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Walid Y. Busaba
Ivey Business School

Lin Guo
Suffolk University

Tong Yu
University of Rhode Island

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Walid Y. Busaba, Lin Guo, Zhenzhen Sun, Tong Yu*

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* Walid Busaba is from Ivey Business School, Western University. Email: wbusaba@ivey.uwo.ca. Lin Guo is from Sawyer Business School, Suffolk University. Email: lguo@suffolk.edu. Zhenzhen Sun is from School of Business, Siena College. Email: zsun@siena.edu. Tong Yu is from College of Business Administration, University of Rhode Island and Shanghai University of Finance and Economics. Email: tongyu@uri.edu. We thank participants at the 2010 Financial Management Association meetings, 2010 Chinese Finance Association Best Paper Symposium, 2011 Multinational Finance Society meetings, 2011 International Finance and Banking Society meetings, 2012 China International Conference in Finance, 2012 China Goes Global Conference at Harvard University, seminar participants at Shanghai University of Finance and Economics, Sergei Sarkissian and Michael Schill for valuable comments and suggestions. All errors are our own.

The Dark Side of Cross-Listing: A New Perspective from China

ABSTRACT

An interesting phenomenon for Chinese firms that list their stock both in China and abroad is that the overwhelming majority had gone public, and listed, abroad first. We find that when these companies return to China to issue stock and list, they experience poorer post-issuance stock and operating performance in comparison to purely domestic issuers. Also, they raise more funds relative to their sales, leave less money on the table for investors, and incur lower direct flotation costs. Among returning firms, those which raise higher proceeds relative to sales experience poorer long-run stock performance and lower Tobin's q post issuance. Our results offer a new perspective on cross-listing, which we term "dressing-up-for-premium". Firms from less-developed markets take advantage of the enhanced visibility and prestige associated with the foreign listing to issue shares domestically at inflated prices and favorable terms, and to raise greater proceeds than they can efficiently use.

JEL classification: G34; G15

Keywords: Cross-listing; Agency problem; Tunneling

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1. INTRODUCTION

At the end of 2013, the number of cross-border listed stocks reached 2,963 (World Federation of Exchanges 2014). Although this number retreated from its 1997 high of 4,700 (Karolyi, 2006), cross-listings remain a common phenomenon in world stock markets. Numerous studies seek to understand and quantify the benefits to firms from listing shares outside of their domestic markets and findings vary with the sample period, the country of origin of the listing firms, and the destination market.

A particular benefit emerging market firms arguably enjoy when cross-listing in developed markets is improved corporate governance (Coffee, 1999 and 2002; Stulz, 1999).¹ Yet the literature casts doubt on the existence of such a benefit. Doidge et al. (2009) find that foreign firms that can extract high private benefits are reluctant to list on a U.S. stock exchange, while Licht (2001) observes that the SEC has granted foreign issuers exemptions from several disclosure requirements. Siegel (2005) reports evidence that U.S. law enforcement has rarely been able to enforce U.S. securities laws against U.S.-listed foreign firms.² Consistent with these doubts, Gozzi et al. (2008) find that while Tobin's q rises significantly before and during the year a firm cross-lists in New York or London, it falls noticeably in the year after. Sarkissian and Schill (2009) also find valuation gains of cross-isting to be transitory, while Sarkissian and Schill

¹ The broader literature has also documented changing properties around cross listing of mean stock returns, beta, liquidity (Sarkissian and Schill, 2004), shareholder base (Foerster and Karolyi 1999), correlation between expected stock performance and expected cash flow (Goto, Watanabe, and Xu 2009), and holdings of cash and other liquid assets (Huang, Elkinawy, and Jain 2013), among others.

² This is in addition to the difficulty ascertaining information contained in disclosures made by the foreign companies. Recent media reports of the accounting irregularities at Chinese firms that cross-listed in the U.S. through reverse mergers provide relevant examples. See "SEC Probes China Auditors," the *Wall Street Journal*, June 3, 2011.

(2012) find that such gains are not associated with improved governance in the first place. They find in particular that the valuation premium is similarly observed for cross-listings in markets less developed than the US, even by US companies, and that the premium, in the US and in other countries, has “little association with ... investor protection rules, law enforcement practice, or accounting disclosure standards” in the host countries.

We shed a new light on the ramifications of cross-listing by firms from less-developed markets, exposing a dark side to cross-listing which we term the ‘dressing-up-for-premium’ effect. Cross-listing in a developed market enhances the standing at home of firms from less developed markets. Insiders and controlling shareholders may take advantage of the enhanced reputation to raise capital at home at favorable terms, which they then either squander or deploy for private benefits. This agency problem is borne out by the weak investor protections in developing countries (Morck, Yeung and Yu, 2000; La Porta et al., 2000) and the apparent short reach of the foreign securities regulators—as discussed above. We use the Chinese financial market as the setting to flush out the empirical manifestations of the dressing-up-for-premium effect. This setting is ideal given the exceptionally weak minority shareholder protections in China (Allen, Qian and Qian, 2005) and the strong perception that a foreign listing brings “funding and prestige back home”.³

The Chinese setting also presents the ideal environment to empirically quantify the dressing-up-for-premium effect. A phenomenon that characterizes the Chinese experience is that the overwhelming majority of Mainland-domiciled companies that list their stock both domestically and abroad—all in Hong Kong and few on the NYSE as well—had gone public abroad first and returned to the home market at a later date. Hence, the subsequent home listing

³See “How a Chinese cave got listed on the U.S. stock market,” *Reuters*, November 30, 2011. <http://www.reuters.com/article/2011/11/30/us-china-cave-idUSTRE7AT17L20111130/>.

of the cross-listed firms allows for a *direct* comparison of these firms' domestic capital-raising experience, and the operating and stock performances that follow, to those of the domestic-only listed stock issuers. For convenience, we will refer to the cross-listed firms that returned and listed domestically as "dual-listed" firms.

Improved corporate governance is one potential benefit from the cross-listings of Chinese firms, and anecdotal evidence does suggest that at least some state-owned Chinese firms were dispatched overseas by the government to achieve this benefit (Child et al, 2002).⁴ Yet, if improved governance were the dominant outcome of cross-listings, Chinese firms returning home after listing abroad would outperform domestic-only listed stock issuers. We find the opposite, however. The returning firms underperform on the three accounting measures we consider: the change from before to after the domestic offering in a) return on assets, b) return on sales, and c) sales growth. The returning firms experience a remarkable drop particularly in return on assets subsequent to their domestic stock offering. We also find the returning firms to have poorer long-run stock performance and lower Tobin's q subsequent to their domestic offering. It appears in this respect that the returning firms sell shares at a premium, or are overvalued, in the domestic market, consistent with our hypothesis that these firms take advantage of the enhanced visibility associated with the foreign listing to issue equity in the domestic market at favorable terms.

Because only a subset of the foreign-listed Chinese companies has come back to China, we investigate whether the underperformance of the returning firms is simply due to poor-performing foreign-listed firms selecting to have a domestic listing. We do not find firms that

⁴ There are other potential benefits from cross-listing. For example, due to the annual IPO quota imposed by the Chinese Securities Regulatory Commission (CSRC) until 2001 (Tian 2011), some Chinese firms listed directly abroad to escape the long waiting period before they could go public in China. Some might have listed to take advantage of a perceived favorable capital-raising environment.

come back had a worse return on assets or return on sales prior to their initial domestic offerings, relative to firms that have not returned. We find instead that foreign-listed Chinese firms are more likely to return for a domestic listing if they are larger, if they belong to industries with strategic national interest as viewed by the Chinese government, and after they experience greater asset growth.

