0.0693	-0.3481	-2.41**	-0.1010	-0.1778	-1.27
	Median	-0.4353	-0.0658	-0.3695	5.05***	-0.2103	-0.225	3.08***	-0.2700	-0.1653	2.55**	-0.3350	-0.1003	0.99
	Obs.	49	49			49			49			49		
Three Years	Mean	-0.3416	0.1780	-0.5197	-6.02***	0.1901	-0.5317	-5.69***	0.1118	-0.4535	-4.03***	0.0364	-0.3781	-3.31***
	Median	-0.4620	0.1637	-0.6257	5.60***	-0.0308	-0.4312	4.92***	-0.1480	-0.3140	4.23***	-0.2148	-0.2472	3.05***
	Obs.	47	47			47			47			47		
Four Years	Mean	-0.3594	0.1353	-0.4947	-6.73***	0.5612	-0.9206	-8.54***	0.5234	-0.8828	-7.31***	-0.0175	-0.3418	-2.87***
	Median	-0.4616	0.0346	-0.4962	5.48***	0.4012	-0.8628	6.13***	0.2890	-0.7506	5.34***	-0.2782	-0.1834	2.13**
	Obs.	44	44			44			44			44		
Five Years	Mean	-0.4336	0.0826	-0.5162	-5.30***	0.5900	-1.0236	-6.21***	0.5507	-0.9843	-7.44***	-0.2970	-0.1366	-1.31
	Median	-0.4603	-0.0694	-0.3909	5.17***	0.4240	-0.8843	5.70***	0.6622	-1.1225	4.80	-0.4226	-0.0377	1.39
	Obs.	41	41			41			41			41		

Note: 1. The return computation for the red-chip index is not available for the five-year investment horizon, as the index was not introduced before 1995.
2. *, **, and *** denote significance at the 0.1, 0.05, and 0.01 levels, respectively (two-tails).

the IPO. Hence, we believe that negative returns reflect the market's negative view.[9]

III. Ownership Impact on Firm Performance after an SIP

Here, we use the pooled regression technique to further investigate the situation of the SOEs after privatization. We want to examine the possible differential impact of state ownership, legal-person ownership, and H-share ownership on the profitability of the partially privatized SOEs. It is important to note that since we are not comparing performance before and after the listing, which requires up to three years after listing data, we extend our sample period to 2003. Thus, the panel data cover the same 53 firms for the period 1993-2003.

We begin with the following common-intercept specification:

$$MBR_{it} = \alpha_{it} + \beta_1 GDP_{it} + \beta_2 ST_{it}/LP_{it}/H_{it} + \beta_3 SALE_{it} + \beta_4 DA_{it} + \beta_5 LOC_i + \beta_6 ASHARE_{it} + \varepsilon_{it} \qquad (3)$$

Since we use only post-listing data, MBR serves as our performance proxy. GDP, ST, LP, and H are as previously defined. SALE is the natural logarithm of annual real sales revenue, a proxy for size. Large SOEs tend to have a larger market share and more market power, but they may encounter more government bureaucracies and bigger agency problems. Therefore, the overall size impact on performance is unclear. DA is the ratio of total debts to total assets, and controls for any possible leverage effect. We expect to see a negative relation between firm performance and leverage. LOC is a dummy variable that takes a value of one if a firm is located in the coastal provinces, and zero otherwise. Historically, China's coastal area has been more developed and attracted more than 85% of the total foreign direct investment in China. To reduce regional differences, the Chinese government intentionally selected some firms located in inland areas to list in Hong Kong. ASHARE is a dummy that takes a value of one if the firm also issues A shares, and zero otherwise. We also run a fixed-effect formulation to control for industry-specific effects.[10]

