Why Would Chinese Firms List Overseas?[#]

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Abstract

We investigate why the Chinese government chooses to share-issue privatize (SIP) its state-owned enterprises (SOEs) in Hong Kong instead of in Mainland China despite the benefit of facilitating domestic stock market development if SIP in China (Subrahmanyam and Titman, 1999) and the higher cost to list in Hong Kong. We address the puzzle by arguing that the positive effect of SIPs on the development of the domestic market may have a limit, especially when the domestic market is not well developed and cannot absorb rapid and large-scale SIP activities. To maintain the domestic *market order*, it may be optimal to carry out a SIP in overseas markets. Furthermore, by listing shares in more developed overseas markets, SOEs from the less developed domestic market effectively *bond* with the overseas markets and leverage on their better accounting, governance, and legal standards. By examining a sample of 53 Chinese firms listed in Hong Kong and a control sample of 663 purely domestically-listed Chinese firms during the period 1993-2002, we find supporting evidence for both arguments.

Keywords: Privatization; foreign listing; bonding hypothesis; corporate governance; China SOE

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1. Introduction

We try to understand why a government chooses to share-issue privatize (SIP) its state-owned enterprises (SOEs) in an overseas market instead of the domestic market, by examining a group of Chinese SOEs with SIPs in Hong Kong.[1] Such an investigation is interesting and important as the phenomenon seems to be inconsistent with existing lines of literature. First, in the cross-listing literature, a popular explanation on the motive behind firms listing abroad is the lowering of the cost of capital by breaking down the barriers of investment (Stapleton and Subrahmanyam, 1977; Errunza and Losq, 1985; Alexander, Eun and Jankiramanan, 1987). Yet, a well-documented but puzzling fact is that the shares of the Chinese firms cross-listed in Hong Kong (the "H-shares") continuously trade at a price discount relative to their "A-share" counterparts in the Chinese domestic markets (Sun and Tong, 2000; Wang and Jiang, 2004). Apparently, when Chinese firms conduct their IPOs in Hong Kong, they are subject to lower listing p/e multiples and a *higher* cost of capital than in the domestic market. Yet, we continue to see IPOs in Hong Kong by Chinese SOEs.[2] A compelling question is: if it is cheaper to carry out SIPs in the domestic market, at least on the surface, why does the Chinese government continue to sell its SOEs in Hong Kong instead?

Second, in the privatization literature, Megginson et al. (2004) look at the choice of selling SOEs through a public SIP and a private asset sale. They find that SIPs tend to occur in countries with less developed capital markets, probably due to the need and desire of governments to use SIPs to develop the national market's liquidity and absorptive capacity. This echoes the argument of Subrahmanyam and Titman (1999) that SIPs facilitate stock-market development. This is consistent with the fact that firms listing their shares abroad typically list their shares first in their home markets through an IPO, *before* cross-listing their shares abroad. This is even more the case for privatized firms. Although privatized firms tend to list overseas (Pagano et al., 2002), Bortolotti et al. (2002) find that out of a sample of 392 public offerings in OECD and non-OECD countries only 11 privatized firms had their *primary* listing abroad. Amazingly, *all* Chinese SOEs listing in Hong Kong as H-shares during our sample period had their initial offerings in Hong Kong and only some of them subsequently cross-listed back in the Chinese home market as A-shares. Another compelling question is: if carrying out SIPs in the domestic market can help the market to develop, why does the Chinese government continue to sell its SOEs in Hong Kong instead?

Third, in the bonding literature (Coffee (1999, 2002) and Stulz (1999)), it argues that good firms from a country with poor legal, accounting, and governance standards can distinguish themselves from other firms in the home country by cross-listing their shares in a foreign market with

[1] Although Hong Kong was handed over to China in 1997, under the "one-country-two-systems" policy, the Hong Kong stock market is a "foreign" market to Chinese companies for all practical purposes.

[2] In fact, the large-scale overseas listings of Chinese SOEs came in the last two years when the Chinese government privatized its state banks. As the first one, the Bank of Communication listed in June 2005 and raised capital of US$2 billion (Hong Kong tranche being US$375 million). However, the IPOs for these banks are, for the first time, simultaneously issued on both the Hong Kong and Shanghai stock markets.

higher standards. Such a cross-listing effectively bonds these firms to the higher standards and hence helps to improve their credibility and prestige among investors. Yet, as Doidge et al. (2006, 2007) point out, a firm with controlling shareholders are less likely to list on a higher-quality exchange because the better governance environment will reduce the private benefits of control of the controlling shareholders. Given the fact that the controlling shareholder of all privatized Chinese SOEs is typically the state government, it looks counterintuitive that it is beneficial for the Chinese government to list SOEs abroad, let alone continuous foreign listings.

Along this line, the bonding literature also argues that firms listing on lower-quality exchanges do not raise as much capital in follow-on offerings as on higher-quality foreign exchanges. For example, Reese and Weisbach (2002) find that firms listing on high-quality exchanges are more likely to undertake subsequent equity offerings. They attribute this ex post financing pattern to the markets assigning greater credibility to firms that are subject to the more stringent standards of high-quality exchanges. As such, Chinese SOEs listing in Hong Kong should be more likely to subsequently issue additional securities in Hong Kong rather than back in China. However, the fact is that these H-share firms rarely have seasoned equity offerings in Hong Kong. They typically do rights issues back in China.

To reconcile these apparent inconsistencies, we propose two hypotheses and test them empirically. First, we suggest a "market order" hypothesis. Although there are positive impacts of domestic SIPs on market development, such benefits are likely to have a limit. If the SIP progresses more rapidly than the development of the domestic market and if the SIP scale is larger than the domestic market can absorb, SIPs may hinder rather than facilitate market development. SIPs in overseas markets can be an alternative choice for governments. For instance, in the cross-country study of Bortolotti et al. (2002) on why governments sell privatized companies abroad, they find that low liquidity of emerging markets induces governments to cross-list in order to "import" liquidity. Furthermore, the transition of the Chinese economy from central planning to market mechanisms has caused most SOEs to fall heavily into debt and to be short of equity capital. Many had an urgent need to list and raise equity capital in the stock market. Yet, the Chinese stock market was still in an early stage of development, and speculative bubbles abounded (Mei et al., 2005). To maintain market order and to prevent the market from crashing, the Chinese government imposed a quota system to regulate the listing of firms in the market.[3] Since the demand to get listed was much larger than the quota that was given, many firms had to wait in the queue for years. As a shortcut, firms may have chosen to list overseas even at a large price discount.

Second, we suggest a "governance" hypothesis. Although the state government is the dominant shareholder of most if not all SOEs, the de facto control rights actually belong to the bureaucrats, as pointed out by Shleifer and Vishny (1997). These bureaucrats are indeed likely to have

[3] See Section 2 for details.

less control benefits when their firms cross-list in Hong Kong. But the foreign-listing policy was designed and imposed by the central government whose objective function is to revitalize the SOEs. The Chinese government was keen on reforming its SOEs, which, understandably, were highly inefficient in early years. The SOE reform process started in 1979 and was far from smooth in traonsforming the SOEs into efficient producers.[4] We argue that the Chinese government has the incentive to make use of the bonding mechanism to advance their goal in SOE reform of establishing a modern corporate system in China. In fact, the chief of the State Asset Commission, Li Rongrong, has repeatedly stated that it is China's strategy to continuously list its large SOEs overseas because this will help to establish modern corporations in China.

By examining a sample of 53 Chinese firms listed in Hong Kong and a control sample of 663 purely domestically listed Chinese firms during the period 1993-2002, we find supporting evidence for both arguments. Consistent with the "market order" argument, we find that the Chinese domestic market as a whole responds negatively to those domestic IPO issues and H-share firms are large in terms of total assets, sales, and issuing proceeds. Listing these firms overseas can help divert supply and prevent a possible crash of prices in the domestic market. Indeed, we observe that large IPO activities in the A-share market exert downward pricing pressures to the market. We also find that H-share firms had higher pre-listing leverage but a lower pre-listing liquidity ratio than their domestic counterparts. H-share firms had a more urgent need for equity capital before their listing and thus would be willing to list overseas despite issuing at a large discount.

Consistent with the "governance" argument, we find that the corporate governance of overseas-listed firms is closer to international norms compared to A-share companies, and that H-share firms engage less in earnings management than purely domestically listed firms. We also find that H-share companies improve leverage and efficiency after listing. Furthermore, we find that many H-share firms are from strategically important industries according to the classification of government industrial policy.

Through reconciling the apparent inconsistencies of the foreign-listing phenomenon of Chinese firms with the existing finance theories, we make important contributions to the overseas-listing literature. First, we provide direct evidence that a lower cost of capital does not need to be an important motive for cross-listings. Doidge, Karolyi, and Stulz (2002) and Karolyi (2004) argued that if a lower cost of capital is the main reason, we should observe more cross-listings for firms with a higher cost of capital. Similarly, less-integrated markets should have more cross-listed firms and, along this line, cross-listings should become less popular as time passes and markets become more integrated. Since all of these developments have not been observed, the cost of capital is not a major consideration for cross-listing. However, these inconsistent facts are only indirect evidence. Ours is a direct one. Furthermore, by the fact that H-share firms rarely did SEOs in Hong

[4] See Sun and Tong (2003) for a brief history of the Chinese SOE reform process.

Kong but some of them raised more equity capital subsequently by issuing A-shares in the Chinese domestic market, as mentioned before, our study enriches our understanding about the possible bonding motive of foreign listings.

Second, although studies on cross-listings are voluminous, there are extremely few studies on foreign *primary* listings. The study by Blass and Yafeh (2001) on Isreali IPOs in the U.S. seems to be the only work specifically in this area. However, the sample in their study is a very special one and the phenomenon is likely to be a temporary one. According to Yehezkel (2005), Israeli companies went public in the U.S. mostly in the 1990's and most of them were young and from the high-tech industry. After the burst of the hi-tech bubble in 2000 and the enactment of the Sarbanes-Oxley Act in 2002, the phenomenon died down quickly. The phenomenon we study here, as said, is a persistent one if not even an expanding one. Our study hence fills the void in a more significant way.

Third, by suggesting that privatization via an overseas listing is a strategic move of the Chinese government to establish a modern corporate system and a way of maintaining order in the relatively immature domestic stock market, our study enriches the literature on privatization, especially on foreign SIPs, studies of which are very limited. It also has implications for governments of developing countries that are concerned about the development of their domestic market and the success of their privatization efforts. Most of the studies on cross-listings have focused on firms cross-listed in the U.S. or in Europe. We offer an "out of sample study" on mainland Chinese firms listed in Hong Kong.

In addition, our study has practical relevance. As said, listings of Chinese SOEs in Hong Kong become ever hotter than before and the size becomes immensely large. The IPO of the Industrial and Commercial Banking Corporation in October 2006 was record-breaking. The debut valued at about US$139 billion, ranking it fifth among global banks. It is the world's largest IPO so far, raising an amount up to US$21.9 billion. The second largest IPO belongs to another Chinese state bank, the Bank of China, debuted in May 2006. In fact, Hong Kong raised a total amount of US$42.4 billion in 2006, which makes it comparable for the first time to the top capital-raising markets such as London (US$48.3 billion) and the US (US$45.8 billion combining NYSE and NASDAQ).[5] Notice that among the biggest IPOs in the past two years, four are H-shares. Hong Kong also becomes the seventh largest stock market in the world in market capitalization of US$1.55 trillion. The significance of these IPO events can be well perceived in the WSJ article by New York Mayor Mr. Blumberg and New York Senator Mr. Schumer on November 1, 2006 in which they raised the concern that the NYSE may lose its leading position in the global financial market.

In the following section, we provide some background information regarding China's overseas listings. We develop and test, respectively, the market order and the bonding hypotheses of foreign listing of Chinese firms in Sections 3 and 4. Section 5 concludes the paper.

[5] "New York: No Longer the IPO King," BusinessWeek.com, December 27, 2006.