We further investigate whether the returning Chinese firms enjoy favorable issuing terms relative to domestic-only listed issuers, consistent with the foreign-listed firms taking advantage of their increased visibility. Our multivariate regressions show that the initial offerings in China by the returning firms are significantly less underpriced than the Initial Public Offerings (IPOs) of domestic-only firms, and are associated with significantly lower flotation costs per RMB (Chinese currency unit) raised (underwriting spreads and administrative expenses) relative to both IPOs and Seasoned Equity Offerings (SEOs) of domestic-only firms.

If foreign-listed Chinese firms enjoy favorable valuations and issuing terms when they return to China, we expect them to take advantage of this treatment and raise more funds than they can efficiently use. We find that the average ratio of proceeds to sales for the domestic offerings of the returning firms is more than double that of the IPOs, and triple that of the SEOs, of domestic-only listed firms. The difference in the proceeds-to-sales ratio shows up as well in multivariate regressions that control for firm-level attributes. We also find that returning firms which raise higher proceeds relative to sales experience poorer long-run stock performance and lower Tobin's q post issuance, consistent with the raised funds being unproductively deployed.

One way the raised capital might be squandered is through tunneling, the expropriation of corporate wealth by corporate insiders (Jiang, Lee, and Yue, 2010). A prominent avenue for tunneling is inter-corporate loans, which are lumped among other things under "other

receivables" in the balance sheet. Tunneling can also occur through the misuse of 'excess' (or abnormal) cash holdings. Excess cash might capture as well the potential for managers to squander resources on empire building. We find that all else equal, and relative to domestic-only issuers, returning firms have larger "other receivables" and excess cash balances in the three years subsequent to their domestic offering. We also find these variables to increase with the proceeds-to-sales ratio, which in turn is higher for the returning firms.

To our knowledge, this is the first paper to examine the ramification of cross-listing by looking at the experience of firms that list abroad first and then return to the home market. The purpose of the paper is not to explain why Chinese firms cross-list, but to propose, and examine the empirical validity of, a dark side to cross-listing. The evidence we present suggests that the *return* to China by the foreign-listed firms may be opportunistic as managers take advantage of the visibility associated with being first listed in a developed market abroad. Effectively, cross-listing 'dresses the Chinese companies up for a premium' reception in the domestic market, irrespective of the firms' original motivation to cross-list.

Though the phenomenon of listing abroad first is prominent among Chinese firms, the ability to take advantage of the visibility brought about by a foreign listing is potentially applicable to firms from any developing country. The magnitude of the benefits associated with the increased visibility presumably depends on the sophistication level and the global exposure of the domestic investing public as well as the existence and extent of enforcement of investor protection laws.

The rest of the paper proceeds as follows. Section 2 formalizes the hypothesis and Section 3 describes the data and sample construction. Section 4 presents univariate comparisons of the offering experience of cross-listed and domestic Chinese firms, and of the two groups'

post-offering performance, while Section 5 presents regression analyses. Section 6 explores sources of the poor performance of the returning cross-listed firms and Section 7 summarizes and concludes.

2. HYPOTHESIS

A Chinese firm gains prestige and visibility at home if it manages to cross-list in a developed market. This enhanced standing effectively ‘dresses the firm up for a premium’ reception by Chinese investors. Insiders and controlling shareholders may take advantage of the enhanced reputation to raise capital at home at favorable terms, and in excessive amounts, which they then either squander or potentially deploy for private benefits. The exceptionally weak protections in China for minority interest (Allen, Qian and Qian, 2005) creates room for such opportunistic behavior by controlling shareholders as tunneling (Jiang, Lee, and Yue, 2010) and overinvestment (Xu and Xia, 2012).

Unlike the typical cross-listing case, almost all dual-listed Chinese companies had gone public abroad first and returned to list in the home market at a later date. Comparing these firms’ initial capital-raising experience in China to the experience of purely-domestic issuers avoids the compounding effects which characterize comparisons involving multiple financial markets when firms listed domestically go aboard afterwards. It also helps isolate the extent of the ‘dressing-up-for-premium effect’, which naturally is pronounced when the firms return to the domestic market.

We predict that the ‘dressing up’ effect manifests itself in three forms. First is the operating underperformance. Core et al. (2006) and Gompers et al. (2003) provide evidence of a positive relation between a firm’s governance quality and its operating performance. If listing in Hong Kong improves the corporate governance of Chinese firms, perhaps restricting the

managers' ability to extract private benefits, we expect the returning firms to experience superior operating performance relative to their non-cross-listed counterparts. On the other hand, if the returning firms experience exacerbated agency conflicts as suggested by the dressing-up-for-premium hypothesis, we expect them to underperform.

Second, if being listed abroad on a developed stock exchange generates publicity and creates a favorable sentiment about the firm among domestic investors, the returning firms' shares might be 'overvalued' by the initial investors relative to what the investors would pay for the shares of an otherwise comparable purely-domestic issuer. This implies that the newly issued stock of the returning firms will eventually underperform relative to the stock issued by the domestic issuers.

The favorable sentiment among the domestic investors might also lead to opportunistic stock offerings by the cross-listed firms. Those cross-listed firms foreseeing disappointing performance may preemptively return to issue stock and list on a domestic exchange. They might be reluctant to issue in Hong Kong where they will have to disclose bad information (or face regulatory scrutiny if they don't), whereas they can get away with not disclosing negative information in China.⁵ Domestic (and Hong Kong) investors, therefore, will more likely be disappointed with the performance of these firms subsequent to the firms' domestic offerings, and the firms' stock will underperform relative to the stock of domestic only-listed issuers.

Third, we expect the HK-listed firms to enjoy more of a favorable experience when they return to China to raise equity and list on a domestic exchange. In particular, we expect them to incur lower issuing expenses and fees per share and experience lower underpricing relative to domestic stock issuers. Relatedly, we expect the returning firms to take advantage of the

⁵ We thank the referee for highlighting this prediction.

favorable issuing environment by raising more funds than they can efficiently deploy—higher proceeds relative to their sales in comparison to domestic-only issuers—and this contributes to their underperformance post listing.

It should be noted that dressing-up-for-premium and bonding are not necessarily mutually exclusive effects. Bonding is realized, or achieved, as a firm from a developing market cross-lists in a developed market, whereas the dressing-up effect characterizes the return of the cross-listed firm to the domestic market. Siegel (2005) distinguishes ‘legal’ bonding (the enforcement of the laws of the host markets on the foreign firms) from ‘reputational’ bonding (the monitoring effect of capital market intermediaries in the host markets). While the extant literature casts doubt on the effectiveness of ‘legal’ bonding (Karolyi, 2012), our analysis can shed light on the effectiveness of ‘reputational’ bonding. If reputational bonding is effective and goes beyond the host market, we should not observe the manifestations of the dressing-up-for premium effect we state above. Although our focus is not cross-listing itself but the return to the domestic market after cross-listing, our analysis nevertheless provides a unique opportunity to re-examine the effectiveness and reach of the bonding hypothesis.

3. DATA

Our data primarily come from the CCER database hosted by the SINOFIN Financial Service Ltd, the Security Data Corporation (SDC), and DataStream. As of the end of 2008, there were 60 “dual-listed” Chinese companies, or companies domiciled in Mainland China and listed both domestically (Shanghai or Shenzhen) and abroad. All 60 firms were listed in Hong Kong, and 11 were listed on the NYSE as well. All but four of the dual-listed firms went public, and listed, abroad first when they did not yet have a domestic listing. The first cross-listing by a

Mainland-domiciled company occurred in 1993, and there remain 119 Hong Kong-listed Chinese companies which have not returned to China as of the end of 2008 despite their eligibility to list on a domestic exchange.^{6,7}

Our focus is the firms that returned to China to raise equity and list. We therefore obtain from the Security Data Corporation (SDC) database the date, price, and size of all 179 Chinese firms' IPOs in Hong Kong since the first listing in 1993 until the end of 2008. We then extract the stock returns and financial data of these firms from DataStream. Excluding financial firms and firms with offer price below HK Dollar 1 leaves 155 Hong Kong-listed firms, 46 of which have returned to China and 109 have not.⁸ For the returning firms, we obtain the issue date and price of the initial domestic offering (of A-shares), post-issue stock return, financial data, and related corporate governance information from the Price and Return file, IPO file, and Corporate Governance file of the SINOFIN database, respectively.