We have a third, firm-specific, fixed-effect formulation. Himmelberg, Hubbard, and Palia (1999) show that if the unobserved, exogenous variables are correlated to ownership and performance, then unobserved heterogeneity across firms can generate a spurious correlation between ownership and performance. Our specification, with the GDP variable, controls for both year-variant but firm-invariant omitted variables, and firm-variant but time-invariant omitted variables. Also, the Himmelberg et al. (1999) concern about managerial ownership being endogenously determined should not be serious here. First, the proportion of ST or LPs is determined based on government policy and a quota system, which are not endogenous to the SOE. Second, when H-share companies later issue A-shares, many do it within a year, so the issue amounts are likely to be jointly determined. Also, such issues are subject to government control, not at the managers' discretion. Third, there were no seasoned issues of H-shares in the SEHK during our sample period, so there should not be a serious endogenous problem of the SOE sequentially privatizing the rest of the state-owned and legal-person shares conditional on the performance of the existing share price. As individual (or firm-specific) time-invariant variables are controlled, the location, A-share, and industrial

[9]Theoretically, if there is a general decline in leverage after the SIP, a firm's financial risk would be lowered, leading to lower shareholder demand for return on equity. In that case, an ex post return decline might be due to an *ex ante* decline in required return. We thank the referee for pointing this out to us.

[10]See Table I for our sample firm distribution across eight industries.

dummies become unnecessary as their possible effects are controlled.

Table VIII presents the results with MBR as the measure of performance. Since ST, LP, and H add up to almost one for most firms, and because ST and LP are highly correlated, we run the three ownership variables separately in the pooled regressions and place the results in three major columns. We present the results under three different formulations within each column. We allow a possible nonlinear effect of government ownership on a firm's MBR. ST1 and LP1 respectively refer to state and legal-person ownerships that are less than 50% of the total share ownership of the firm. "ST2" and "LP2" refer to ownerships above 50% of a firm's total share ownership. Since H-share ownership is typically lower than 50% of the total, we do not further split H shares.

The pooled regression results in Table VIII indicate that the state-ownership variable ST tends to have less negative impact on a firm's MBR for firm ownerships of less than 50%. For the firm-specific fixed-effect regression, ST1 enters positively into the regression with a t-value of 1.71. ST2, which captures state ownerships of more than 50%, has a negative impact. The coefficients of ST2 uniformly show significant negative *t*-values in all three specifications. This suggests the existence of nonlinearity. However, too much ST ownership has a negative effect on a firm's MBR.

The regression results with LP that we present in the second major column show that legal persons have a significant, positive impact on a firm's MBR in all three specifications. These results are consistent with the previous findings that legal-person ownership is "better" than state-share ownership. However, we do not find much nonlinearity relationship in the results.

More interesting is the effect of the H-shares shown in the last major column of Table VIII. The coefficient of H is 0.01 with a highly significant t-value of 5.41. Such a significant, positive impact on a firm's MBR holds in the other specifications. This finding suggests that as a whole, H shares investors play a positive role in corporate governance. H-share investors are more sophisticated than are holders of A-shares. Also, there are independent institutional investors among the holders of H-shares, and holders of H-shares are represented on the boards of many H-share firms.

In unreported results, we also look at ROS, ROA, and ROE. The results are largely consistent with the MBR results in Table VIII. Although all of these results indicate that more STs (LPs) cause lower (higher) performance and profitability, reverse causality is possible. That is, government (legal persons) may retain fewer (more) shares for good firms in an SIP. We examined such a possibility by running the following regression:

$$ST_i (LP_i) = \alpha_i + \beta_1 Size_i + \beta_2 Leverage_i + \beta_3 Profitability_i + \Sigma \gamma_{ij} IND_{ij} + \varepsilon_i \qquad (4)$$

where ST (LP) is the percentage of firm shares owned by the government (legal persons) when the firm is publicly listed. Our proxy for Size is the three-year average of log real sales before listing. We use the three-year average debt-equity ratio before listing as our proxy for leverage. IND are industry dummy variables. The key variable is "Profitability." Our proxy for profitability is the three-year average of the accounting profits, i.e., ROS, ROA, and ROE, before listing. If our conjecture of more government retention of the shares of non-performing firms upon privatization is correct, b_3 should be significant and negative. Our results show that the t-values of b_3, whether for ROS, ROA, or ROE, arre all nonsignificant.