2. Background Information[6]

2.1 The development of the H-share market

Mainland Chinese firms can list shares in overseas markets such as Hong Kong (H-shares), New York (N-shares), Singapore (S-shares), London, Australia, Canada, and so forth. However, H-share firms dominate both in terms of number and issuing size. In fact, most N-shares are traded in the form of ADRs with the underlying shares listed in Hong Kong.[7]

Overseas listings were not originally planned for by the government. Inspired by China's growth potential after Deng Xiaoping's grand tour of south China in early 1992, international investors wanted to hold Chinese equity. Investment banks foraged around China for restructured SOEs that wanted to raise capital overseas. In response, the State Council quickly issued its first regulation on overseas listing: "A Special Regulation on Raising Capital and Listing Overseas by a Joint-Stock Company" on April 19, 1993, only three months before the first H-share listing of Tsingtao Brewery. Initially, the Chinese government wanted to make New York an overseas listing hub for its SOEs, but Hong Kong ended up being the hub (Euroweek, 1994). The policy on overseas listings was also not well coordinated with the policy of developing the "B-share" market, which was only opened in early 1992 to foreign investors. B-shares have traded at a discount all along relative to the corresponding "A-shares," which are strictly for Chinese local investors. The discount on B-shares quickly increased after the issuing of H-shares, because H-shares provide a better alternative for foreign investors (Sun and Tong, 2000). Yet the H-share prices themselves also trade at substantial discounts relative to their A-share counterparts although the discount has tended to narrow in recent years. The average H-share discount was about 75% at the end of 2000.[8] As such, the IPO P/E ratios for H-share firms have been significantly lower than that of A-share IPOs right from the beginning. As of the end of 2002, 54 H-share firms were listed on the main board of the Hong Kong Exchange.[9]

2.2 The IPO Quota System

China's IPO quota system was first adopted in 1993 to maintain market order, to prevent cash-starved, poor-quality SOEs from flooding the market with shares. The State Planning Commission determined the quantity of equity to be issued each year and the Chinese Securities Regulatory Commission (CSRC) would then divide this quota up among the provinces and ministries.

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[6] Some of the information in Sections 2.1 and 2.2 is from Chapter 3 of Green (2002).

[7] For details of the distribution of China's overseas-listed firms see Table 3.3 under "Statistical Information" in the CSRC's website: http://www.csrc.com.cn/.

[8] Even at their recent peak in early 2004, most H-shares still traded at a discount relative to their A-shares.

[9] By the end of 2002, another 18 Chinese firms had listed on the Hong Kong Growth Enterprise Market (GEM), which was established in November 1999 to cater to small and hi-tech companies. However, the Chinese firms that have listed in GEM are mostly private companies, which are not the focus of our study. Up until June 2004 when the Small and Medium Enterprise Sector was opened in the SZSE, small private firms in China had no access to the domestic market.

A company seeking to list would have to be selected by a provincial government or ministry with a quota before asking the CSRC for approval. Local authorities often cut down the issuing proceeds for each firm, in order to let more firms list within the quota limit. In 1996, the quota was changed from restricting the quantity of equity to be issued to restricting the number of firms to be listed.

However, such a quota system prevented many large firms from getting listed, and the CSRC quickly found that overseas listings could be a partial solution. Eventually firms with a net worth of above RMB400 million, whose previous year's net profit was greater than RMB60 million, and with issuing proceeds of more than US$50 (about RMB400) million were allowed to apply for an overseas listing.[10] By doing so, the Chinese government effectively diverted some big issues to bigger overseas markets, although the CSRC never admits that it uses overseas markets to relieve domestic issuing pressure. In any case, as the Chinese domestic market became more mature, the CSRC became more confident about the depth of its own domestic markets and decided to phase out the quota system.

In March 2000, the CSRC replaced the IPO quota system with new rules, which reduced the CSRC's power to approve IPOs and increased the responsibility of lead underwriters. First, quota allocations for listing were abolished. Second, CSRC approval for IPOs was replaced by the requirement of a confirmation by the CSRC. Third, a review committee was established by the CSRC, consisting of both its own professionals and external specialists. Fourth, issuers and underwriters could now negotiate IPO prices on their own, although these would be subject to the approval of the CSRC.

However, even under this new and better system, firms intending to go public still need to get a recommendation from one of the 29 major securities firms. A securities firm can, at most, recommend four firms for IPOs during a particular year. After a firm is recommended, it has to go through a lengthy restructuring process for no less than a year before it can launch an IPO. The Chinese government, in fact, still controls the number of IPOs in the domestic market. According to the *Economic Daily* (June 20, 2002), more than a thousand companies that have completed their restructuring are waiting for a listing. Hence, firms with an urgent need for equity capital still had the incentive to list abroad to shorten the waiting time. At the end of our sample in 2002, some additional reforms in the IPO issuing process were introduced by the CSRC, which further reduced the limitation on IPOs. However, even now some firms still line in queue waiting for their IPO.

2.3 Establish a modern corporate system via overseas listings

As more and more Chinese firms listed overseas, the Chinese government started to emphasize the strategic role played by overseas listings in establishing "a modern corporate system." In fact, the Chinese government has stated all along that one purpose of listing firms overseas is to bring the management and performance of Chinese firms up to international norms. In September and

[10] These requirements do not apply to firms listed on the Hong Kong GEM board.

November 1998, the CSRC and the Ministry of Personnel jointly organized training programs for board chairmen and CEOs of overseas-listed companies as well as for the board secretaries of these companies. All of the participants had to take examinations on the laws and regulations set by the CSRC and the securities regulatory authorities of Hong Kong. "The Notice of the CRSC on further strengthening the information disclosure work of Overseas-Listed Companies" and "The guidelines on professional secretaries of the board of directors in Overseas-Listed Companies" were issued by the CSRC in March and April 1999, respectively, to further enhance corporate governance in overseas-listed companies.

By listing overseas, H-share firms are forced to undergo a thorough restructuring, to be audited according to international standards, and to be disciplined and monitored by a more demanding investment community. All of these, the Chinese government hopes, can accelerate the reform of SOEs and improve their corporate governance.

2.4 Comparative statistics for firms listed in China and Hong Kong

To put our study in perspective, we present comparative market statistics for firms listed in China and Hong Kong in Table 1.

(Insert Table 1 Here)

Several observations are clear. First, as shown in Panel A, the mainland Chinese stock market has been growing much faster than the Hong Kong market. The number of listed firms in China's A-share market increased by more than 500% from 169 in 1993 to 1,199 in 2002, while for the same period listed firms on the main board of the Hong Kong Exchange increased by less than 100% from 477 to 817. Of these 817 firms, 54 are H-share firms and 27 of them are also cross-listed on either the Shanghai Stock Exchange (SHSE) or Shenzhen Stock Exchange (SZSE). The number of firms listed on China's B-share market also increased from 40 in 1993 to 111 at the end of 2002. Eighty-seven out of 111 B-shares had dual-listings on the A-share market. There were 1,085 pure A-share firms, i.e., A-share firms without dual-listings on either the B- or H-share market at the end of 2002.

Second, IPO proceeds raised from the H-share market are not only much larger than that raised from the B-share market but also large relative to that raised from the A-share market, especially when taking into consideration the number of H-share firms relative to that of A-share firms (see Panel B). In 1994 and 1995, H-share IPO proceeds were even larger than A-share IPO proceeds. In 2000, H-share IPO proceeds as a percentage of A-share IPO proceeds reached their lowest point, at 6.95%. Yet only three H-share firms went public in that year while the number of A-share IPOs in the same year was 137. Obviously, a very significant portion of the amounts issued for the IPOs was diverted to the Hong Kong Stock market during our sample period.

Third, in Panel B, we can see that the market P/E ratio in Hong Kong was much lower than that in the A-share market throughout our sample period. However, it was higher than the P/E ratio in the B-share market until 2000. The higher P/E ratio for B-shares after 2000 was most likely due to the partial liberalization of the B-share market in early 2001 when the B-share market opened to Chinese local investors having US Dollar or Hong Kong Dollar bank accounts.

Finally, the results in Panel C show that the market capitalization of Hong Kong stocks is much larger than the combination of both A- and B-share markets. Yet, the market trading value in Hong Kong has been generally lower than that in the A-share market since 1996. Consequently, the market turnover rate in Hong Kong is much lower than either the A- or B-share market.

3. H-share Listing as a Means to Relieve Domestic Issuing Pressure

Subrahmanyam and Titman (1999) argue that SIPs facilitate the development of stock markets. Megginson et al. (2004) find evidence to support the view that SIPs tend to occur in countries with less developed capital markets. However, if the domestic market is relatively undeveloped, which is the case in China as both the SHSE and SZSE were established only in the early 90s, it may not be able to absorb large and continuous IPO pressure. Specifically, when the market depth of SHSE and SZSE is relatively low, large IPO issues are likely to depress the price and trading value of domestic stocks. A vivid example of this is that when the CSRC planned to sell state shares and make them tradable,[11] it met with fierce resistance from various interest groups and caused panic and a strong negative reaction from the market. It had to be cancelled after two failed attempts in 1999 and 2001, respectively.[12] In view of this, we propose the "market order hypothesis" as the motive behind foreign listings: Diverting large IPOs to overseas markets releases the issuing pressure in the domestic market. We suggest several testable implications below.

3.1 Testable Implications

First, the size of a firm should be positively related to the overseas listing decision because a large firm usually issues more shares and thus exerts more downward pricing pressure on the

[11] The ownership structure of a Chinese firm is mixed, with the state, legal persons (including private organizations, SOEs, etc.), and the domestic and foreign public (including both individual and institutional investors) as the three predominant groups of shareholders. Both state and legal-person shares are not tradable and account for approximately two-thirds of total company shares. Tradable public shares only account for one-third.

[12] A recent effort called "share-right separation reform" has been launched that aims to convert all non-tradable state and legal-person shares into tradable shares. Under this reform plan the government, as the major shareholder, gives out shares to the (tradable) A-share shareholders as a means of compensation. Such compensation is based on the anticipation that once the non-tradable shares become tradable, the stock market will plummet. Hence, maintaining market order is a key concern of the government.

domestic market.[13] Using the natural log of inflation-adjusted prelisting total assets (TA) as a proxy for firm size, we expect that TA would contribute positively to the H-share listing decision.

Second, the IPO issuing amount should also be positively related to the overseas listing decision. It is a more direct test of the hypothesis of relieving the issuing pressure from the domestic market through listing abroad. We construct two proxies. "MP1" is the ratio of a firm's IPO issuing proceeds over the average A-share market capitalization in that year. "MP2" is the ratio of IPO issuing proceeds over the total A-share issuing amount for that year. If we consider that the total A-share issuing amount during a particular year is roughly equal to the issuing quota for the year, then MP2 is a measure of the H-share issuing amount relative to the yearly quota. All H-share and A-share IPO firms are included in computing MP1 and MP2. H-share IPO proceeds are converted into RMB in the computation. MP1 and MP2 are our major experimental variables to test the market order hypothesis. We expect both of them to be positively related to the overseas listing decision because the larger the MP1 or MP2, the larger the negative price impact on the domestic market if these H-share firms were allowed to list there.

Lastly, domestic listings face the cost of a long IPO waiting queue but foreign listings face a different cost of a low issuing PE multiple, as discussed before. Hence, firms with more urgent needs for equity capital would have more incentive to jump over the long queue and list overseas. We do not have any direct measure of the degree of hunger for equity capital across firms. However, we expect that firms with lower pre-listing liquidity but higher pre-listing leverage and growth rate should be hungrier for equity capital. Using the debt-equity ratio as the proxy for firm leverage (LEV), the quick ratio as the proxy for firm liquidity (LIQ), and the percentage change of inflation-adjusted sales as a proxy for firm growth rate (Gsales), we expect that H-share listing decision should be positively related to LEV and Gsales, but negatively related to LIQ.

3.2 Data and Methodology

Our sample consists of 53 mainboard-listed H-share firms and 663 pure A-share firms with their IPOs during the period 1993-2002 either on SHSE or SZSE. Although 54 H-share firms went public during our sample period, we can only find the necessary data for 53.[14] 1199 A-share firms were listed on the SHSE and SZSE at the end of 2002 (see Table 1). We exclude 114 firms cross-listed on either the B- or H-share market to avoid possible bias because the issuing size of these

[13] Notice that this is also consistent with other explanations such as economies of scale and availability of information (Pagano et al. (2002) and Saudagaran (1998)). In fact, Pagano et al. showed that firm size is one of only two common factors that can explain a firm's decision to cross-list in both the U.S. and European markets. However, we believe that these explanations are only secondary to our case here. As mentioned earlier, H-shares are issued at a lower PE ratio than domestic listed firms and are persistently traded at a heavy discount relative to the domestic market price. There must be compelling reasons for Chinese SOEs to take a more costly route to raise capital.