We compare the cross-listed firms that returned to issue stock and list in China to three control groups. The first consists of Chinese companies going public and listing solely on the domestic exchanges during the sample period from 1993-2008. We identify this group of 1,491 IPOs (A-shares) and obtain the related information from the company file of the SINOFIN China Database. Excluding the 105 financial firms, we obtain altogether 1,345 domestic-only listed IPOs with complete information. Imposing the RMB1 constraint and requiring firms to have non-missing data on assets, sales, and net income, the final sample includes 1,271 IPOs by domestic-only listed firms.

⁶ Not all foreign-listed Chinese firms are eligible to return to list on a domestic exchange. Chinese firms that list overseas via reverse mergers become *non-resident* and, hence, ineligible to list on a Chinese stock exchange. So do red chip companies, which are Chinese firms incorporated *outside* of China and listed in Hong Kong.

⁷ No Hong Kong- (or NYSE-) listed Chinese firms had returned home between the end of 2008 and June 2010. Because our analysis requires 3 years of accounting and stock price data post offering/listing, we follow the Hong Kong-listed firms only until June 2010.

⁸ Of the 56 firms that returned to China, 9 were financial firms and one had an offer price below RMB 1.

Given the view that the initial stock offerings in China by the returning firms may resemble SEOs, rather than IPOs, we collect data on SEOs of A shares by domestic-only listed firms during the sample period. As noted in Bo, Huang, and Wang (2011), both public offerings (Zengfa) and rights issues (Peigu) are forms of Chinese SEOs, so we include only public offerings. During the sample period 1993-2008, there were altogether 274 publicly-sold SEOs. Excluding offerings by financial firms and those with offering prices below RMB1, the final domestic-only listed sample includes 229 seasoned equity offerings.

Last, our analysis involves exploring the determinants of the decision to return to China. The control group we utilize for this endeavor includes the Hong Kong-listed Chinese firms that did not return to China during the sample period. As stated above, the sampling criteria leave 109 such firms. Once again, we obtain information on these firms and their initial stock offering in Hong Kong from SDC and DataStream.

4. UNIVARIATE ANALYSIS

4.1 Market Capitalization, Price-Earnings Ratio and Issue Proceeds

Table 1 provides summary statistics for market capitalization and P/E ratio across four groups of firms/shares during the sample period 1993-2008: i) The domestic A-shares of the returning Hong Kong-listed Chinese firms, ii) the Hong Kong-listed shares of the returning firms, and iii) the A-shares of the domestic-only IPO firms, and iv) the A-shares of the domestic-only SEO firms. Both variables are measured at the end of the offering year and expressed in Chinese currency, Yuan (RMB). We winsorize the top and bottom 1 percentile observations to avoid the effect of outliers. Two facts are conspicuous. First, among all the four groups, the average market capitalization is highest for the Hong Kong-listed shares of the dual-listed firms

(RMB55,653 million) and lowest (RMB633 million) for domestic-only IPO firms. Furthermore, the average market capitalization of the A-shares of the dual-listed firms exceeds that of both the domestic IPO firms and the domestic SEO firms. Second, the average P/E ratio is highest for domestic-only IPO firms (42.73) and lowest for the Hong Kong shares of the dual-listed firms (18.26). Remarkably, the domestic A-shares of this latter group trade at an average P/E multiple of 35.80, twice as high as the average P/E ratio of the H-shares of these firms. This is consistent with the findings reported in prior studies, e.g., Arquette et al. (2008).

Table 2 compares the domestic offerings of the dual-listed and domestic only-listed firms over time, by industry and by domestic exchange. Panel A reports the number of offerings per year and the average offer price and proceeds per issuer type between 1993 (1998 for SEOs by domestic only-listed firms) and 2008. While there is time variation in the number of offerings within each type of issuers, there doesn't seem to be unusual clustering in particular years, whether within or across issuer type. Comparing across the types, the general pattern is that the domestic offerings by the returning firms are significantly larger on average than both the IPOs and SEOs of domestic-only listed firms (RMB6.19 billion for the former vs. RMB0.40 billion and RMB1.07 billion respectively for the latter two). The average price of the offerings by the returning firms is comparable to that of IPOs by domestic-only firms (RMB6.36 vs. RMB8.20) while the average price of SEOs by domestic firms, RMB14.54, is higher than both.

Panel B of Table 2 presents, for each offering type, the number of offerings, average offer price, and average proceeds by the industry sector of the issuer. We sort our sample into nine industry sectors (we exclude the financial sector) as identified by 2-digit Global Industry

Classification Standard (GICS) codes.⁹ More than 45% of dual-listed firms are in the Industrials sector, around 46% of domestic-only IPOs are by firms in the Materials and Industrials sectors, and slightly over two-thirds of SEOs are by firms in the Materials, Industrials and Consumer Discretionary sectors. The average proceeds of offerings by returning energy firms (RMB25.44 billion) are much higher than those of offerings by domestic energy firms (RMB0.63 billion for IPOs and RMB0.90 billion for SEOs). Offerings by returning firms in other industry sectors as well have higher average proceeds, except for those in Health Care and IT.

Panel C of Table 2 presents summary statistics by the listing stock exchange. The Shanghai Stock Exchange (SHSE) and Shenzhen Stock Exchange (SZSE) are the domestic stock exchanges in China. The overwhelming majority of the A-share offerings by the returning firms are conducted on the SHSE: 39 on the SHSE and 7 on the SZSE. In comparison, there are 658 IPOs on the SHSE and 613 IPOs on the SZSE, by the domestic-only listed firms, whereas there are more SEOs by domestic-only firms on the SZSE.

4.2 *Long-Run Operating Performance*

In this subsection, we examine the first empirical prediction of the “dressing-up-for-premium” hypothesis – dual-listing firms underperform domestic issuers in terms of operating performance. We compare the returning firms to domestic-listed issuers along two sets of long-run operating performance measures. The first includes the average annual return on assets (*ROA*), return on sales (*ROS*), and sales growth (*SG*) during the three years after the IPOs/SEOs. The second set, previously employed in the literature (e.g., Hung, Wong, and Zhang, 2012),

⁹ Specifically, the nine 2-digit industry sectors are energy, material, industrials, consumer discretionary, consumer staples, health care, information technology, telecommunication services, and utilities, with their first two digit GICS codes 10, 15, 20, 25, 30, 35, 45, 50, and 55, respectively. (The first two digit GICS code for the excluded Financials sector is 40.) The GICS codes are obtained from Standard & Poor.

calculates the change in firms' operating performance from three years before to three years after the offering. This latter set includes changes in return on assets (*CHROA*), return on sales (*CHROS*), and sales growth (*CHSG*). We do not use accounting data in the IPO/SEO year, because these may be heavily manipulated.

Panel A of Table 3 indicates that the returning firms as a group experience poorer operating performance in the three years subsequent to their initial domestic offerings relative to domestic-only stock issuers. The average *ROA* is 3.12% for the returning firms and 4.48% for the domestic-only IPO firms, and the difference is significant at the 5% level. The alternative operating performance measures show a similar pattern, with the difference between the two groups of issuers being especially pronounced when performance is measured by changes in *ROA*. Table 3 also shows a similar pattern of underperformance of the returning firms relative to domestic SEO firms, except that the difference between the two groups in *ROA* is not statistically significant. This impaired performance of the returning firms is consistent with the exacerbated agency conflicts implied by the dressing-up-for-premium hypothesis.