Gupta (2005) suggests that a well-established stock market that long predates privatization could contribute to the success of share issue privatization programs. Our findings are consistent with her argument. The Hong Kong stock market is well established and has a

Table VIII. Pooled Regression Analysis of the Impact of Government and Legal-Person Ownership on the Market Measure of Firm Performance after Listing

In this table, the dependent variable is MBR, the market value of equity divided by the book value of net assets. SIZE is the natural logarithm of annual sales in RMB. LEV is the value of total debt divided by the owner's equity. ST, LP, and H represent the share of equity owned by the state, legal persons, and Hong Kong investors, respectively. ST1 equals ST for STs below 50%, and zero otherwise. ST2 equals ST for STs greater than 50%, and zero otherwise. We define LP1 and LP2 in the same way. LOC is a dummy variable that equals one if the firm is incorporated in the coastal area and zero if it is located inland. A-shares are a dummy if the firm is listed dually in China's domestic market and zero if it is only listed in Hong Kong. The pooled sample consists of 53 H-share companies that listed between 1993-2002. Their post-listing data cover 1993-2003. Heteroscedasticity-consistent t-values are in parentheses.

	Fixed Effect			Fixed Effect			Fixed Effect		
	Common Intercept	Industry-Specific	Firm-Specific	Common Intercept	Industry-Specific	Firm-Specific	Common Intercept	Industry-Specific	Firm-Specific
C	-0.5272 (-1.44)			-0.6983 (-1.92)*			-1.8111 (-4.42)***		
GDP	0.1858 (7.63)***	0.1836 (8.23)***	0.1655 (7.44)***	0.1836 (7.52)***	0.1677 (7.59)***	0.1755 (7.82)***	0.1854 (7.83)***	0.1652 (7.86)***	0.1744 (7.79)***
ST1	-0.0028 (-1.59)	-0.0031 (-1.65)*	0.0043 (1.71)*						
ST2	-0.0037 (-2.19)**	-0.0035 (-2.14)**	-0.0034 (-2.23)***						
LP1				0.0097 (2.70)***	0.0095 (2.54)***	0.0018 (1.70)*			
LP2				0.0023 (2.05)**	0.0020 (1.62)	-0.0065 (-0.78)			
H							0.0177 (5.41)***	0.0209 (6.33)***	0.0087 (2.15)**
SALE	-0.0210 (-1.02)	-0.0407 (-2.50)**	-0.2106 (-3.14)***	-0.0228 (-1.11)	-0.0618 (-3.62)***	-0.2354 (-3.70)***	0.0114 (0.56)	-0.0672 (-4.27)***	-0.2375 (-3.69)***
LEV	-0.0120 (-0.0743)	-0.0680 (-0.4218)	-0.0920 (-0.5346)	0.0834 (0.6934)	0.0877 (0.8455)	-0.109 (-0.3692)	-0.0836 (-0.6417)	0.0126 (0.0435)	-0.0709 (-0.5933)
LOC	0.3608 (5.90)***	0.3474 (4.59)***		0.3408 (5.54)***	0.3595 (4.79)***		0.3543 (6.00)***	0.3370 (4.89)***	
A-Share	-0.1919 (-3.30)***	-0.1727 (-2.49)**		-0.2023 (-3.50)***	-0.2088 (-3.11)***		-0.1311 (-2.31)**	-0.0872 (-1.35)	
Obs	323	323	323	323	323	323	323	323	323
Adj. R²	0.7774	0.8726	0.9278	0.7751	0.8699	0.9253	0.7883	0.8822	0.9251

Note: *, **, and *** denote significance at the 0.1, 0.05, and 0.01 levels, respectively (two-tails).

long history. SIP in Hong Kong brings positive impacts to the SOEs. However, it is true that our documented improvements are not as strong as shown in her study and in some other literature. One possible reason is that the Hong Kong market is a market "external" to China, which is not exactly the same as the situation in India. In China's case, the possible role of a stock market may be weakened. Another possible reason may be that H-share firms are actually not particularly good, because, as discussed, the companies chosen for listing in Hong Kong, especially in the earlier days, were based on political considerations rather than on economic merits. Thus, they might perform worse than the average.