[14] The data for Zhejiang Glass was not available.

cross-listed firms in the A-share market is usually small and many of them are not really IPOs.[15] Since the first H-share was issued in 1993, we further exclude 53 pure A-share firms which went public before 1993 because the option to list in Hong Kong or overseas was not available. In addition, we exclude 8 financial firms because their capital structure is not comparable to other firms. Finally, we exclude 362 firms with missing data, mostly the firms with less than two years of pre-listing leverage data. The remaining 663 pure A-share firms are used as a control group. So our basic dataset consists of a total of 716 observations. Accounting and market data are mainly obtained from the China Stock Market and Accounting Research (CSMAR) Database and the Taiwan Economic Journal (TEJ) database. Some missing items are supplemented by Datastream and Bloomberg.

Following Bortolotti et al. (2002), we employ a generalized Type II Tobit model which allows a simultaneous analysis of two aspects: the decision to list abroad and the size of the H-share issuing.[16] The model consists of a decision or selection equation and an OLS regression equation:

Decision (selection) equation:

$$\text{Prob}(Y_i > 0) = a_0 + a_1 TA_i + a_2 ROA_i + a_3 LEV_i + a_4 LIQ_i + a_5 GSales_i + a_6 MP1(\text{or } MP2_i) + \Sigma\, b_j IND_j + a_7 RELPE_i \ (\text{or } \Sigma\, c_t YR_t) + u_i, \quad Zi = 1 \text{ if } Yi > 0 \qquad (1)$$

OLS regression equation:

$$E[Y_i \mid Z_i = 1] = a_0 + a_1 TA_i + a_2 ROA_i + a_3 LEV_i + a_4 LIQ_i + a_5 PE_i + a_6 Gsales_i + a_8 \lambda_i + \Sigma\, b_j IND_j + a_7 RELPE_i \ (\text{or } \Sigma\, c_t YR_t) + \varepsilon_i, \qquad (2)$$

The selection equation is a Probit model. Y_i is the natural logarithm of inflation-adjusted proceed of Firm i's H-share IPO in millions of RMB. Z_i is a binary variable that takes the value of 1 if a firm issues H-shares and zero if a firm does not. The OLS equation is a censored regression model. The error terms, u_i, ε_i are assumed to be jointly normally distributed with zero means and correlation ρ. Heckman's two-step estimation procedure has λ_i, the inverse Mills ratio, generated in the Probit model in the first pass and then added into the OLS regression as the second pass to avoid bias estimation due to the omitted variable of the censored data. The coefficient of λ_i, i.e. a_8, equals to the product of ρ and σ_ε, the standard deviation of the residuals of the OLS regression (Greene, 2000, pp.902-903). Both parameters can be estimated and will be reported in our regression output. This Tobit setting has an advantage of allowing the same independent variable to have a different impact in the selection and OLS regression equations, i.e., the coefficient of the same independent variable in the selection and OLS equations may carry different signs.

[15] All cross-listed H-share firms had their IPOs in the SEHK during our sample period, and more than half of cross-listed B-share firms had their IPOs in the B-share market.

[16] Amemiya (1985) characterizes five types of Tobit models and Type II refers to the one with two dependent variables, one being censored and the other being binary.

We have discussed TA, LEV, LIQ, GSales, MP1 and MP2. Return-on-Asset (ROA) is a proxy for profitability used as a control variable. Fuerst (1998) argues that highly profitable firms are more credibly communicated in the stricter regulatory regime.[17] TA, LEV, LIQ, GSales, and ROA are computed using the relevant three-year prelisting data. "IND_j" is the dummy variable for industry j to see if some key industries supported by the government are more likely to list overseas. Bortolotti et al. (2002) find that telecommunications companies tend to seek foreign listings whereas energy companies are seldom floated abroad. While in our case, the Chinese government has an industry policy to support energy, basic materials, transportation, and more recently technology firms to raise funds abroad. Finally, $RELPE_i$ is the yearly average PE ratio in the Hong Kong market over that in the A-share market to control for possible time specific effects due to windows of opportunities, business cycles, etc. (Ritter, 1991). "YR_t" is the IPO year dummy, an alternative way to control for time specific effects. We expect that TA, ROA, LEV, Gsales and MP1 (MP2) would have positive impacts on the probability of overseas listing decision, while LIQ a negative impact on the probability of overseas listing decision. We also expect to see that firms in the energy, basic materials, transportation, and technology industries are more likely to list in Hong Kong or to raise more IPO proceeds in Hong Kong.

Although whether to list and how much to sell are two separate decisions, they are likely to be driven by a similar set of factors. Ex-ante, there is no need to distinguish these two logical steps. Therefore, we use a similar set of independent variables in the OLS regression equation. However, identification requires that at least one variable in the selection equation is not also in the OLS equation. Since the dependent variable in OLS equation is not a binary variable but the log of inflation-adjusted H-share IPO proceeds of Firm i, it is not appropriate to further use MP1 (MP2) which is the ratio of issuing proceeds over the market capitalization (or the issuing proceeds over the total A-share issuing proceeds in the relevant year) as an independent variable. On the other hand, it is natural to infer that the issuing amount is positively related to the issuing P/E ratio. We hence use the PE ratio to replace MP1/MP2 as an explanatory variable in the OLS regression equation.

3.3 Empirical Results

Panel A of Table 2 provides summary statistics and univariate test results of all the independent variables in our Tobit model.

(Insert Table 2 Here)

Largely consistent with our expectation, the mean and median total assets, MP1, MP2, and LEV of 53 H-share firms are much larger than those of 663 pure A-share firms, and the Wilcoxon test

[17] The percentage profitability requirement for overseas listing is the same as that for domestic listing, i.e., ROE equals 10%. So the profitability requirement, per se, does not guarantee that H-share firms are more profitable upon listing than their domestic counterparts.

for the median difference is significant at the 1 percent level for all these variables. On the other hand, the mean and median LIQ and PE ratios of the H-share firms are significantly smaller than those of the pure A-share firms. H-share firms have higher mean and median GSALES than pure A-share firms although the median difference is not statistically significant. H-share firms have higher mean but lower median ROA than pure A-share firms and the median difference is not statistically significant.

Panel B of Table 2 presents the correlation matrix of these independent variables. The correlation coefficients among the regressors are mostly low. The highest correlation is 0.65 which is between MP1 and MP2. However, these two variables are used in separate regressions. The correlation between MP2 and TA is about 0.51, which is a bit high but still tolerable. On the whole, the multicollinearity should not be a serious problem in our regressions.

Panel C of Table 2 further presents the distributions of our sample firms over different ranges of prelisting total equity, prelisting net income, and issuing proceeds, respectively. Although after 1996 the CSRC has set the quantitative criteria that only firms with net worth above RMB 400 million, previous year's net profit greater than RMB 60 million, and issuing proceeds more than US$50 (about RMB400) million are allowed to apply for an overseas listing, a few H-share firms did not meet these criteria. 13 out of 53 H-share firms had a net worth below RMB400 million upon their IPO; 8 out of 53 had the net income less than RMB60 million; and 6 out of 53 had issued less than US$50 (about RMB400) million in their IPOs. These exceptions mostly occurred before 1996 when the quantitative criteria were enforced. The later occurrences are probably due to some government industry policies. On the other hand, quite a few pure A-share firms also met the CSRC quantitative criteria for overseas listings. As shown in Panel C, 91 pure A-share firms had their net worth more than RMB400 million upon their IPOs, 136 had their prelisting net income over RMB60 million, and 156 had issuing proceeds more than RMB400 million. The distribution presented in Panel C indicates that size effect in our Tobit model would not be solely determined by the CSRC quantitative criteria. In fact, we see from Panel C that more than half of the H-share firms had their net worth, net income and issuing proceeds much larger than those specified by the CSRC.

Table 3 presents the general Tobit regression results. Panel A shows the results for the full sample.[18] Model 1 and Model 2 use MP1 and MP2 as the proxy of issuing pressure on the A-share market, respectively. Both Models 1 and 2 use RELPE to control for time specific effect. Models 3 and 4 are similar to Models 1 and 2 except the time specific effect is controlled by year dummies.

(Insert Table 3 Here)

[18] As said, there were listing requirements on net profits and issuing proceeds on overseas listing. One might wonder why our test here in Panel A includes the full sample that has firms not meeting the requirements. The reason is that these requirements were enacted only after 1996 and with exceptions and our sample covers a long period from 1993 to 2002. In any case, we will test on the restricted sample in Panel B that includes only firms meeting the overseas listing requirements.

The "Listing Decisions" (selection equation) in Model 1 of Panel A shows that the market pressure proxy MP1 has a coefficient of 0.274 with a highly significant t-value of 5.48. To gain a perspective, our average firm for the whole sample, i.e. both A- and H-share firms, has only 1.5 percent chance to list in Hong Kong. Yet, one standard deviation increase in the market pressure to be caused by IPO, as captured in MP1, increases the probability of listing in Hong Kong to 16 percent. Other than the issuing amount, the firm size also affects positively on the listing probability. Specifically, the coefficient of the firm size proxy, TA, is 0.521 with a t-value of 4.52. This translates to an increase in probability of foreign listing to 6 percent for a standard deviation increase in firm size. Both results are consistent with our hypothesis that the CSRC uses H-share listings as a means to divert large IPO issues overseas and thus, to relieve domestic issuing pressure. The coefficient of LEV is 0.138, which is only significant at the 10 percent level. This means that the higher the prelisting debt-equity (quick) ratio, the more likely a firm would be to list overseas. These firms seem to have an urgent need for equity capital. The coefficient of Gsales (LIQ), although positive (negative) as expected, is not statistically significant. The control variable ROA has a coefficient of 4.125 with a highly significant t-value of 3.77, which is consistent with the general perception that better-performed firms are more likely to list overseas.

The "H-share Proceeds" (OLS equation) in Model 1 indicates that firms of a larger size (TA), higher liquidity (LIQ), and better performance (ROA) tend to raise more IPO proceeds. Yet LEV and Gsales do not enter significantly into the regression, suggesting that the level of the prelisting leverage and the growth rate do not determine the amount of the IPO proceeds, although LEV does contribute positively to the listing decision. Also note that LIQ has the opposite impact on the listing decision and the amount of the H-share issuing proceeds. As expected, the listing P/E value positively affects the amount of the proceeds. The "PE" coefficient is 0.023 with a t-value of 2.53, which is statistically significant at the 1% level.

Of the four industry dummies, the materials industry is not significant in the selection equation but is significant at the 10% level in the issuing proceeds regression. This indicates that firms in the materials industry may not be more likely to list overseas, but once the decision to list overseas is made, they would issue more proceeds. The transportation dummy is positive and significant at the 5% level in both the selection and issuing proceeds equations. This indicates that firms in the transportation industries are more likely to list overseas and tend to raise more capital in the issuing relative to other H-share companies. The technology dummy is significant in the selection equation but not in the issuing proceed regression, indicating that firms in that industry are more likely to list overseas but may not raise more proceeds compared to other H-share firms. All of these are somewhat consistent with the Chinese government's industry policy mentioned earlier. However, the dummy of the energy industry does not enter significantly in either equation, suggesting that firms in this industry are not specially favored by the Chinese government for overseas listings, as is widely

believed. The relative market condition variable, RELPE, is positive but insignificant in both the selection equation and issuing proceeds regression.

When market pressure is proxied by "MP2" in Model 2, the results are stronger. "MP2" has a coefficient of 11.05 with a t-value of 2.81 in the selection regression. Under this model, our average firm has 1.86 percent chance to be listed in Hong Kong but with one standard deviation increase in MP2, the probability of listing in Hong Kong increases dramatically to 40 percent. The size variable, TA, remains important with a coefficient of 0.604 that has a highly significant t-value of 4.93. One standard deviation increase in TA increases the probability of listing in Hong Kong to 14 percent. Notice that RELPE is positively significant at the 5% level.