4.3. *Long-Run Stock Performance and Valuation*

We now compare the long-run stock performance and valuation of the returning cross-listed firms to those of the purely-domestic stock issuers, along the lines of our second hypothesis. We measure long-run performance by the monthly cumulative abnormal return (*CAR*), where the benchmark used is the Chinese value-weighted market index. The return horizon begins with the month after the offering and the holding periods considered are 1, 2, and 3 years. Following Loughran and Ritter (1995), if an offering firm is delisted prior to the end of a holding period, we truncate its *CAR* at the delisting month. We then calculate equally-weighted

average *CAR* for each holding period and group of firms—foreign-listed firms returning to China, firms going public and listing only in China, and firms listed only in China making SEOs.¹⁰ Panel B of Table 3 shows that *CAR* deteriorates over the three-year period post offering for all three groups. Comparatively, the returning firms significantly underperform the two domestic-only issuer groups, with the underperformance relative to SEO firms being more remarkable. For example, the average 1-year *CAR* of the returning firms is 13.23 percentage points lower than that of domestic-only IPO firms and 22.31 percentage points lower than that of domestic SEO firms. The 2-year and 3-year *CARs* show similar comparative patterns.

Previous literature examines the relation between Tobin's *q* and cross-listing. Therefore, we compare the various groups of Chinese issuers, dual-listed vs. domestic only-listed, along the Tobin's *q* dimension. Tobin's *q* is calculated as the sum of a firm's market value of equity and book value of liabilities scaled by the book value of assets. Panel C of Table 3 shows that the average Tobin's *q* of the dual-listed firms is significantly smaller in magnitude than those of the domestic IPO and SEO groups in the three years post the respective offerings. The differences year by year are significant at the 1% to 5% statistical levels, except for the year-1 difference between the returning firms and the domestic IPO firms, which is significant at the 10% level. Unlike the stock return measures, there is no discernible change over time in the dual-listed firm's *q* or the *q* of the control groups.

Overall, our results on the long-run stock performance and Tobin's *q* are consistent with our second hypothesis, that cross-listed firms which return to China enjoy favorable valuations by domestic investors, relative to domestic-only issuers, and hence their stock underperforms

¹⁰ We alternatively measure long-run stock performance using annual buy-and-hold abnormal returns, and the results are similar to those from *CAR* analysis. We also measure stock performance as the 'alpha' from a three-factor model estimated separately for portfolios of dual-listed firms, domestic-only IPO firms and domestic-only SEO firms. Results show the alpha of the dual-listed firm portfolio is significantly lower than that of IPO/SEO portfolios.

that of the domestic issuers in the long run.

Furthermore, to assess our conjecture that the stock underperformance can be driven to some extent by opportunistic offerings by the cross-listed firms—preempting negative news but hesitating to issue in Hong Kong—we examine the stock performance of the HK-listed shares subsequent to the firms’ return to China. The average *CAR* of the H shares, relative to the value-weighted Hong Kong market index, is -24.04%, -23.48%, and -30.39% respectively over the subsequent 1-, 2-, and 3-year horizons, with the 1-year *CAR* being statistically significant (and the remaining two having a t-statistic around -1.6). To save space, we do not report the results in the table. It is possible therefore, as we state in the hypothesis section, that the HK-listed firms anticipate negative performance shocks in the future, after high recent asset growth, and rush to return home to a ‘welcoming’ investing public and less-restrictive disclosure requirement. It is also possible that the stock underperformance—both in China and in Hong Kong—is a consequence of the aggravated agency problem which leads to the squandering or misappropriating of the funds raised in China.

4.4. Stock Offering Experience

In this section, we compare the domestic stock offering experience of the returning firms to that of the two domestic only-listed groups of issuers, in line with our third hypothesis. In particular, we examine underpricing, expense ratio, and the relative size of funds raised, measured as the ratio of issue proceeds to the company’s annual sales. Underpricing is the first day return and expense ratio is the per-share expenses, including underwriting spread and administrative expenses, divided by the offer price. An issuer’s sales figure is measured in the year prior to the offering.

Panel D of Table 3 provides univariate comparisons of the initial offerings by the returning firms and the IPOs of domestic-only companies. While both types of issuers experience sizeable underpricing, 87.91% for the returning firms and 129.76% for the domestic-only firms, the 41.85% additional underpricing experienced by the domestic-only firms is significant at the 5% level.

Notwithstanding the favorable issuing experience relative to purely domestic issuers, which is our focus, we compare the returning firms' A-share offer price to the firms' H-share price the day before the China offering (not reported in the table). Despite the deep underpricing of 87.9%, the new A shares are offered on average at RMB 6.81 while the corresponding H-shares closed on average at RMB 5.56, based on exchanges rates on the respective days, with the difference being significant at 1%. The A-share offer price is higher than the corresponding H-share price on average by a statistically significant 96% (median 53%).¹¹

Second, Panel D of Table 3 shows that the returning firms on average have a lower issue expense ratio relative to domestic-only IPO and SEO issuers. The average expense ratios are 2.87% and 4.58% (4.14%) for the dual-listed firms and domestic-only IPO (SEO) issuers, respectively, and the difference is significant at the 1% level. The lower expense ratio experienced by the returning firms is attributable to larger average issue size of these offerings, as reported in Table 2.¹² Third, the returning firms raise on average 2.1 times their sales in

¹¹ The premium of the A-offer price over the H-price has some explanatory power for (positively correlated with) the H-share abnormal return over the three days following the China offering. With this exception, the H and A markets are completely segmented, and the shares trade at substantially different prices despite the fact that they have identical voting and cash flow rights (Peng, Miao, and Chow, 2007).

¹² We are unaware of any regulations dictating the underwriting fees charged by investment banks in China. Shanghai and Shenzhen stock exchanges set limits on listing charges (see <http://english.sse.com.cn/listing/stocks/listingfees/> and <http://www.szse.com.cn/main/listingatszse/listprocedures/listingfees/>). Listing charges are far below the average underwriting expense of dual-listed firms. For example, to be listed in Shanghai Stock Exchange, the maximum initial listing fee is RMB30,000 and the maximum annual listing fee is RMB6,000. The average underwriting

proceeds in their initial domestic offering, while the IPOs of the domestic-only firms are on average equal to annual sales. The difference of 110% in the proceeds-to-sales ratio between the two groups is significant at the 1% level.

The results of Panel D of Table 3 are consistent with our third hypothesis. The HK-listed Chinese firms enjoy more of a favorable experience when they return to China to raise equity and list on a domestic exchange. They incur lower expenses per issued share in comparison to domestic stock issuers, and experience lower underpricing relative to domestic IPO firms. Furthermore, they seem to take advantage of this favorable environment by raising more equity than they need, as implied by their higher proceeds-to-sales ratio in comparison to domestic-only issuers (of both IPOs and SEOs).

It should be noted that regulators have significant influence over equity offerings in China. Tian (2011) suggests, for example, that CSRC has to validate the offer price and price-earnings multiplier in the new offerings. Nevertheless, this does not conflict with the dressing-up-for-premium hypothesis. If listing abroad improves the visibility of the firms in the domestic market, it will also improve the firms' standing vis-a-vis the government when negotiating offering terms. Consequently, the agency problem we propose holds in a market economy as well as in a government-controlled economy.

4.5. *Matched Sample Comparison*

We repeat the above univariate comparisons while employing subsamples consisting of matching domestic IPO and SEO firms as the respective control groups. For each offering by a returning firm, we choose a domestic IPO (SEO) that has the closest issue date, issue proceeds

expense of a dual-listed firm's A-share IPO is over RMB100 million (based on the average issue size reported in Table 2 and the average expense ratio reported in Table 3).

and market capitalization, and an issuer in the same two-digit GICS code. To ensure each offering by a returning firm is assigned a match, we allow multiple returning firms to share the same matching domestic firm. Comparison results are qualitatively similar to those reported in Table 3.