IV. Conclusion

Based on the results of our tests on 53 SOEs with IPOs in Hong Kong over the period July 1993 to December 2002, we find that the partial privatization of Chinese firms via a listing on the Hong Kong Exchange leads to a median increase of 70% in real net profits, 80% in real sales, 50% in capital spending, and a mild but nonsignificant improvement in coverage ratios. On the other hand, there is no improvement in ROS and a significant underperformance of returns against several market index benchmarks.

When we further investigate the cross-sectional relationship between ownership distribution and firm performance over time after privatization, we find that state ownership is negatively related to firm performance. This negative relation is especially strong for firms in which 50% or more of the shares are owned by the state. We note that despite the fact that legal-person ownership appears simply as indirect state ownership, it demonstrates some positive impact. More importantly, H-share ownership has a significant, positive impact on a firm's performance. An H-share listing can be the right direction for share-issue privatizations. However, the positive effect of H-share ownership seems to be limited, probably because ownership percentages are not large enough to allow holders of H-shares to exert effective control and governance over a firm.

In 2002, the Chinese government announced three policies in succession: guidelines for the takeover and merger of listed companies, permission for foreign investors to buy nontradable state-owned shares and legal-person shares in listed SOEs (*Hong Kong Economic Journal*, Nov. 4, 2002, p. 5), and rules for qualified foreign institutional investors (QFII) to invest in "A" shares and in government, corporate, and convertible bonds (*Asian Wall Street Journal*, Nov. 8, 2002, p. 1). The CSRC also issued the "Code of Corporate Governance for Listed Companies in China." In view of our analysis these are the right moves to advance SOE reform in China.■

Appendix. Summary Statistics of Ownership Distribution and Other Pooled Regression Variables

This appendix presents the summary statistics of the pooled regression variables. MBR is the market value of equity divided by the book value of net assets. ROS, ROA, and ROE are net income divided by sales, total assets and owner's equity, respectively. ST, LP, A, and HSHARE are the shares (in fractions) of equity owned by the state, legal persons, domestic, and Hong Kong investors, respectively. SIZE is the real annual sales in millions of RMB. LEV is the book value of debt divided by the book value of owner's equity.

Variables	Mean	Median	Std. Dev.	Minimum	Maximum
Panel A. 1993					
MBR	2.4510	2.2974	0.6985	1.6784	3.4623
ROS	0.3188	0.1656	0.3828	0.0966	1.0885
ROA	0.0666	0.0589	0.0205	0.0511	0.1065
ROE	0.1009	0.0896	0.0269	0.0782	0.1508
ST	42.3033	43.5150	22.8483	0.0000	62.5000
LP	14.9133	3.6450	29.5948	0.0000	75.0000
A	13.8267	11.8050	9.7212	0.0000	25.5700
HSHARE	28.9567	26.6900	5.3231	25.0000	38.5400
SIZE	503	149	691	39	1765
LEV	0.5427	0.4729	0.2557	0.2493	0.9719
Panel B. 1994					
MBR	1.3568	1.3838	0.6525	0.0000	2.6785
ROS	0.1605	0.1573	0.1090	0.0236	0.4855
ROA	0.0619	0.0589	0.0329	0.0095	0.1176
ROE	0.1029	0.0969	0.0472	0.0152	0.1662
ST	32.1493	42.6100	28.0304	0.0000	63.0800
LP	27.5227	5.9300	32.9957	0.0000	75.0000
A	6.9833	0.0000	9.0132	0.0000	25.5700
HSHARE	33.3440	31.8200	7.8418	25.0000	49.0000
SIZE	380	183	413	42.7	1502
LEV	0.7787	0.7148	0.4507	0.1836	1.9771
Panel C. 1995					
MBR	0.9836	0.9521	0.2232	0.5479	1.4298
ROS	0.1017	0.0793	0.0762	0.0069	0.2804
ROA	0.0478	0.0377	0.0361	0.0024	0.1261
ROE	0.0791	0.0763	0.0558	0.0036	0.2029
ST	35.6894	44.4200	28.3119	0.0000	72.9000
LP	24.4282	2.8900	32.0798	0.0000	75.0000
A	7.1288	0.0000	8.9274	0.0000	25.5700
HSHARE	32.7529	29.5400	7.5350	25.0000	49.0000
SIZE	352	122	556	52.3	2132
LEV	0.7620	0.6007	0.4453	0.1775	1.7853