When year dummies are used in place of RELPE in Models 3 and 4, the results are qualitatively the same except that MP2 becomes marginally insignificant in Model 4 and Leverage does not enter significantly in any equation.[19] Overall, our Tobit regression results lend strong support to the hypothesis that overseas listings of Chinese firms are a product of government policy to maintain domestic market order. However, one may argue that including pure A-share firms that do not meet the quantitative criteria set by the CSRC in the selection equation could bias the estimation results. We therefore repeat the Tobit regressions by deleting the pure A-share firms with net worth and net income smaller than those required by the CSRC and present the results in Table 3B.

Several observations are obvious. First, while TA is negative but insignificant in the selection equation, it is still highly positive and significant in the issuing proceeds regression in all four models. The negative TA in the selection equation may be biased due to the fact that 13 H-share firms that do not meet the CSRC net worth requirement have still been included in the sample. The result indicates that size may not be a determinant for the listing decision but is still a determinant for the amount of proceeds raised. Second, the market pressure proxies MP1 and MP2 are all positive and highly significant. Specifically, MP1 in Model 1 has a coefficient of 0.391 with a highly significant t-value of 4.04. Again, to get a perspective, an average firm for this group of firms has 76 percent chance to list in Hong Kong, which is not surprising as they all meet the CSRC criteria. One standard deviation increase in the market pressure, as captured in MP1, makes the firm practically certain to be listed in Hong Kong. When market pressure is proxied by "MP2" in Model 2, the coefficient is 15.34 with t-value of 3.37. Under this model, our average firm has 46-percent chance to be listed in Hong Kong and with one standard deviation increase in MP2, the probability increases to 85 percent. Notice that MP2 is not significant for Model 4 in Panel A. This offers stronger support for the market order hypothesis: even among the large firms, H-share firms would create more downward pressure on the domestic market. The other results are largely similar to those presented in Panel A except that the technology firms do not enter the regressions significantly. Therefore, our basic results are not

[19] We have also tried to increase the number of observations in the Tobit model by excluding the variable, Leverage, since about 100 firms are omitted due to missing data on leverage only. We have repeated the regressions with around 800 observations and the results are very similar to those presented in Table 3 A.

affected by excluding the pure A-share firms that do not meet the quantitative requirement set by the CSRC for overseas listings.

To address the possible multicollinearity between TA and MP1 (MP2), we further make TA orthogonal to MP1 (MP2) and use the residual in place of TA in the selection equation and repeat all the Tobit regressions. The results (not reported to save space) are largely the same.

3.4 IPO impact on market prices and liquidity

In previous sections, we claimed that the market depth of the SHSE and SZSE is low, so that large IPO issues might depress the price and value of the stocks trading in these exchanges. In this section, we provide evidence by comparing the response of the secondary market to the issuing of IPOs in the stock exchanges of mainland China and Hong Kong.

We first identify all trading days with IPOs in both the SHSE and SZSE and compute the IPO proceeds for each of these days. If there are multiple IPOs on the same day, their proceeds are summed up. Next, we compute two measures of secondary market activity: VWRET, the market capitalization weighted market return on the IPO day; and TURNOVER, the IPO day market turnover defined as the total market trading value divided by total market capitalization. All IPO firms are excluded in the VWRET and TURNOVER calculations.[20] The following regression model is used to examine whether Chinese domestic IPO issuing has any impact on return and volume on the secondary market.

$$\text{VERET / Market Turnover} = \alpha_i + \beta_1 \text{ Ln(IPO Issuing Proceeds)} + \text{Control Variables} + \varepsilon_i \qquad (3)$$

The dependent variables in equation (3) are the two measures of secondary market activity mentioned above. The independent variable is the natural log of the inflation-adjusted IPO issuing proceeds on the same IPO day. If the depth of the Chinese stock market is really low, then even domestic IPOs, which have a much smaller average issuing size than H-shares, may have a negative impact on secondary market return and/or turnover.

Similarly, we identify all trading days with H-share IPOs in SEHK and compute the VWRET and TURNOVER for the Hong Kong market in the same way,[21] and repeat regression (3) to examine the response of the Hong Kong market to H-share IPOs. The regression results are presented in Table 4.

(Insert Table 4 Here)

As can be seen in Panel A, the amount of the IPO proceeds tends to exert a downward pressure on the return in the A-share market on the IPO date, although the t-value is too low to claim

[20] VWRET and TURNOVER are computed based on all firms already listed on both the SHSE and SZSE.
[21] If a Hong Kong local firm had an IPO on the same day as an H-share IPO, we sum together both proceeds.

statistical significance. However, the IPO proceeds are negatively correlated with the market turnover, which is the total market trading value scaled by the total market capitalization (excluding IPO volume). The coefficient is –0.0059, with a highly significant t-value of –7.09. This indicates that when A-share firms raise new capital in the domestic market, this has a negative impact on the trading of existing shares in the market. It is therefore conceivable that if the H-share firms were to float their shares in China instead of Hong Kong, some significant negative impact would be felt on the domestic market in terms of liquidity, as H-share firms typically raise much larger amounts with regard to IPO proceeds than A-share firms do. On the other hand, H-share IPOs have no significant impact on both the return and the turnover in the Hong Kong market, indicating that the Hong Kong market is much deeper than the Chinese A-share market. Adding lagged dependent variables into the regressions would not affect our conclusion, as shown in Panel B of Table 4. In fact, the proceeds of H-share IPOs now have a positive and significant impact on turnover in the Hong Kong market, suggesting that the issuing of H-shares helps to foster trading activity in Hong Kong.[22]

4. Do H-share Firms Have Better Corporate Governance?

Other than relieving the pressure on domestic issues, the Chinese government may also use overseas listings as a means to force SOEs to conform to "international standards." As discussed before, this is in line with the bonding argument in the cross-listing literature. Since the bonding argument builds upon the framework of accounting and disclosure practices, agency problems, and corporate governance, if the H-share listing is driven by the motive of reforming the SOEs, then H-share firms should exhibit a better governance structure and accounting practices than their domestic counterparts after the listing, and this is what we examine in this section. Since almost all Chinese firms undergo restructuring before they are listed in domestic or foreign markets and since, by definition, all H-share firms are those that have had their IPOs in Hong Kong, we have no data on their governance structure before listing. However, as the state is the single owner of the SOEs before listing, it seems reasonable to assume that all listed SOEs had poor corporate governance and accounting practices before they were restructured for listing. Therefore, we focus on comparing the post-listing governance and accounting practices of H-share firms and pure A share firms.

4.1 Proxies for Governance

For corporate governance, we construct and compare two sets of measures. The first set is on ownership concentration and the second is on board structure. For ownership concentration, we construct two variables, "PARENT" focusing on the absolute control and "SEC" looking at the relative power of the second largest shareholder versus the largest shareholder. "PARENT" is a

[22] We have also used equal-weighted market return in place of value-weighted market return and three-day window instead of one-day window in Equation (4). The results were qualitatively the same and are not reported to save space.

dummy variable, which takes the value of one if there exists a controlling shareholder who holds more than 50% of the outstanding shares of the firm and zero otherwise. Controlling shareholders have both the incentive and ability to expropriate minority shareholders (Clasessens et al., 2000; Bai et al., 2004; Jian and Wong, 2004; and Aharony et al., 2005). If listing overseas leads to better corporate governance, then we should observe fewer H-share firms with such controlling shareholders.[23]

Our proxy for the relative power of the second largest shareholder "SEC" is constructed as the ratio of the second largest shareholder's shareholding divided by the sum of the shareholdings of the top two largest shareholders. La Porta et al. (1999) argued that the second largest shareholder may serve as a monitor against expropriation by the controlling shareholder. On the other hand, it is also possible that second largest shareholder may collude with the controlling shareholder to expropriate the minority shareholders. However, Aharony et al. (2005) find that the presence of larger shareholders in addition to the controlling one enhances the quality of corporate governance in China. Therefore, we expect that the higher the SEC, the better the corporate governance because the second largest shareholder may be better able to check and balance the actions of the largest (usually the controlling) shareholder. The more shares the second largest shareholder holds, the greater the incentive and more power they have to monitor the firm's management (Shleifer and Vishny, 1986).

For board structure, we construct the following proxies: the duality of chairman and CEO ("DUAL"), the board size ("BDSIZE"), and the proportion of non-executive directors on the board ("PNEXE"). Jensen (1993) suggests that agency problems are higher when the CEO is also the chairman of the board and that a large-sized board is less effective in controlling governance. Using Tobin's Q as an approximation of market valuation, Yermack (1996) finds that firms are given a higher valuation when the positions of CEO and chairman are separated. Furthermore, there is an inverse association between board size and firm value, a relationship also found in Eisenberg et al.'s (1998) sample of small and mid-sized Finnish firms. However, a larger board size may yield benefits by creating a network with the external environment and securing a broader resource base (Pfeffer, 1973; Pearce and Zahra, 1992). This may be important for Chinese firms cross-listed in Hong Kong. Furthermore, Xu and Wang (1999) point out that Chinese firms have the characteristics of over-representation by the state on the board; in their sample, over 50% of board positions are filled by government officials and less than 1% by public individuals. Yet, the listing requirement of SEHK demands that Chinese firms listed in Hong Kong have Hong Kong investors sitting on the board, which tend to increase the size of the board. As for non-executive directors, the general view favors the appointment of more independent, outside directors to the board (Higgs Report, 2003).

[23] Our PARENT definition includes not only SOEs and legal persons but also private firms, government agencies, or asset management firms. Private controlling shareholders should have the incentive and capability to tunnel just like SOE and legal person controlling shareholders. Government agencies and asset management firms may have less incentive to tunnel, but their negative impact on a firm's performance is well documented (Fan, Wong, and Zhang, 2004; Sun and Liu, 2004).

The data used to construct the above five variables of corporate governance variables are mainly drawn from the China Corporate Governance Research Database, which provides data on shareholding and board structure for the period 1999-2003 for all listed firms in China. The relevant H-share data are obtained from their annual reports (available on the Hong Kong Exchange website). For firms listed before 1999, we compute the five-year (1999-2003) average as the proxy for each of the five variables of corporate governance. For firms listed in 1999, 2000, 2001, and 2002, we use a four-year, three-year, two-year, and one-year average, respectively.

We also look at earnings management as another set of measures on the quality of accounting and governance. Presumably, firms with better governance manage their earnings less. Klein (2002) finds a negative relation between board independence and abnormal accruals. Beekes, Pope, and Young (2002) examine the links between the boards of directors and accounting conservatism using a sample of U.K. firms. They find that firms with a higher proportion of outside board members are more likely to recognize bad news in earnings on a timely basis and display greater conservatism in reporting with regard to recognizing good news. Lobo and Zhou (2001) observe a negative relationship between corporate disclosure and earnings management. On the other hand, Leuz, Nanda, and Wysocki (2003) suggest the existence of an endogenous link between corporate governance and the quality of reported earnings. The idea is that earnings management is partly driven by benefits arising from private control. If such benefits are reduced, insiders have less of an incentive to manage earnings. They find supporting evidence for this claim when examining the differences in earnings management across 31 countries.

Following Leuz, Nanda, and Wysocki (2003), for each firm we construct four measures on earnings management (EM). All relevant financial statement data of listed pure A-share firms are obtained from CSMAR and annual reports of H-share firms. The longest time span used in estimating our EM measures is from 1993 to 2003 and the shortest from 2000-2003. Since we need at least three data points to compute the standard deviation of a particular variable, we exclude firms listed in 2001 and thereafter in our sample. There are totally 603 pure A-share firms (excluding finance firms) and 47 H-share firms with data available for us to compute measures of earnings management.

"EM1" is the ratio of the standard deviation of a firm's yearly operating earnings over the standard deviation of the firm's yearly cash flow from operations. EM1 can capture the degree of income smoothing. Income smoothing is one form of earnings management in which the company "smoothes" reported operating earnings by altering the accounting component of earnings, namely accruals, to reduce its variability. Therefore, the less volatile the operating earnings relative to cash flow are, the larger the earnings management will be.

Besides income smoothing, we also look at discretion in reported earnings. Specifically, we take the magnitude of accruals as a proxy for the extent to which a company exercises discretion in reporting earnings. We construct "EM2," which is the Spearman correlation between a firm's annual

changes in accounting accruals and annual changes in operating cash flows.[24] If a firm actively manages its earnings, the magnitude of its accruals tends to be large and the change in accruals tends to be more negatively correlated with changes in operating cash flows. "EM3" is the average of a firm's yearly absolute value of the accruals scaled by its average absolute value of the cash flow from operations. If firms do not manage earnings, the accrual amount and the cash flow from operations tend to move together and hence "EM3" will have a small value. Lastly, "EM4" is the standard deviation of the yearly non-operating profit scaled by the total equities in the corresponding year. When a firm actively manages its earnings, its non-operating profits tend to be quite volatile.