5. REGRESSION ANALYSIS

The evidence from the univariate analysis suggests that subsequent to returning to sell stock and list in China, the HK-listed Chinese firms underperform in terms of stock returns relative to domestic-listed stock issuers. In this section, we explore first whether there are indicators for this inferior performance at the time the firms decided to return. For this purpose, we study the determinants of the binary decision to return or not, as well as the length of time between the Hong Kong IPO and the initial domestic offering. Then, we re-examine the long-term stock performance and Tobin's q of the returning firms, relative to domestic-listed issuers, in a regression setting that corrects for the potential selection biases introduced by the returning HK-listed firms first having decided to go public in HK not in China, and then having decided to return to issue stock and list. And, last, we compare in a similar regression setting the stock offering experiences of the returning firms and the domestic-only listed firms.

5.1. *The Decision to Return*

We study the decision to return to China in four regression formats, all utilizing the same set of independent variables. The Cox proportional hazards model is used to analyze the determinants of the probability (i.e., hazard rate) of returning in the next instant, given that the firm is currently listed in HK. The Weibull and the exponential accelerated failure time (AFT) models are employed to examine the determinants of the length of time (i.e., survival time)

between a firm's HK IPO and its subsequent initial domestic offering. The survival time is measured in years and is right censored at year 2008 if an HK-listed firm had not returned to the domestic market by that year. And last, we estimate a standard probit model in which the dependent variable is equal to 1 if an HK-listed firm returns to China in a given year, and zero otherwise.

Of the 155 Hong Kong-listed firms, 46 of which have returned to China and 109 have not, observations on the explanatory variables we employ in this section exist for 137 firms, of which 39 had returned for a domestic offering. For this latter group, the average time between the HK IPO and the subsequent domestic offering is around 5.25 years. All the regressions on the decision to return are estimated with an annual panel dataset with the explanatory variables observed or measured at the end of the fiscal year (which in China coincides with the calendar year). The starting time for the observations for each firm is the end of the fiscal year in which the firm went public in HK. The ending time for each dual-listed firm is the end of the fiscal year in which the firm returned to the domestic market. For a HK-listed firm that has not returned to the domestic market, the ending year is 2008. The survival time, whether a firm has returned to China in a given year (the dependent variable in the probit model), and the explanatory variables are time varying.

The main purpose of this analysis is to investigate whether the returning firms were experiencing poor operating performance at the time they made the decision to return. Such poor performance might have restricted the firms' ability to raise money in Hong Kong while the visibility and prestige these firms enjoy in China might have presented a more favorable financing environment. To control for this effect, we include in the four regression models measures of operating performance year after year since the IPO in HK. These measures include

ROA, *ROS*, annual sales growth, and annual asset growth. Because of high correlations between *ROA* and *ROS*, and between asset growth and sales growth, we include the pairs *ROA* and asset growth, and *ROS* and sales growth, in separate regression specifications to avoid potential multicollinearity.

Another purpose of the analysis is to ascertain whether the post-issuance stock underperformance of the returning firms might be driven by opportunistic timing of the decision to return. Managers may have returned for a domestic offering when their firms were already overvalued in Hong Kong. We thus include in the regressions the P/E ratio of the HK-listed firms as of the end of each fiscal year in the panel. Alternatively, the HK-listed firms may have timed their return to take advantage of a relatively lower cost of equity in China, as implied by the domestic A-share price premium relative to the Hong Kong-listed shares. Hence, we include the year-end Chinese market-level value-weighted P/E ratio among the explanatory variables. Including the two P/E ratios separately is less restrictive than including the difference between the two as one variable that measures the relative valuation of the firms in China vs. in Hong Kong.

Operating performance and P/E ratios notwithstanding, a host of factors induces and/or facilitates the return to China by a Hong Kong-listed Chinese firm. Larger firms tend to be more visible, and could more readily take advantage of the reputation associated with the HK listing. In addition, larger companies might have stronger connections to the government or, alternatively, ability to effectively lobby officials, and might therefore find it easier to secure Chinese Securities Regulatory Commission CSRC approval for a domestic offering.¹³ To control

¹³ The government restricts the supply of new stock offerings, creating fierce competition among Chinese firms attempting to go public. Companies wishing to go public have to devote significant resources to secure the approval of the CSRC (Tian, 2011). Tian (2011) also documents that some cross-listed Chinese firms cannot return to the

for this effect, we include in the regressions the natural logarithm of a firm's total assets, $\ln(Assets)$, as a proxy for firm size.

Furthermore, firms which enjoy a dominant market share within their respective industries, and/or which are from industries with tradable goods, are expected to gain more from product recognition among consumers in mainland China. These firms, therefore, may have a stronger incentive to return for a domestic listing. Firms in industries which the Chinese government considers strategic might find it easier to return for a domestic offering as they tend to be spared the arduous and highly political offering approval process.

We thus include three industry dummies among the explanatory variables, as in Sarkissian and Schill (2004). The tradable industry dummy equals 1 if a firm is from the following four-digit GICS industry classifications: chemicals, consumer goods, electronics, manufacturing, healthcare, mining, oil and gas, or paper industries, and 0 otherwise. Roughly, 50% of the HK-listed Chinese companies belong to this category. Similarly, the strategic industry dummy equals 1 if a firm is from the infrastructure, power, transportation, petrochemicals, steel, telecom, or oil and gas industries, and 0 otherwise. This category represents around 29% of the HK-listed Chinese firms. Third, the industry leader dummy, as in Hung et al. (2008), equals 1 for a firm with sales among the top 30% of peers that share the same two-digit GICS classifications, and 0 otherwise. Relatedly, to examine whether the extent of industry competition affects firms' decision to come back to the domestic market, we include industry concentration as an additional control variable in the regressions. The industry Herfindahl index is the sum of the squared market shares (in %) of all the firms in an industry based on the two-digit GICS classifications.

domestic market because they do not satisfy the domestic listing requirements in areas such as firm size, share capital, and profitability.

Hong Kong-listed firms with higher leverage and greater growth opportunities are more likely to come back to sell stock in the domestic market, perhaps because of greater financing needs. We thus include the leverage ratio, market-to-book ratio, and the ratio of capital expenditure to total assets among the explanatory variables in the regressions. Leverage ratio is the ratio of total liabilities to the book value of assets. Market-to-book ratio is the market value of equity divided by the book value of equity, both measured at the end of a fiscal year.

Table 4 presents the estimation results of the four regression models of the decision to return to China. The results from both the Weibull and exponential accelerated failure time models are consistent with those of the Cox proportional hazards model and with the probit model as well. First, the returning firms were not less profitable at the time they decided to return to China: neither *ROA* nor, in separate specifications, *ROS* appear to correlate with the decision to return or the timing of that decision. This finding suggests that the poor long-run operating and stock performances of dual-listed firms is not because these firms had inferior operating performance at the time of their return for a domestic offering, relative to the other cross-listed firms.

Second, there is no evidence either that the firm-level P/E ratio of the HK-listed Chinese firms or the (value-weighted) average P/E ratio among domestic-only public firms have any influence on the former firms' decision to return to the domestic market. It appears that the returning firms were not driven by a desire to exploit temporary overvaluation in HK or in China.

Furthermore, firms that returned to China in a given year have had higher asset (sales) growth in that year relative to peers that did not return. This result is consistent with the view that the need to raise capital to finance asset (sales) growth could be an important factor behind

the decision of the cross-listed Chinese companies to tap the domestic capital market. On the other hand, there is no evidence that the returning firms had future growth opportunities (measured by market-to-book and capital expenditures-to-assets ratios) at the time they returned that differed from those of the firms that did not return.