Appendix. Summary Statistics of Ownership Distribution and Other Pooled Regression Variables (*Continued*)

Panel D. 1996

Variables	Mean	Median	Std. Dev.	Minimum	Maximum
MBR	0.7715	0.7076	0.4166	0.0151	1.5219
ROS	0.1197	0.0482	0.1846	-0.0489	0.6164
ROA	0.0477	0.0208	0.0756	-0.0159	0.3421
ROE	0.0778	0.0481	0.1216	-0.0402	0.5605
ST	38.9965	51.5800	27.4368	0.0000	72.9000
LP	20.0543	2.4400	29.4935	0.0000	75.0000
A	6.6913	5.4300	7.9493	0.0000	25.5700
HSHARE	34.2570	35.0000	7.4051	25.0000	49.0000
SIZE	220	83	316	57.1	1081
LEV	0.8212	0.6676	0.4944	0.0713	1.7826

Panel E. 1997

Variables	Mean	Median	Std. Dev.	Minimum	Maximum
MBR	1.0426	0.9897	0.5017	0.0000	2.3434
ROS	0.1409	0.0816	0.2665	-0.5190	1.1607
ROA	0.0317	0.0263	0.0428	-0.0894	0.1158
ROE	0.0473	0.0490	0.0882	-0.3226	0.1880
ST	38.8449	52.1000	28.6758	0.0000	72.9000
LP	22.6885	1.3600	30.6646	0.0000	75.0000
A	4.4108	0.0000	6.9628	0.0000	25.5700
HSHARE	34.0551	35.0000	6.4390	25.0000	49.0000
SIZE	262	101	362	72.3	1402
LEV	0.8724	0.5858	0.7480	0.0720	2.8879

Panel F. 1998

Variables	Mean	Median	Std. Dev.	Minimum	Maximum
MBR	0.5760	0.5179	0.3219	0.2002	1.7258
ROS	0.0979	0.0394	0.3155	-0.7081	1.2713
ROA	0.0164	0.0172	0.0520	-0.1481	0.1147
ROE	-0.0002	0.0346	0.1794	-0.9302	0.1815
ST	38.5166	52.1000	28.8948	0.0000	72.9000
LP	23.3732	1.3600	31.1466	0.0000	75.0000
A	4.2707	0.0000	6.8240	0.0000	25.5700
HSHARE	33.8388	34.8000	6.3871	25.0000	49.0000
SIZE	161	75	445	47.7	1838
LEV	1.0408	0.7141	1.0503	0.1103	5.2789

Appendix. Summary Statistics of Ownership Distribution and Other Pooled Regression Variables (*Continued*)