The correlation matrix for all corporate governance and earnings management proxies shows that the highest correlation coefficient is 0.5345 between PARENT and SEC, and the second highest is 0.45 between EM1 and EM2. The rest are mostly below 0.2.[25]

4.2 Data, Methodology, and Results

We use the following simple Logit model to test if good corporate governance and good accounting practices can help distinguish H-share firms from pure A-share firms:

$$\text{Prob}(H_i = 1) = a_0 + a_1 PARENT_i + a_2 SEC_i + a_3 PNEXE_i + a_4 DUAL_i + a_5 BDSIZE_i + a_6 EM1 + a_7 EM2 + a_8 EM3 + a_9 EM4 + \text{Control Variables} + \varepsilon_i \quad (4)$$

If the observation included in the regression is from an H-share firm, H takes the value of 1, and zero otherwise. All corporate governance (CG) and earnings management (EM) variables are defined above. If H-share firms have better corporate governance and less earnings management, we should expect that SEC_i, $PNEXE_i$, $BDSIZE_i$, EM1, and EM2 will enter the regression significantly positive while $PARENT_i$, $DUAL_i$, EM3, and EM4 will enter significantly negative. The control variables include average total assets (TA), debt-equity ratio (LEV) over the sample period, and industry dummies.

(Insert Table 5 Here)

Panel A of Table 5 reports the Logit regression results without control variables. Model 1 only includes four earnings management proxies. It shows that H-share firms are associated with less earnings management. EM1 to EM4 are associated with the right sign and EM1 to EM3 are significant at the 5 percent level or better. EM4 is marginally insignificant. Since the correlation between PARENT and SEC is high, we separate them into two regressions as in Models 2 and 3. While PARENT is positive and significant at the 10 percent level in Model 2, SEC is positive but

[24] The cash flow from operations is equal to operating income minus accruals, where accruals are calculated as: (Δtotal current assets-Δcash)-(Δtotal current liabilities-Δshort-term debt-Δtaxes payable)-depreciation expenses.
[25] The results are not reported here to save space.

insignificant in Model 3. This suggests that H-share firms are more likely to have a controlling shareholder than pure A-share firms, which is inconsistent with our expectation that the controlling shareholder is associated with bad corporate governance and thus should associate less with the H-share firms. That SEC is insignificant means that the checks and balance from the second largest shareholder in a listed company do not help to differentiate H-share firms from the rest. DUAL is negative and insignificant in both Models 2 and 3, indicating that H-share firms are not less associated with the duality of CEO and chairman than their pure A-share counterpart. However, both PNEXE and BDSIZE are positive and significant in Models 2 and 3, suggesting that H-share firms do have more non-executive directors on the board and that the size of the board is larger than that of pure A-share firms, both of which are consistent with the expectation of better corporate governance in H-share firms. Including both CG and EM variables in the regression produces similar results as those shown in Models 4 and 5. Now all four EM measures have the expected signs and all are statistically significant except EM2 in Model 5.

Panel B of Table 5 further presents the Logit regression results including CG and EM, as well as the control variables. Several observations are worth mentioning. First, PARENT is no longer significant after adding in control variables. This is probably due to the control for TA because the other control variable, LEV, is mostly insignificant. This suggests that large firms tend to have controlling shareholders. Once firm size is controlled for, H-share firms are no longer associated more with PARENT as is shown in Panel A of Table 5. Second, PNEXE enters the regression significantly at the 1 percent level with a positive sign in all models, while SEC, DUAL, and BDSIZE are not significant at all. Third, while EM1 and EM2 are still positive and significant, EM3 and EM4 are not significant although they are still negative. Finally, whether or not industry dummies are included does not affect the estimation results.

Overall, our Logit results do provide support for the hypothesis that, after listing, H-share firms manage earnings less than pure A-share firms. This is consistent with the view of Aharony, Lee, and Wong (2000) that H-share firms engage in less earnings management than domestically listed B-share firms. Our results also lend some support to the view that H-share firms have better corporate governance than their pure A-share counterparts, especially with regard to having more non-executive directors.

4.3 Performance Comparisons

We further compare the accounting performance measures between H-share and A-share companies. Cantale (1996) and Fuerst (1998) argued that the post-listing profitability of firms cross-listed on a more demanding exchange should be better than that of companies listed or cross-listed on other exchanges. However, the empirical evidence is mixed. Gompers, Ishii, and Metrick (2003) constructed a governance index based on 24 governance rules and found that firms

with stronger shareholder rights had higher firm value, higher profits, and higher sales growth, although Bebchuk, Cohen, and Ferrell (2004) found that only six of the 24 rules of governance matter.

Therefore, if listing on a foreign equity market could really add value to listed firms by improving their corporate governance and management, then overseas-listed firms would benefit more from the listing than would their domestic peers. We follow Pagano et al. (2002) and contrast several performance proxies of pure A-share firms against H-share firms year by year from three years before to three years after the foreign listing and run separate regressions for each year in the following fashion:

$$Proxy_{it} = a + b_1 H_{it}^{\tau} + \text{listing Year dummies} + \text{industry dummies} + \varepsilon_{it}, \tau = -3, \ldots, +3 \quad (5)$$

Return on sales (ROS) and sales growth rate (GSales) are measures of performance frequently used in the literature. Other variables used are total assets, net sales, net profit, leverage (as total debt over total equity), and current ratio. H^{τ} is the dummy variable for H-share firms τ years away from the listing year in Hong Kong. To save space, only H-dummy coefficients are reported in Table 6.

(Insert Table 6 here)

The second column shows the comparison of H-share firms three years before listing in Hong Kong against the pure A-share firms. It can be seen that H-share firms are larger in total assets (coefficient of 2.20 with a t-value of 15.70) with higher net sales (coefficient of 1.974 with a t-value of 11.35) and net profits (coefficient of 1.888 with a t-value of 12.95). In fact, this remains true in every year of comparison and even beyond three years of listing. However, this is not the case for leverage and current ratio. Initially, H-share firms tend to have higher leverage and a lower current ratio. Following the year of listing, the situation improves. In the year of listing, the leverage level is not significantly higher (H^o coefficient of 0.118 with a t-value of 1.21) and the current ratio even becomes positive, i.e., the H-share firms have higher current ratio than A-share firms (H^o coefficient of 0.406 with a t-value of 2.06, which is statistically significant at the 5% level). For other proxies, the differences are either insignificant or do not have a discernable pattern. Hence, the clear benefits of a foreign listing come mainly from a decrease in leverage and an increase in liquidity.

4.4 Performance Changes after Cross-listing

Other than the "static" comparison above, we also look at the dynamic changes of the same set of performance proxies to see if the performance of H-share firms *improved* significantly after the firms listed in Hong Kong. Similar to Pagano et al. (2002), we run the following regression:

$$\Delta Proxy_{it} = \alpha_1 + \beta_1 H0_{it} + \beta_2 HTEMP_{it} + \beta_3 HPERM_{it} + \alpha_2 ATEMP_{it} + \alpha_3 APERM_{it} + \text{listing year dummies} + \text{industry dummies} + \varepsilon_{it} \quad (6)$$

"$\Delta Proxy_{it}$" is the change in performance proxy of Firm i in year t against the three-year average performance before listing. We use three time-dummy variables to check the changes in performance over three periods. "H0" takes the value of one for the listing year of the H-share firms and zero otherwise. "HTEMP" is a dummy capturing the short-term effect of a foreign listing. HTEMP takes the value of 1 for the first three years of the H-share listing and zero otherwise. "HPERM" is the dummy on years beyond three years of listing, which captures the permanent effect of the foreign listing. "ATEMP" and "APERM" are defined similarly for pure A-share firms. Such a specification effectively compares the performance of the firms in each examined period captured by the corresponding time dummy variable against the change in performance of pure A-share firms in the year of listing, which is captured in the regression intercept, α_1. All pure A-share and H-share firms with data available are included in the regressions. If the performance of firms listed abroad improves more than that of local firms in each period of performance comparison, "β_i" should be significantly larger than "α_i" in the regressions except for the leverage measure, in which case the opposite should be observed.

(Insert Table 7 here)

The results in the first column of Table 7 show that during the listing year in Hong Kong, H-share firms increase their assets more than pure A-share firms do, as reflected by the coefficient of H0 being 0.477 with a highly significant t value of 4.21. However, such a gap shrinks over time. In the three-year post-listing comparison, the "HTEMP" coefficient is 0.673, whereas the "ATEMP" coefficient is 0.642 giving an insignificant F-value of 0.21 (Test 1); this indicates that the two coefficients are not statistically different in value. Since both coefficients are the incremental changes relative to the intercept of 0.460, the insignificant difference means that during this period, the change in the total assets of these two groups of firms is essentially the same. In the comparison of three years beyond listing, the "HPERM" coefficient of 0.866 is significantly smaller than the "APERM" coefficient of 1.01, as the F-value of 5.21 (Test 2) is statistically significant at the 2.25% level. Hence, the change in size of the A-share firm eventually surpasses that of the H-share firm. Such a result is probably due to fewer subsequent capital raising activities of H-share firms than that of the domestic A-share firms. But it should be clear that the total assets of both groups of firms actually keep increasing through time, since all "TEMP" and "PERM" time variables carry larger positive coefficients than listing year dummies.

The second column indicates a general increase in the sales of firms after their overseas listing. In the year of listing, pure A-share firms have a significant increase in sales (the intercept

coefficient being 0.433 with a t-value of 11.12). In three years of listing and in the years beyond, these firms have *additional* annual increases in sales of 0.353 (the "ATEMP" coefficient) and 0.613 (the "APERM" coefficient), respectively. The overseas-listed H-share firms show increases in sales of a similar magnitude, as reflected in both of the F-test values being too small to claim statistical significance.

The net profit of H-share firms increases during the listing year with an estimated coefficient of 0.44 and a significant t-value of 2.61. However, it declines continuously relative to the A-share net profit through time although the F-tests over the two comparison periods do not indicate statistically significant differences between the two groups.

Surprisingly, there is a drop in sales growth in the year of listing, as shown in column four of Table 7. The intercept term has a coefficient of -0.206 with a t-value of -5.76, suggesting that pure A-share firms have a decline in sales growth in the year of listing. The "H0" coefficient being -0.463 (t-value of -3.38) indicates that the sales growth of H-share firms drops more than that of pure A-share firms. However, the decline in the growth of H-share firms stabilizes after that, as the coefficients of "HTEMP" and "HPERM" take on t-values that are too small to claim statistical significance. Differently, A-share firms continue to decline in growth by 0.093 (t-value of -3.89) in the post-listing three-year period ("ATEMP") and by 0.133 (t-value of -4.79) beyond three years of listing ("APERM"). Hence, A-share firms perform worse than H-share firms in sales growth although, again, the F-tests do not indicate significant differences among the two groups.

Similar to the previous result, listing on an overseas market seems to help firms lower their leverage level and increase their liquidity level. The estimated coefficient of "H0" is -1.457 for the Leverage ratios and 1.712 for the Current ratios; both are significant at the 1% level. Similarly, relative to the coefficient of "ATEMP," the coefficient of "HTEMP" is significantly lower in ΔTL/TE (F-value of 104.77) and significantly higher in ΔCA/CL (F-value of 60.14). The situation is similar for the comparison of the permanent effect. An F-value of 105.4 in the ΔTL/TE regression and 39.62 in the ΔCA/CL regression indicates that the permanent changes are also significantly different across the two groups. Hence, H-share firms are more effective at reducing their long-term debt, as well as improving their short-term liquidity than A-share firms.

Lastly, on a firm's profitability proxied by ROS, the figures are in favor of H-share firms. In the year of listing, A-share firms have a significant increase in ROS as the intercept value is 0.033 with a t-value of 3.14, which is statistically significant at the1% level. "H0" has a coefficient of 0.047 with an insignificant t-value of 0.04, indicating that the increase in ROS for H-share firms is, on average, as large as that for A-share firms. During the three years following the listing, "HTEMP" shows a drop of 0.037 but the t-value of -1.66 is only marginally significant at the 10% level. Yet "ATEMP" shows a drop of 0.048 and the t-value is a highly significant -6.96. However, a small F-value of 0.24 indicates that the drops in the H-share and A-share firms are not statistically different.