The estimated models indicate, as predicted, that larger firms are more likely to return to the domestic market subsequent to their HK listing, and the larger they are the sooner they return. In contrast, the HK-listed firms with higher leverage are less likely to return to China, and those which return take longer to do so. Despite their clearly greater need for equity capital, firms with greater leverage seem to be met with aversion from the Chinese investors, the government, or both.

The estimated models also indicate that HK-listed Chinese firms which belong to industries the Chinese government considers ‘strategic’ are more likely to return to China, and return sooner after their HK listing. In contrast, belonging to an industry with tradable products was not associated with the likelihood of return, or with the time it took to return for firms that did. There is some evidence in the Cox proportional hazards model that HK-listed Chinese firms from concentrated industries, as measured by a higher Herfindahl Index are more likely to return to the domestic market, and the effect is significant at the 10% level. The coefficients of the Herfindahl index in the three alternative regression models have the ‘right’ sign (negative in the Weibull and exponential AFT models and positive in the probit model) but a t-statistic that is just below what is significant at conventional levels. There is no evidence, however, that being an industry leader affected the cross-listed Chinese firm’s decision to tap the domestic market.

5.2 *Long-Run Stock Performance and Valuation*

We now compare in a multivariate regression the long-term stock performance and Tobin's q of the returning firms to those of domestic-only stock issuers. We estimate the regressions separately for two domestic-only control groups: firms making IPOs and firms making SEOs. The focus of the analysis is whether cross-listing in HK in and of itself impacts stock performance and valuation (Tobin's q) in a manner consistent with our hypothesis—that the foreign listing carries prestige and adds visibility, resulting in overvaluation by Chinese investors. We therefore create the dummy variable CL to indicate stock offerings in China made by the HK-listed firms.

The regression specifications we estimate are of the form:

$$Y_i = \alpha + \beta CL_i + \delta \mathbf{X}_i + \theta_1 IMR_{1,i} + \theta_2 IMR_{2,i} + \varepsilon_i \quad (1)$$

The dependent variable Y_i is either the 36-month cumulative market-adjusted stock returns (CAR) or the firm's Tobin's q three years after the offering. (We studied as well the one- and two-year CAR s, and the Tobin's q one year and two years after the offering, but the results were unchanged.)

The vector X_i includes control variables suggested in the literature. Specifically, we include return on assets, ROA , and sales growth, SG , in the most recent fiscal year prior to the offering to account for the effect of pre-issue operating performance on the post-offering stock performance and firm valuation (e.g., Doidge, Karolyi, and Stulz, 2004; Fernandes and Ferreira, 2008; King and Segal, 2009).¹⁴ We also include firm age prior to issuance, Age , as experienced firms may benefit from long-standing relationships with buyers, suppliers, and employees. Ritter (1991), for example, finds that younger issuing firms underperform their more established peers.

¹⁴ We also estimate the performance regressions using Change in ROA to replace ROA , or using the Change in ROS to replace ROS . The sign and the significance of the coefficient on the Change in ROA (Change in ROS) is the same as the ROA (ROS). We only report in the tables the results with ROA to conserve space.

Following studies on the valuation and performance effect of cross-listing, e.g., King and Segal (2009), and Hung et al. (2012), we include firm leverage, measured as the ratio of the book value of liabilities to the book value of assets, measured at the end of the last fiscal year prior to the stock offering. Issuing equity reduces leverage, potentially lowering the firms' exposures to unexpected inflation and default risks and reducing their stocks' expected returns (Eckbo, Masulis and Norli, 2000). We include the natural logarithm of assets, $Ln(Assets)$, measured at the most recent fiscal year-end, and market-to-book ratio, $Market/Book$, measured at the end of IPO/SEO year, given the finding in Brav, Geczy, and Gompers (2000) that underperformance of IPO firms is concentrated in small issuing firms with high market-to-book ratios. Following the literature, we include industry dummies based on the two-digit GICS codes to account for unobserved differences in the dependent variable across industries. Lastly, if a variable has a missing observation at the end of the most recent fiscal year pre-offering, we use the variable's average over the preceding three years instead.

Including the dummy CL in the regression to assess the effect of cross-listing on post-offering stock returns and valuation is a standard 'treatment effect' analysis. Since Chinese firms 'select' to either go public in HK or domestically, we include in the regression the inverse mills ratio, IMR_1 , to control for potential selection bias introduced by this non-random choice. The variable IMR_1 is imputed from a first-stage probit model of this choice, where the dependent variable equals 1 if a firm went public in HK and 0 if in China (The domestic SEO firms had gone public starting 1993; they are included in this probit analysis). Following Hung et al. (2008) and Zhang and King (2010), the explanatory variables Z_1 consist of: firm size, $leverage$, ROA , ROS , asset growth, sales growth, various industry grouping dummies, including one for strategic industries and another for industries with tradable products, industry leader dummy, industry

Herfindahl Index, and a dummy for the years after China joined the WTO. The model also includes the P/E ratios of both the Chinese and Hong Kong markets (value-weighted) to control for the potential that the listing decision is driven at least in part by perceived valuations in the respective markets.

Appendix 1 presents the probit model specifications, the control variables and estimation results. A Chinese firm was more likely to go public in HK post WTO, if the firm was larger, if it experienced a higher asset (sales) growth in the prior year, if it belonged to a more concentrated industry and, if at the time, the average P/E ratio in HK had increased. On the other hand, a firm was more likely to go public in China if it belonged to a strategic industry, if it was a leader in its industry, and if it was more leveraged.

We use the estimated coefficients $\hat{\gamma}_1$ in model specification 1 in Appendix 1 to calculate IMR_1 , in the following manner:¹⁵

$$IMR_{1,i} = \begin{cases} \frac{-\phi_{1i}(Z_{1i}\hat{\gamma}_1)}{1-\Phi_{1i}(Z_{1i}\hat{\gamma}_1)} & \text{for firms that went public in China (i.e., } CL_i = 0) \\ \frac{\phi_{1i}(Z_{1i}\hat{\gamma}_1)}{\Phi_{1i}(Z_{1i}\hat{\gamma}_1)} & \text{for firms that went public in Hong Kong (i.e., } CL_i = 1) \end{cases}$$

where $\Phi_{1i}(Z_{1i}\hat{\gamma}_1)$ is the predicted probability that a firm with characteristics Z_1 lists in HK, and $\phi(\cdot)$ is the standard normal density function.

Not all cross-listed Chinese firms return to China. Those that do and, hence appear in our study, have selected to do so. To control for potential selection bias introduced by this decision, we include in the regression the inverse mills ratio, IMR_2 , imputed from the probit model of the decision of a cross-listed firm to return to China, which we estimated in the previous sub-section

¹⁵ See Greene (1997), Chapter 20, page 982.

and presented in Table 4.^{16,17} This mills ratio for issuer i in our sample is as follows:

$$\text{IMR}_{2,i} = \begin{cases} 0 & \text{for firms that went public in China (i.e., } CL_i = 0) \\ \frac{\phi_{2i}(Z_{2i}\hat{\gamma}_2)}{\Phi_{2i}(Z_{2i}\hat{\gamma}_2)} & \text{for firms that went public in Hong Kong (i.e., } CL_i = 1) \end{cases}$$

where $\Phi_{2i}(Z_{2i}\hat{\gamma}_2)$ represents the predicted normal probability that a cross-listed Chinese firm with characteristics Z_2 (at the time of return) returns to China, $\hat{\gamma}_2$ are the estimated coefficients of the probit model in Table 4, and $\phi(\cdot)$ is the standard normal density function.