Variables	Mean	Median	Std. Dev.	Minimum	Maximum
Panel G. 1999					
MBR	1.0161	0.5338	2.7357	0.1832	17.2817
ROS	0.1265	0.0525	0.2281	-0.3017	0.9908
ROA	0.0273	0.0283	0.0367	-0.0829	0.1086
ROE	-0.1221	0.0478	1.0750	-6.9915	0.1563
ST	38.7067	52.1500	29.3340	0.0000	72.9000
LP	23.8000	0.0000	31.6304	0.0000	75.0000
A	3.5026	0.0000	5.9426	0.0000	25.5700
HSHARE	33.9435	34.8000	6.2896	25.0000	49.0000
SIZE	288	126	417	22.53	1868
LEV	3.0002	0.8863	12.5771	0.0917	83.2975
Panel H. 2000					
MBR	0.5421	0.3959	0.4274	0.1572	2.2690
ROS	0.1114	0.0696	0.2257	-0.3275	0.8690
ROA	0.0216	0.0374	0.0681	-0.2636	0.1356
ROE	0.0171	0.0620	0.2168	-1.1681	0.2563
ST	40.7144	53.1750	30.2311	0.0000	90.0000
LP	22.6947	0.6800	30.9840	0.0000	75.0000
A	3.2279	0.0000	5.8863	0.0000	25.5700
HSHARE	33.3062	34.9000	7.5998	10.0000	49.0000
SIZE	2027	181	9009	38.57	55066
LEV	1.0611	0.7070	0.8459	0.8950	3.4308
Panel I. 2001					
MBR	0.7461	0.6819	0.3845	0.0000	2.0928
ROS	0.1063	0.0799	0.2580	-0.7095	0.8666
ROA	0.0248	0.0301	0.0720	-0.2398	0.1481
ROE	0.0246	0.0535	0.4772	-2.2742	2.0295
ST	54.2481	61.0934	20.0647	0.0000	90.0000
LP	6.4352	0.0000	18.2386	0.0000	73.8900
A	6.1927	0.0000	9.0988	0.0000	33.6200
HSHARE	32.5527	34.6900	7.9784	10.0000	49.6809
SIZE	1645	207	7286	10.18	46404
LEV	1.5670	0.7999	2.3212	0.0664	12.7013

Appendix. Summary Statistics of Ownership Distribution and Other Pooled Regression Variables (*Continued*)

Variables	Mean	Median	Std. Dev.	Minimum	Maximum
Panel J. 2002					
MBR	0.8006	0.7413	0.4425	0.2976	3.1467
ROS	0.1382	0.0777	0.1782	-0.3159	0.6979
ROA	0.0418	0.0419	0.0498	-0.1060	0.2199
ROE	0.0686	0.0687	0.1195	-0.4939	0.3905
ST	51.7388	55.2180	27.5050	0.0000	90.0000
LP	8.0386	0.0000	25.7598	0.0000	72.7739
A	5.9066	0.0000	7.9997	0.0000	33.6204
HSHARE	34.2073	34.6850	11.7900	10.0000	100.0000
SIZE	1816	209	7363	16.71	47009
LEV	1.1147	0.6867	1.1631	0.0656	5.5604
Panel K. 2003					
MBR	0.9435	0.7812	0.5479	0.3983	2.9502
ROS	0.1607	0.0938	0.3220	-0.3482	2.1490
ROA	0.0528	0.0526	0.0598	-0.1520	0.1600
ROE	0.0833	0.0984	0.1236	-0.4304	0.2721
ST	52.4639	53.5600	26.7705	0.0000	90.0000
LP	7.3797	0.0000	25.2037	0.0000	72.7739
A	6.4482	3.2294	8.1688	0.0000	33.6204
HSHARE	34.2620	34.6850	12.2200	10.0000	100.0000
SIZE	2253	413	7117	19.32	41929
LEV	0.9633	0.0.7004	0.9421	0.0728	4.8251
Panel L. 1993-2003					
MBR	0.8524	0.6980	1.0515	0.0000	17.2817
ROS	0.1299	0.0749	0.2470	-0.7095	2.1490
ROA	0.0344	0.0376	0.0563	-0.2636	0.3421
ROE	0.0283	0.0579	0.4285	-6.9915	2.0295
ST	45.0346	55.3868	26.0174	0.0000	90.0000
LP	15.1494	0.0000	25.3831	0.0000	73.8900
A	5.8815	0.0022	7.7180	0.0000	33.6204
HSHARE	33.9043	34.8000	8.5263	10.0000	100.0000
SIZE	1101	253	4407	10.18	55066
LEV	1.2863	0.6888	4.5093	0.0656	83.2975

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