Beyond the three-year period, "HPERM" has a coefficient of -0.097 whereas "APERM" has a coefficient of -0.144. Both t-values are highly significant. An F-value of 5.11, which is significant at the 2.38% level, shows that A-share firms have a significantly bigger drop in ROS than H-share firms. These figures suggest that both A-share and H-share firms have the problem of faster sales growth than net income growth, but that the problem is more severe for the former group.

In conclusion, the empirical findings show that foreign-listed firms generally exhibit better changes in performance around the time of listing as compared with domestically listed firms. Through an initial listing on the overseas market, firms could increase their assets and profits more, lower their leverage and increase their liquidity more than could domestically listed firms. In a longer period of comparison, foreign-listed firms show bigger improvements in their debt position and a smaller drop in sales growth, efficiency, and ROS although they have a smaller increase in total assets and net profits.

Overseas-listed firms are monitored by more stringent investment communities and their management teams are forced to focus on longer-term development. Therefore, these firms may not show immediate improvements in profitability in the short-term after listing. However, in the long-term, the empirical evidence does show that they tend to become more and more competitive and generate more real economic value for their investors.

5. Conclusion

We observe that the Chinese government continues to sell its SOEs in the Hong Kong market even though listing on a higher-quality exchange would reduce the private benefits of control of the state government as the major controlling shareholder (Doidge et al., 2006, 2007) and share-issue privatizing firms in the domestic market could help the development of the market (Subrahmanyam and Titman, 1999 and Megginson et al., 2004). Furthermore, it is well documented that their H-share prices trade at substantial discounts to their A-share counterparts, which means that launching an IPO in Hong Kong translates to a lower listing p/e multiple and a higher cost of capital than doing so in the domestic market.[26] To reconciling these apparent inconsistent phenomena with the traditional finance theories, new perspectives are needed.

We suggest two hypotheses. First, we argue that there may be a limit to the positive impact of domestic SIPs on market development. If the SIP scale is larger than the market can handle, this may bring disorder to the market. We hence propose a "market order" hypothesis. In China, many SOEs were heavily in debt and had an urgent need to raise equity capital, but the relatively young Chinese stock market had difficulties meeting the demand. To maintain market order and to prevent the market from crashing, the Chinese government imposed a quota system to regulate the listing of firms in the

[26] One might consider waiting in the IPO queue as a cost and listing abroad is becoming cheaper for raising capital. However, this is not the "traditional", diversification argument of reduction in capital cost through cross listings.

market. Since the demand to get listed was much larger than the quota that was given, many firms had to wait in the queue for years. As a shortcut, some firms may have chosen to list overseas even at a large price discount.

Second, we propose a "governance" argument. Firms cross-listing in markets with high accounting, legal, and governance standards effectively bond them to the higher standards and hence help to improve their credibility and prestige among international as well as domestic investors. Although the state government is the controlling shareholder of its SOEs, the de facto control rights belong to the bureaucrats who reap the private benefits. We argue that so long as the Chinese government has the objective function of revitalizing the SOEs, it has the incentive to makes use of such a bonding mechanism to advance their efforts to reform SOEs to establish a modern corporate system in China.

Through examining a sample of 53 Chinese firms listed in Hong Kong and a control sample of 663 purely domestically-listed Chinese firms during the period 1993-2002, we find supporting evidence for both arguments. Consistent with the "market order" argument, we find that the Chinese domestic market as a whole responds negatively to the domestic IPO issues, and that H-share firms are large in terms of total assets, sales, and issuing proceeds. Listing these firms overseas can help divert the supply and help to prevent a possible crash in prices in the domestic market. We also find that H-share firms had higher pre-listing leverage but a lower pre-listing liquidity ratio than their domestic counterparts. This indicates that H-share firms had a more urgent need for equity capital before their listing and thus would be willing to list overseas despite issuing at a large discount.

Consistent with the bonding argument, we find that the corporate governance of overseas-listed firms is closer than that of A-share companies to international norms, and that H-share firms engage less in earnings management than purely domestically listed firms. We also find that H-share companies improve in leverage after listing. Furthermore, we find that many H-share firms are from strategically important industries according to the classification of government industrial policy.

Starting from the second half of 2005, the China A-share market has gone through a drastic change. The two composite Indices of SHSE and SZSE have quadrupled over this period. The former index jumps from around 1,000 to above 4,000 while the latter jumps from around 250 to over 1,000. The size of the two markets combined jumps accordingly from US$0.39 trillion to US$2 trillion. The total number of investor accounts in these two markets also jumps from around 73 million to nearly 100 million. As such, our "market pressure" hypothesis will predict a slowing down of foreign IPO of Chinese SOEs. On the other hand, as long as the Hong Kong market maintains its "governance premium" over the China domestic market, our "bonding" hypothesis will predict a continuation of good Chinese SOEs listing in Hong Kong. It is interesting to see which force will dominate in the IPO market in the coming years.

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Table 1
Comparison across the Mainland China and Hong Kong Stock Exchanges

This table provides summary statistics of some variables of interest for Chinese domestic A-share, B-share as well as Hong Kong stock markets. The variables examined here include the number of listed companies; proceeds raised through IPOs; market P/E Ratios; total market capitalization; trading values, and market turnover rate (defined as total trading value / total market capitalization) for the sample period 1993 to 2003. The IPO funds raised, the market value and trading value of H-shares and the Hong Kong stock market are converted into RMB using the year-end official exchange rate between the Hong Kong Dollar and the Chinese RMB.

Panel A: Number of Listed Firms

Year	Number of Listed Companies								
	A-Share Market	B-Share Market	H-Share*	Pure-A Shares	A-B Shares	Pure-B Shares	A-H Shares	Pure-H Shares	Hong Kong
1993	169	40	6	127	36	4	6	0	477
1994	289	59	15	228	55	4	6	9	529
1995	317	70	17	247	59	11	11	6	542
1996	522	85	23	438	70	15	14	9	583
1997	729	101	39	637	75	26	17	22	658
1998	825	106	43	727	80	26	18	25	680
1999	923	108	44	822	82	26	19	25	701
2000	1060	114	47	955	86	28	19	28	737
2001	1136	112	50	1023	88	24	25	25	757
2002	1199	111	54	1085	87	24	27	27	817

Panel B: Issuing Proceeds and Market PE Ratios

Year	Fund Raised (IPO) (Billion)				Percentage of Proceeds as of A-Share IPO			Market P/E Ratios			
	A-Share Market	B-Share Market	Hong Kong	H-Shares	B-Share Market	Hong Kong	H-Shares	A-Share Market	B-Share Market	Hong Kong	H-Shares
1993	19.483	3.813	44.885	6.114	19.57%	230.38%	31.38%	28.19	7.87	21.63	15.93
1994	4.962	3.827	31.687	10.782	77.13%	638.59%	217.29%	18.4	6.54	10.71	14.13
1995	2.268	3.335	21.103	3.217	147.05%	930.47%	141.84%	18.54	8.97	11.46	29.37
1996	22.445	4.718	82.888	8.438	21.02%	369.29%	37.59%	37.62	10.34	16.79	27.30
1997	65.506	8.076	170.253	35.174	12.33%	259.90%	53.70%	41.75	9.62	12.12	23.52
1998	43.945	2.076	23.979	3.796	4.72%	54.57%	8.64%	40.77	5.88	10.73	15.42
1999	49.952	0.381	91.153	4.541	0.76%	182.48%	9.09%	41.46	10.22	26.73	33.01
2000	78.991	1.400	238.089	5.489	1.77%	301.41%	6.95%	62.54	16.23	12.80	8.53
2001	46.112	0	59.561	6.436	0.00%	129.17%	13.96%	49.87	34.35	12.18	14.89
2002	46.216	0	64.763	17.904	0.00%	140.13%	38.74%	53.56	28.06	14.89	12.99

Table 1 (Cont'd)

Panel C: Market Capitalization and Turnover

Year	Total Market Value (Billion)				Trading Value (Billion)				Turnover Rate			
	A-Share Market	B-Share Market	Hong Kong	H-Shares	A-Share Market	B-Share Market	Hong Kong	H-Shares	A-Share Market	B-Share Market	Hong Kong	H-Shares
1993	45.19	6.05	1427.71	13.69	352.25	47.28	762.87	4.54	7.79	7.81	0.53	0.33
1994	72.27	15.55	2683.66	21.81	800.49	95.28	1080.72	13.38	11.08	6.13	0.40	0.61
1995	82.67	14.56	2308.36	17.71	395.82	52.41	799.72	18.16	4.79	3.60	0.35	1.03
1996	165.42	20.50	3086.60	33.80	2105.23	96.53	1383.36	26.68	12.73	4.71	0.45	0.79
1997	410.91	40.66	4061.55	51.73	3028.61	197.78	3771.04	316.78	7.37	4.86	0.93	6.12
1998	556.17	26.18	2788.80	35.84	2340.75	72.24	1707.39	78.60	4.21	2.76	0.61	2.19
1999	728.21	26.10	3640.99	44.62	3093.04	128.56	2043.16	109.48	4.25	4.93	0.56	2.45
2000	1267.97	38.83	5002.72	90.30	6028.85	54.80	3235.51	174.27	4.75	1.41	0.65	1.93
2001	1525.29	106.85	4423.61	105.86	3327.32	514.96	2068.75	260.06	2.18	4.82	0.47	2.46
2002	1360.18	75.37	3946.25	137.15	2704.63	507.62	1696.17	148.25	1.99	6.73	0.43	1.08
2003	1240.74	77.14	5806.33	428.61	3116.35	95.18	2698.43	533.21	2.51	1.23	0.47	1.24

*Only Hong Kong mainboard-listed H-share firms are included in the calculation of all of the statistics. Until the end of 2003, there were also 30 small H-share firms listed on the Hong Kong start-up board - the GEM board.

Table 2
Sample Statistics for Variables in the Tobit Regressions

The table presents various statistics for our Tobit regressions sample. The sample consists of 53 (mainboard) H-share firms and 663 pure A-share firms listed in the period 1993-2002. Panel A shows the descriptive statistics for regressors employed in the Tobit model. Total Assets (TA), sales growth rate (GSales), LEV (Debt/ Equity), quick ratio (LIQ), and return of assets (ROA) are the three-year average of the prelisting data. MP1 is the IPO issuing proceeds of a firm divided by the average market capitalization of the A-share market three months before the IPO. MP2 is the IPO issuing proceeds of a firm divided by the total A-share issuing proceeds during the same calendar year. PE refers to the issuing PE ratio. Wilcoxon Z-statistics are used to test the median difference between the H Main Board group and the A-share group for each variable. Panel B shows the correlation matrix of the regressors. Panel C further shows the sample distributions across size, profitability, and issuing proceeds. For H-share firms, the currency is converted into RMB using the year-end official exchange rate between the Hong Kong Dollar and the Chinese RMB for the relevant computations.