The estimation results of regression equation (1) are reported in Table 5. The dependent variable in the first two columns is the 36-month *CAR* post offering. The control group in the regression presented in the first column consists of firms going public and listing in China, i.e., Chinese domestic IPOs by non-dual-listed firms. The coefficient on the cross-listing dummy, *CL* is -0.15, which is statistically (at the 5 percent level) and economically significant. This implies that, all else constant, the stock of the returning cross-listed firms underperform that of domestic-only IPO firms by around 15% over the three-years post offering. Several of the control variables are significant as well, especially *ROA* (positive coefficient), *Market/Book* (positive coefficient), and *Ln(Assets)* (negative). Of the inverse Mills ratios, only *IMR*₁ is significant, suggesting a potential bias introduced by the selection of firms of where to go public.

The regression in the second column uses domestic firms making SEOs as the control group. Once again, the cross-listing dummy shows up with a statistically (1% level) and

¹⁶ The derivation of regression equation (1) and the two inverse mills ratios are available upon request.

¹⁷ As a robustness check, we use an alternative method similar to that of King and Segal (2009) to address the potential selection bias. We replace *CL* with an estimated probability of a Chinese firm to go public in Hong Kong and return subsequently to list in China. The estimated probability is $\text{Prob}(\text{dual-listing}) = \text{Prob}(\text{cross-listing}) \times \text{Prob}(\text{returning})$. $\text{Prob}(\text{cross-listing})$ is calculated from the probit model in Appendix 1, and $\text{Prob}(\text{returning})$ from the probit model in Table 4. The results from this alternative model specification confirm our estimation results of regression eq. (1).

economically significant coefficient of -0.18. Returning Chinese firms experience poorer post-issue stock performance relative to the domestic seasoned equity issuers as well. The effect of the control variables is qualitatively similar to that in the first column with the exceptions that $\ln(\text{Assets})$ lost its explanatory power while Sales Growth shows up with a positive and significant coefficient. The coefficient on IMR_1 continues to be positive, but with a reduced statistical significance, while IMR_2 acquires a positive and statistically significant coefficient now that the returning firms are compared to domestic seasoned equity issuers.

Columns (3) and (4) of Table 5 report the estimation results, with domestic IPO firms and domestic SEO firms respectively as the control groups, when Tobin's q is the dependent variable. Consistent with the CAR results, the cross-listing dummy is negative and both statistically and economically significant in the two columns. All else equal, therefore, the returning Chinese firms have lower q post-issuance than do domestic-listed issuers. The inferior post issuance stock performance and valuation (Tobin's q) of the returning firms is inconsistent with the bonding and improved corporate governance effects of cross-listing, but is more supportive of our 'dressing-up-for-premium' hypothesis.

5.3 *Offering Experience*

In this section we compare in a cross-sectional regression setting the offering experience of the returning cross-listed firms to that of domestic IPO and SEO firms, one group at a time. The three offering dimensions we examine are proceeds-to-sales (P/S), underpricing, and expense ratio, and the specifications we estimate are comparable to equation (1). Control variables include firm characteristics measured in the year prior to the IPOs/SEOs. In the P/S regression, we include the cross-listing dummy CL , ROA , Age , $Leverage$, and $\ln(\text{Assets})$, in

addition to IMR_1 and IMR_2 . If a variable has missing observations in the year before stock issuance, we use the averages over years t-2 and t-3 instead. In the regressions for underpricing and expense ratio, we replace $Ln(Assets)$ with the highly-correlated $Ln(Proceeds)$, to be consistent with the extant underpricing literature. The equations on the offering experience are identified because variables CL , ROA , Age , IMR_1 and IMR_2 have explanatory power in the regressions but do not influence the decision to go public in HK and the decision to return regressions. Estimation results are reported in Table 6.

The first column of the table shows that when cross-listed firms return to China to sell stock and list, they raise significantly more money relative to their sales than do domestic IPO firms. The coefficient on the dummy CL is 0.31 (with a t-statistic of 3.50), which indicates that the ratio of proceeds to sales is 31 percentage points higher for the returning firms. For both groups of firms, the ratio is lower with ROA , firm age, leverage ratio, and asset size.

Comparison to domestic SEO firms in the second column of Table 6 yields qualitatively similar results. The coefficient on CL is 0.24 (with a t-statistic of 4.37) indicating that the returning firms are able to raise 24 additional percentage points relative to their sales. Firm age lost all explanatory power in this regression while *leverage* lost some statistical power and economic significance.

Columns 3 and 4 report the regression results for underpricing. The initial domestic offerings by the returning firms are underpriced by less than domestic IPOs, but by more than domestic SEOs. The coefficient on CL is -1.59 when the control group is domestic IPO firms (the third column) and 0.84 when comparing to domestic-listed SEO firms. Both coefficients are significant at the 5% level. The lower underpricing of domestic SEOs is not surprising given that the shares of these seasoned firms have already been traded in China and price discovery,

therefore, has already occurred. For both the returning firms and the domestic IPO firms, underpricing is significantly and negatively related to firm age and $\ln(\text{Proceeds})$ while positively related to IMR_t .

The last two columns of Table 6 report the regression results when the per-share expense ratio is the dependent variable. The coefficient on the cross-listing dummy is -2.91 (with a t -statistic of -2.76) in the specification that employs domestic IPOs as the control group, and -2.35 (and t of -3.89) when domestic SEOs are the control group. These results indicate that the returning cross-listed firms enjoyed significantly lower flotation costs relative to domestic-listed IPO and SEO firms.

In summary, cross-listed Chinese firms seem to enjoy favorable issuing terms when they return to issue stock and list in China. In comparison to domestic-listed issuers, the returning firms raise higher proceeds relative to their sales and incur lower percent flotation costs. The returning firms also leave less money on the table for domestic investors than do domestic IPO firms. These findings are consistent with the view that the returning firms take advantage of the increased visibility associated with being listed on a more developed market like HK's, and raise relatively more money, and at favorable terms, relative to domestic-listed issuers.

6. WHERE DO THE PROCEEDS GO?

The analysis so far suggests that the returning firms raise more funds than they can productively deploy, judging both by the higher ratio of the raised money to sales and by the inferior operating performance post offering. This section provides evidence that the excessive funds raised help explain both the poor stock performance and the low Tobin's q experienced by

the cross-listed firms subsequent to their return to China. It ends by exploring possible ways the excessive funds are squandered or misappropriated.

If the returning firms indeed squander money raised from the domestic stock offerings, and this agency problem is not fully anticipated by investors at the time of the offerings, we expect the firms' post-issue stock performance and Tobin's q to be negatively associated with the proceeds-to-sales ratio. To test this conjecture, we re-estimate the regressions of the 36-month-post-offering CAR and Tobin's q , i.e., equation (1), while including among the explanatory variables the proceeds-to-sales ratio, $Proceeds/Sales$, both as a standalone variable and as interacted with the cross-listing dummy CL .

Regression results are reported in Table 7. The control group used in the CAR regression of column (1) and in the Tobin q 's regression of column (3) comprises domestic IPO firms, while the respective regressions in columns (2) and (4) use domestic SEC firms. Results in all columns show a statistically significant negative association between $Proceeds/Sales$ and each of CAR and Tobin's q . Most importantly, the interactive term $CL*Proceeds/Sales$ also shows up in all columns with a negative and highly significant coefficient. In other words, the adverse effect on stock performance and Tobin's q of the excess proceeds raised in an offering is significantly more pronounced for the returning cross-listed firms. This suggests that at least part of the stock underperformance and the lower Tobin's q of the returning firms can be attributed to the 'squandering' of the excess proceeds raised in these firms' domestic offering. The poorer performance of dual listed firms with greater proceeds-to-sales serves as direct evidence of the dressing-up-for-premium effect.