Panel A: Summary Statistics of the Independent Variables Used in the Tobit Regression

Variables	Group	N	Mean	Median	Std. Dev.	Min.	Max.	Median Diff.	Wilcoxon Z test
Total Assets	A	663	556.26	305.46	1729.67	23.09	36604.74		
(millions)	H	53	20170.8	3278.5	65111.5	155.4	340888.6	2973.11	10.03***
MP1	A	663	0.755	0.482	1.023	0.010	16.240		
(times 1000)	H	53	10.296	5.612	12.205	0.544	52.581	5.130	10.87***
MP2	A	663	0.007	0.005	0.012	0.003	0.229		
	H	53	0.075	0.033	0.099	0.005	0.553	0.028	10.72***
GSales	A	663	0.305	0.197	0.440	-0.555	3.738		
	H	53	0.339	0.225	0.375	-0.105	1.916	0.028	1.34
LEV	A	663	1.523	1.436	0.988	0.007	10.871		
	H	53	2.767	1.898	3.008	0.112	14.845	0.462	3.47***
LIQ	A	663	1.185	0.865	1.665	0.026	19.492		
	H	53	0.698	0.548	0.593	0.029	3.743	-0.317	-5.10***
ROA	A	663	0.102	0.088	0.067	0.009	0.694		
	H	53	0.117	0.070	0.131	0.004	0.594	-0.018	-1.54
PE	A	663	17.953	15.000	7.925	5.610	71.450		
	H	53	13.128	11.500	7.095	3.973	43.900	-3.50	-6.40***

Table 2 (Cont'd)
Sample Statistics for Variables in the Tobit Regressions

Panel B: Correlation Coefficients Matrix of Regressors (Pearson Correlation Coefficients Prob. > |r| under H_0: Rho=0)

	MP1	MP2	GSALES	LEV	LIQ	ROA	PE	MKTPE
TA	**0.4554*****	**0.5076*****	**-0.1281*****	**0.2956*****	-0.0307	**-0.1490*****	-0.0287	-0.0076
	<.0001	**<.0001**	**0.0006**	**<.0001**	0.4157	**<.0001**	0.4699	0.8410
MP1		**0.6513*****	0.0185	**0.1404*****	-0.0526	-0.0048	**-0.1274*****	0.0272
		<.0001	0.6245	**0.0002**	0.1626	0.8982	**0.0013**	0.4711
MP2			0.0048	**0.1374*****	-0.0462	-0.0436	-0.0500	**-0.0653***
			0.8997	**0.0003**	0.2199	0.2479	0.2074	**0.0830**
GSALES				**-0.0856****	0.0262	-0.0189	**-0.0691***	0.0548
				0.0229	0.4875	0.6170	**0.0815**	0.1462
LEV					**-0.1428*****	**-0.1924*****	-0.0442	-0.0115
					0.0001	**<.0001**	0.2653	0.7594
LIQ						0.0008	-0.0294	0.0370
						0.9834	0.4595	0.3265
ROA							**-0.1743*****	0.0607
							<.0001	0.1074
PE								**-0.1305*****
								0.0010

Panel C: Sample Distributions over Size, Profitability, and Issuing Proceeds

Size (Total Equity)	Sample	Total Number of Sample Firms	Below 100 Million	Between 100-400 Million	Between 400 – 1000 Million	Above 1 Billion
	A-Share Firms	663 (100%)	184 (27.75%)	387 (58.37%)	69 (10.41%)	23 (3.47%)
	H-Share Firms	53 (100%)	2 (3.77%)	11 (20.75%)	10 (18.87%)	30 (56.60%)

Profitability (Net Income)	Sample	Total Number of Sample Firms	Below 10 million	Between 10-60 Million	Between 60-100 Million	Above 100 Million
	A-Share Firms	663 (100%)	82 (12.37%)	445 (67.12%)	71 (10.71%)	65 (9.80%)
	H-Share Firms	53 (100%)	0 (0.00%)	8 (15.09%)	9 (16.98%)	36 (67.92%)

Issuing Proceeds	Sample	Total Number of Sample Firms	Below 100 Million	Between 100-400 Million	Between 400-1000 Million	Above 1 Billion
	A-Share Firms	663 (100%)	151 (22.78%)	358 (54.00%)	126 (19.80%)	28 (4.22%)
	H-Share Firms	53 (100%)	1 (1.89%)	5 (9.43%)	13 (24.53%)	34 (64.15%)

Note: *, ** and *** denote significance at the 10, 5, and 1 percent level, respectively (two-tails)

Table 3. Generalized Type II Tobit Regression Results

This table reports the results of the following Generalized Type II Tobit model:

Selection Equation:

$\text{Prob}(Y_i > 0) = a_0 + a_1 TA_i + a_2 ROA_i + a_3 LEV_i + a_4 LIQ_i + a_5 GSales_i + a_6 MP1(\text{or } MP2_i) + \Sigma\, b_j IND_j + a_7 RELPE_i \text{ (or } \Sigma\, c_t YR_t) + \varepsilon_I$,
$Zi = 1 \text{ if } Yi > 0$

OLS Equation:

$E[Y_i | Z_i = 1] = a_0 + a_1 TA_i + a_2 ROA_i + a_3 LEV_i + a_4 LIQ_i + a_5 PE_i + a_6 Gsales_i + a_8 \sigma_i + \Sigma\, b_j IND_j + a_7 RELPE_i \text{ (or } \Sigma\, c_t YR_t) + \varepsilon_i$,

The dependent variable in the OLS equation is the natural logarithm of inflation-adjusted H-share issuing proceeds. Size is proxied by the natural logarithm of inflation-adjusted total assets. Growth is proxied by the growth rate of inflation-adjusted sales. Leverage measure is proxied by total liability / total equity (LEV). The quick ratio is used to proxy for liquidity (LIQ), and ROA is used to proxy for the profitability of each firm. PE is the IPO issuing PE ratio. MP1 is defined as the IPO issuing amount / average MKT Cap of A-share market for the previous 3 months. MP2 is defined as the IPO issuing amount / total A-share issuing amount for the year. Both measures are used to proxy for the IPO issuing pressure on the domestic secondary market. RELPE takes the value of the yearly average Hong Kong market PE over the average of the A-share market PE. IND and YR are industry and year dummies. All of the accounting measures are computed using the average value of the corresponding data for up to three years before the listing. The figures inside the parentheses are t-values.

Panel A: Full Sample

Variables	Model 1		Model 2		Model 3		Model 4	
	Listing Decision	H-Share Proceeds	Listing Decision	H-Share Proceeds	Listing Decision	H-Share Proceeds	Listing Decision	H-Share Proceeds
Constant	-10.244***	-3.663***	-11.504***	-3.422***	-14.411***	-2.402	-18.838***	-3.974**
	(-6.06)	(-4.26)	(-6.65)	(-2.99)	(-4.43)	(-1.60)	(-5.45)	(-2.53)
TA	0.521***	0.659***	0.604***	0.645***	0.880***	0.600***	1.159***	0.684***
	(4.52)	(13.54)	(4.93)	(10.16)	(4.14)	(7.06)	(4.95)	(7.85)
MP1	0.274***				0.207***			
	(5.48)				(3.35)			
MP2			11.050***				6.702	
			(2.81)				(1.23)	
Gsales	0.318	0.240	0.361	0.224	0.290	0.230	0.258	0.263
	(1.27)	(1.61)	(1.61)	(1.47)	(0.92)	(1.54)	(0.81)	(1.63)
LEV	0.138*	0.008	0.119*	0.008	0.104	0.011	0.097	0.014
	(1.89)	(0.43)	(1.82)	(0.42)	(1.21)	(0.57)	(1.17)	(0.69)
LIQ	-0.289	0.198**	-0.352*	0.205**	-0.392*	0.082	-0.389*	0.063
	(-1.38)	(1.98)	(-1.85)	(2.00)	(-1.64)	(0.60)	(-1.67)	(0.44)
ROA	4.125***	2.625***	3.856***	2.516***	5.400***	2.231***	6.141***	2.672***
	(3.77)	(5.56)	(3.78)	(4.82)	(3.81)	(3.72)	(4.32)	(4.22)
PE		0.023**		0.025***		0.028***		0.033**
		(2.53)		(2.75)		(2.77)		(3.22)
Material	-0.483	0.252*	-0.417	0.248*	-0.368	0.365**	-0.414	0.372***
	(-1.26)	(1.77)	(-1.35)	(1.72)	(-0.82)	(2.53)	(-1.00)	(2.58)
Energy	0.024	0.068	-0.097	0.062	0.537	-0.177	0.659	-0.223
	(0.04)	(0.32)	(-0.18)	(0.29)	(0.66)	(-0.78)	(0.91)	(-0.95)
Transport	0.999**	0.342**	0.914**	0.307*	1.419***	0.271	1.669***	0.354**
	(2.49)	(2.14)	(2.50)	(1.81)	(2.71)	(1.61)	(3.32)	(1.99)
Technology	2.251**	0.443	2.038**	0.401	2.438**	0.572	2.344**	0.672
	(2.45)	(1.04)	(2.38)	(0.90)	(2.42)	(1.05)	(2.34)	(1.23)
RELPE	1.123	0.008	2.378**	0.118				
	(0.98)	(0.43)	(2.38)	(0.25)				
Year Dummies					Included		Included	
Sigma		0.369***		0.373***		0.337***		0.341***
		(10.11)		(9.32)		(9.28)		(7.91)
Rho	-0.245		-0.283		-0.277		0.342	
	(-1.06)		(-0.93)		(-0.62)		(0.66)	
Likelihood	-89.55		-108.17		-70.27		-75.74	
No. of Obs.	716		716		716		716	

Table 3 (Cont'd)
Generalized Type II Tobit Regression Results

Panel B: Sub-Sample (Firms that met the CSRC overseas listing requirements)

	Model 1		Model 2		Model 3		Model 4	
Variables	Listing Decision	H-Share Proceeds	Listing Decision	H-Share Proceeds	Listing Decision	H-Share Proceeds	Listing Decision	H-Share Proceeds
Constant	2.163	-4.068***	1.370	-3.987***	5.225	-2.559**	-0.553	-2.894**
	(0.78)	(-6.22)	(0.49)	(-5.67)	(1.19)	(-2.91)	(-0.15)	(-3.36)
TA	-0.355	0.683***	-0.287	0.680***	-0.485	0.615***	0.010	0.629***
	(-1.61)	(17.36)	(-1.45)	(16.80)	(-1.57)	(12.23)	(0.04)	(12.70)
MP1	0.391***				0.504***			
	(4.04)				(3.57)			
MP2			15.34***				12.197**	
			(3.37)				(2.06)	
Gsales	0.190	0.260*	0.128	0.243	0.148	0.239	0.150	0.224
	(0.49)	(1.73)	(0.37)	(1.61)	(0.29)	(1.61)	(0.32)	(1.52)
LEV	0.300**	0.006	0.223**	0.005	0.262**	0.007	0.173*	0.007
	(2.52)	(0.33)	(2.28)	(0.26)	(2.02)	(0.33)	(1.66)	(0.36)
LIQ	-0.679**	0.204**	-0.630***	0.219***	-0.558*	0.126	-0.481*	0.124
	(-2.41)	(2.04)	(-2.65)	(2.05)	(-1.67)	(1.19)	(-1.92)	(1.06)
ROA	1.173	2.740***	0.954	2.669***	1.199	2.277***	2.106	2.326***
	(0.84)	(5.93)	(0.75)	(5.67)	(0.71)	(4.56)	(1.33)	(4.50)
PE		0.022***		0.024***		0.025**		0.029**
		(2.39)		(2.66)		(2.29)		(2.81)
Material	-0.454	0.264*	-0.460	0.267*	-0.142	0.327**	-0.255	0.357**
	(-0.98)	(1.87)	(-1.18)	(1.87)	(-0.27)	(2.24)	(-0.57)	(2.47)
Energy	0.626	0.044	0.434	0.017	2.200	-0.239	0.726	-0.229
	(0.83)	(0.21)	(0.64)	(0.08)	(1.38)	(-1.02)	(0.81)	(-1.01)
Transport	1.223**	0.350**	1.065**	0.322*	1.360	0.255	1.680**	0.261
	(2.14)	(2.18)	(2.17)	(1.94)	(1.57)	(1.59)	(2.15)	(1.53)
Technology	0.567	0.403	0.801	0.349	0.602	0.642	0.668	0.401
	(1.50)	(0.93)	(1.57)	(0.74)	(1.51)	(1.30)	(1.53)	(0.65)
RELPE	2.412	0.153	3.623**	0.113				
	(1.46)	(0.33)	(2.61)	(0.23)				
Year Dummies					Included		Included	
Sigma		0.370***		0.375***		0.357***		0.339***
		(10.00)		(8.94)		(7.43)		(8.81)
Rho	-0.355		-0.346		-0.518*		-0.297	
	(-1.44)		(-1.01)		(-1.67)		(-0.67)	
Likelihood	-59.55		-72.40		-47.29		-59.53	
No. of Obs.	114		114		114		114	

Note: *, ** and *** denote significance at the 10, 5, and 1 percent level, respectively (two-tails)

Table 4
The Impact of IPOs on the Mainland China and Hong Kong Stock Markets

This table reports the estimated coefficients from cross-sectional regressions of market return and turnover on IPO issuing amounts. VWRET is the market capitalization weighted market return, excluding IPO firms of the IPO day; TURNOVER is the total market trading value scaled by total market capitalization, both excluding IPO firms, for the IPO day. Independent variable is the logarithm of the inflation-adjusted IPO issuing amount on that day.

Panel A:

	A-Share Market		Hong Kong Market	
Variables	VWRET	Turnover	VWRET	Turnover
Intercept	0.0066	-0.0611***	-0.0059	0.0011
	(0.71)	(12.89)	(-0.38)	(0.80)
Proceeds	-0.000074	-0.0059***	0.00092	0.00024
	(-0.05)	(-7.09)	(0.44)	(1.23)
No. Obs.	819	819	53	53
Adj. R-Sq.	-0.0012	0.0567	-0.0161	0.010

Panel B:

	A-Share Market		Hong Kong Market	
Variables	VWRET	Turnover	VWRET	Turnover
Intercept	0.0062	0.0088***	-0.0065	-0.0006
	(0.66)	(3.77)	(-0.41)	(-1.04)
Proceeds	-0.000062	-0.000844**	0.00099	0.000142*
	(-0.04)	(-2.18)	(0.46)	(1.81)
Lag VWRET	0.0426		0.0164	
	(1.22)		(0.17)	
Lag Turnover		0.8643***		0.8814***
		(56.12)		(16.15)
No. Obs.	819	819	53	53
Adj. R-Sq.	-0.0006	0.8056	-0.036	0.8402

Note: *, ** and *** denote significance at the 10, 5, and 1 percent level, respectively (two-tails)

Table 5
Corporate Governance and Earnings Management across A- and H-share Firms

The table reports the results of the following cross-sectional Logit regression:

$$\text{Prob}(H_i = 1) = a_0 + a_1\text{PARENT}_i + a_2\text{SEC}_i + a_3\text{PNEXE}_i + a_4\text{DUAL}_i + a_5\text{BDSIZE}_i + a_6\text{EM1} + a_7\text{EM2} + a_8\text{EM3} + a_9\text{EM4} + \text{Control Variables} + \varepsilon_i$$

H_i takes the value of 1 if the observation in the regression is an H-share firm and zero otherwise. PARENT is a dummy variable, which takes the value 1 if the largest shareholder is another company holding more than 50% of the total outstanding shares of the company. SEC is defined as the number of shares held by the second largest shareholder as a percentage of the holdings of the top two largest shareholders. PNEXE is the number of non-executive directors to the total number of directors in the board. DUAL is a dummy variable that takes the value of 1 if the company's CEO is also the chairperson of the board and 0 otherwise. BDSIZE is the total number of directors on the board. EM1 is the ratio of the firm-level standard deviation of yearly operating earnings and yearly operating cash flow (both scaled by lagged total assets). EM2 is the Spearman correlation between changes in accounting accruals and changes in operating cash flows (both scaled by lag total assets). EM3 is the ratio of the absolute value of the firms' accruals and the absolute value of the firms' cash flow from operations, and EM4 is the standard deviation of the firm's non-operating profit scaled by the firms' total equity. The logarithm of total assets (TA), the Debt-Equity ratio (LEV), and industry dummies are included as control variables. The t-statistics are in parentheses.

Panel A: Regressions without Control Variables

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	-1.190*	-7.475***	-7.992***	-12.57***	-11.83***
	(-1.81)	(-8.05)	(-6.55)	(-4.30)	(-3.43)
PARENT		0.632*		1.843**	
		(1.70)		(2.28)	
SEC			1.545		-1.731
			(0.39)		(-0.16)
PNEXE		16.97***	16.75***	39.33***	46.18***
		(10.22)	(8.92)	(6.21)	(5.21)
DUAL		-0.533	-0.681	-0.662	-0.585
		(-1.08)	(-1.14)	(-0.49)	(-0.37)
BDSIZE		0.144*	0.193*	0.476***	0.402*
		(1.81)	(1.91)	(2.62)	(1.68)
EM1	1.272***			2.061***	2.269***
	(4.10)			(4.17)	(3.43)
EM2	1.675***			2.116*	1.749
	(2.89)			(1.79)	(1.39)
EM3	-0.351**			-0.978***	-1.459**
	(-2.18)			(-3.29)	(-2.47)
EM4	-5.978			-23.88**	-24.79**
	(-1.55)			(-2.30)	(-2.00)
No. of Obs.	718	718	650	718	650
Log Likelihood	-149.05	-120.67	-89.81	-30.70	-22.93

Table 5 (Cont'd)
Corporate Governance and Earnings Management across A- and H-share Firms

Panel B: Regressions with Control Variables

Variables	Model 1	Model 2	Model 3	Model 4
Intercept	-59.74***	-73.73***	-53.76***	-73.82***
	(-4.06)	(-3.21)	(-3.43)	(-2.78)
PARENT	0.932	2.092		
	(0.90)	(1.44)		
SEC			0.407	3.204
			(-0.03)	(0.28)
PNEXE	39.10***	44.40***	37.933***	48.89***
	(4.50)	(3.65)	(3.95)	(3.34)
DUAL	-0.819	-1.229	-0.721	-0.768
	(-0.49)	(-0.68)	(-0.37)	(-0.38)
BDSIZE	0.323	0.329	0.247	0.125
	(1.30)	(1.00)	(0.81)	(0.35)
EM1	2.028***	2.565***	1.852**	2.823**
	(2.85)	(2.58)	(2.16)	(2.26)
EM2	3.127***	3.346*	2.278*	2.836*
	(2.22)	(1.88)	(1.79)	(1.77)
EM3	-0.480	-0.967	-0.678	-1.382
	(-0.93)	(-1.44)	(-0.84)	(-1.35)
EM4	-14.917	-22.923	-15.24	-26.61
	(-1.17)	(-1.38)	(-1.06)	(-1.45)
TA	2.478***	3.016***	2.189***	3.128**
	(3.50)	(2.85)	(2.90)	(2.48)
LEV	-9.511*	-5.269	-6.441	-5.048
	(-1.90)	(-1.05)	(-1.16)	(-0.89)
Material		-3.027		-3.715*
		(-1.64)		(-1.66)
Energy		-0.830		0.738
		(-0.05)		(0.03)
Transport		3.348**		2.114**
		(2.19)		(2.35)
Technology		6.540		11.231*
		(1.51)		(1.74)
No. of Obs.	718	718	650	650
Log Likelihood	-18.43	-15.93	-15.49	-13.11

Note: *, ** and *** denote significance at the 10, 5, and 1 percent level, respectively (two-tails)

Table 6
Effect of Listing: Year-by-year Performance Comparisons on Listings in Hong Kong

This table reports estimates of the following regression:

$$\text{Performance Proxy}_{it} = a + b_1 H_{it}^{\tau} + \text{listing year dummies} + \text{industry dummies} + \varepsilon_{it}\ ,\ \tau = -3, \ldots, +3$$

The performance proxies, as listed in the first column of the table below, are all in logarithmic form. Each row in the table shows only the H dummy coefficients of the corresponding performance proxy. The sample includes observations from 1993 to 2002. The figures inside parentheses are the t-values.

	-3	-2	-1	0	1	2	3	>3
Total Assets	2.204***	2.269***	2.309***	2.267***	2.203***	2.069***	1.812***	1.670***
	(15.70)	(16.92)	(17.56)	(16.30)	(16.87)	(15.89)	(13.61)	(20.56)
Net Sales	1.974***	1.984***	2.037***	1.956***	2.072***	1.971***	1.830***	1.711***
	(11.35)	(12.44)	(13.09)	(10.94)	(11.75)	(11.13)	(9.56)	(14.15)
Net Profit	1.888***	1.943***	2.016***	2.077***	1.935***	1.446***	1.366***	1.442***
	(12.95)	(14.06)	(15.59)	(13.48)	(11.03)	(6.95)	(5.61)	(10.56)
Sales	0.003	0.019	0.020	-0.194	0.186**	-0.134*	-0.050	-0.038
Growth	(0.11)	(0.27)	(0.31)	(-1.19)	(2.22)	(-1.67)	(-0.62)	(-0.74)
Leverage	1.286***	1.311***	1.335***	0.118	0.031	0.084	0.051	-0.040
(TL/TE)	(6.77)	(7.13)	(7.35)	(1.21)	(0.25)	(0.70)	(0.39)	(-0.41)
Current	-0.794***	-1.134***	-1.270***	0.406**	0.326*	0.072	0.225	0.232***
Ratio	(-2.09)	(-3.72)	(-4.19)	(2.06)	(1.85)	(0.44)	(1.34)	(2.94)
ROS	0.011	0.006	0.008	0.046**	0.006	0.003	0.005	0.030
	(0.78)	(0.33)	(0.50)	(2.41)	(0.24)	(0.08)	(0.12)	(1.00)

Note: *, ** and *** denote significance at the 10, 5, and 1 percent level, respectively (two-tails)

Table 7
Effect of Listing: Ex Post Performance Change on Listings in Hong Kong

This table reports estimates of the following regression:

$$\Delta Proxy_{it} = \alpha_1 + \beta_1 H0_{it} + \beta_2 HTEMP_{it} + \beta_3 HPERM_{it} + \alpha_2 ATEMP_{it} + \alpha_3 APERM_{it}$$
$$+ \text{listing year dummies} + \text{industry dummies} + \varepsilon_{it}$$

"$\Delta Proxy_{it}$" is the change of the performance proxy of Firm i in year t against the three-year performance average before listing. "H0" takes the value of one for the listing year of the H-share firms and zero otherwise. "HTEMP" is the dummy corresponding to the three years of the H-share listing. "HPERM" is the dummy on years beyond three years of listing. "ATEMP" and "APERM" are defined similarly for pure A-share firms. We first take the differences of all variables in order to eliminate fixed effects. The following dependent variables have been used in a logarithmic form: total assets, employees, issue market value, and total revenue. A constant and additional control dummies are included in non-differenced form: i.e., calendar year dummies in all regressions and industry dummies. The coefficients of these variables are not reported for brevity. The sample includes observations from 1993 to 2002. Figures inside parentheses are the t-values. Test 1 and Test 2 are F-tests on the null hypotheses of $\beta_2 = \alpha_2$ and $\beta_3 = \alpha_3$, respectively.

Dependent Variable	ΔTA	ΔSALES	ΔNP	ΔGSALES	ΔGEAR (ΔTL/TE)	ΔCR (ΔCA/CL)	ΔROS
Intercept	0.460	0.433	0.762	-0.206	-0.664	-0.632	0.033
	(14.74)***	(11.12)***	(15.13)***	(-5.76)***	(-5.62)***	(-6.23)***	(3.14)***
H0	0.477	0.101	0.440	-0.463	-1.457	1.712	0.047
	(4.21)***	(0.73)	(2.61)***	(-3.38)***	(-7.53)***	(5.00)***	(1.28)
HTEMP	0.673	0.476	0.019	-0.059	-1.446	1.262	-0.037
	(9.82)***	(5.66)***	(0.18)	(-0.78)	(-12.22)***	(6.06)***	(-1.66)*
HPERF	0.866	0.699	-0.048	-0.044	-1.144	0.741	-0.097
	(13.01)***	(8.65)***	(-0.45)	(-0.62)	(-9.73)***	(3.67)***	(-4.54)***
ATEMP	0.642	0.353	0.146	-0.093	-0.244	-0.340	-0.048
	(30.54)***	(13.61)***	(4.53)***	(-3.89)***	(-6.11)***	(-4.92)***	(-6.96)***
APERF	1.0157	0.613	0.076	-0.133	0.052	-0.511	-0.144
	(42.99)***	(21.01)***	(2.03)**	(-4.79)***	(1.15)	(-6.88)***	(-18.5)***
Adj. R-Sq.	0.2674	0.110	0.069	0.196	0.140	0.191	0.061
No. of Obs.	6935	6881	6330	5751	5454	6113	6699
Test 1							
F Value	0.21	2.19	1.45	0.21	104.77	60.14	0.24
Pr > F	0.6499	0.1388	0.2288	0.6457	<.0001	<.0001	0.6227
Test 2							
F Value	5.21	1.18	1.36	1.61	105.4	39.62	5.11
Pr > F	0.0225	0.2774	0.2442	0.205	<.0001	<.0001	0.0238

Note: *, ** and *** denote significance at the 10, 5, and 1 percent level, respectively (two-tails).