We now explore potential ways the raised capital can be squandered. As noted by Jiang, Lee, and Yue (2010) among others, controlling shareholders in China commonly appropriate

wealth from other shareholders through inter-corporate loans, which are lumped among other things under “other receivables” on the balance sheet. The loans are not made in the firm’s normal course of business, and most carry no interest or only symbolic interest. Some even do not require principal repayment. Raising more funds than needed for operations widens the potential for such transactions, which Johnson et al (2000) refer to as ‘tunneling’ transactions. We therefore test whether the potential for tunneling is exacerbated by the higher proceeds-to-sales ratios. We measure corporate tunneling severity with by *OREC*, the average (over the three years post offering) proportion of firm assets reported under "other receivables" (Jiang et al., 2010). Tunneling can also occur through the misuse of excess cash holdings (which might capture as well the potential to squander resources through empire building). We calculate excess cash holdings, *XCASH*, as the average over the three years post domestic offering of estimated annual excess cash balances. The latter is the residual from a pooled time-series, cross-sectional regression that determines the ‘normal’ level of cash holdings as a percent of total assets, estimated as in Frésard and Salva (2010).

We regress the tunneling proxies against *Proceeds/Sales* the cross-listing dummy *CL* and an interactive term of the two. Control variables include *Ln(Assets)* and *Leverage*, which are measured the fiscal year before the return to China, and *Market/Book*, which is measured at the end of the IPO/SEO year, the two inverse Mills ratios. The regression of each of the tunneling proxies is estimated twice, once with the domestic IPO firms as the control group and another with the domestic SEO firms representing this group. Estimation results of the four regressions are reported in Table 8. The ratio of proceeds to sales shows up with a positive and statistically significant coefficient across the four regressions. The greater the proceeds relative to sales a Chinese firm raises in the domestic market, the larger the proportion of total assets the firm

accumulates in the form of “other receivables”, and the higher the excess cash balances it maintains, over the three years that follow.¹⁸ The cross-listing dummy also shows up with a positive coefficient in all regression, although it is (marginally) significant in all but the excess cash regression in which the domestic SEOs represent the control group. These results suggest that tunneling activities are potentially more severe at the returning firms. The returning firms maintain a larger portion of their assets in ‘other receivables’ and ‘excess cash’, all else equal. But they also raise larger amounts of capital relative to sales, which in turn contributes to the size of the tunneling proxies. It appears therefore that the returning firms use at least a portion of the proceeds they raise in activities commonly associated with the squandering or looting of corporate resources.

It should be noted that larger ‘other receivables’ and ‘excess cash’ balances do not in and of themselves necessarily imply the looting or squandering of the raised funds. For example, Buchuk et al (2014) find an advantage to intra-group financing among Chilean business groups, and little evidence that this advantage is gained at the expense of minority shareholders. They attribute this positive outcome to the strict Chilean regulation and disclosure requirements for intra-group loans. Our interpretation of the ‘other receivables’ and ‘excess cash’ balances as consistent with exploitive behavior on the part of controlling shareholders is borne out by the exceptionally weak investor protections in China and the findings that Chinese issuers

¹⁸ This finding is consistent with Kim and Weisbach (2008). Kim and Weisbach find that while the majority of firms sell stock to finance investments, investment activities take place gradually over time. The significantly positive coefficient on *Market/Book* in the *XCASH* regression for the SEO sample is also consistent with Kim and Weisbach’s finding that firms with high valuation are more likely to hold on to the cash they raise than do low valuation firms. They also find evidence supporting the view that high valuation firms are more likely to conduct market timing for their SEOs to transfer wealth from new shareholders to existing shareholders. The positive coefficient of *Market/Book* in the *XCASH* regression for the SEOs in Table 8 is in line with Kim and Weisbach’s agency-cost interpretation of the timing of the SEOs.

‘overinvest’ excess funds raised (Xu and Xia, 2012) and that tunneling takes place through inter-corporate loans (Jiang, Lee, and Yue, 2010). Our interpretation is also based on concurrent, corroborating findings in the paper that the cross-listed firms underperform domestic-only issuers and that the underperformance deteriorates with the proceeds-to-sales ratio. Most dual-listed firms are large in size (Table 1) and can be part of business groups, a setup that is conducive for tunneling.

7. SUMMARY AND CONCLUSION

Cross-listed Chinese firms that return to China to list and sell stock for the first time underperform, in operating and valuation measures, purely domestic issuers, over the three post-offering years. They raise higher proceeds-to-sales, and incur lower percent flotation costs, in comparison to the domestic issuers, and leave less money on the table for investors than do domestic firms going public in China. The excessive funds the returning firms raise have explanatory power for the firms’ post-offering underperformance.

The returning firms maintain larger (relative to domestic issuers) ‘excess’ cash balances and ‘other receivables’, which include inter-corporate loans commonly associated with tunneling activities, over the three post-offering years. Independently, raising more capital relative to sales increases a firm’s balances of both ‘excess cash’ and ‘other receivables’ post offering. These latter results are suggestive of possible ways the returning firms squander or expropriate the relatively larger amount of capital they raise in the domestic market.

Our results shed light on a potential agency problem associated with cross-listing in general. Firms domiciled in less-developed markets may take advantage of the enhanced reputation associated with listing in a more developed market to issue shares later in the

domestic market at favorable terms, and to raise excessive amount of capital relative to their needs. As the raised funds are not utilized optimally, the firms perform worse post issuance relative to their domestic counterparts, contrary to the implications of the improved-governance advantage traditionally credited to cross-listing.

Appendix 1: Probit Estimation of the Decision of Chinese Firms to Go Public in Hong Kong

The dependent variable equals one if a Chinese firm goes public in HK and zero if the firm goes public in China. The explanatory variables are the most recent firm characteristics before the IPO, including *Ln(Assets)*, *Leverage*, *ROA*, *ROS*, *Asset Growth*, *Sales Growth*, *Tradable Industry*, *Strategic Industry*, *Industry Leader*, *Industry Herfindahl Index*, *Post WTO*, *P/E-Chinese Market*, and *PE-Hong Kong Market*. *Ln(Assets)* is the natural logarithm of the book value of assets. *Leverage* is total liabilities to total assets. *ROA* is return on assets. *ROS* is return on sales. *Asset Growth* and *Sales Growth* are rates of growth over the fiscal year before the IPO. *Tradable Industry* equals one if a firm is from the chemicals, consumer goods, electronics, manufacturing, healthcare, mining, oil and gas, or paper industries, and zero otherwise. *Strategic Industry* equals one if a firm is from the infrastructure, power, transportation, petrochemicals, steel, telecom, or oil and gas industries, and zero otherwise. *Industry Leader* equals one for a firm with sales volume among the top 30% in its two-digit GICS code industry, and zero otherwise. *Industry Herfindahl Index* is the sum of the squared market shares (in %) of all the firms in an industry based on the two-digit GICS code. *Post WTO* equals 1 if the calendar year of the offering is 2002 or after, and zero otherwise. *P/E-Chinese Market* is the value-weighted price to earnings ratio of all the firms listed on the Chinese stock exchanges. *P/E-Hong Kong Market* is the value-weighted price to earnings ratio of all the firms listed on the Hong Kong Stock Exchange, where the weights are based on the firms' market capitalization at the beginning of the year. Robust z-statistics are in brackets.

	Model 1	Model 2	Model 3	Model 4
Ln(Assets)	0.63*** [8.09]	0.67*** [8.13]	0.65*** [7.31]	0.71*** [7.80]
Leverage	-3.42*** [-4.57]	-4.33*** [-5.25]	-3.87*** [-4.88]	-4.61*** [-5.65]
ROA	-1.30 [-0.59]	-2.81 [-1.28]		
ROS			-1.73 [-1.58]	-1.81* [-1.74]
Asset Growth	0.66** [2.21]		0.67** [2.20]	
Sales Growth		0.65*** [2.60]		0.56* [1.93]
Tradable Industry	-0.28 [-1.51]	-0.23 [-1.20]	-0.36* [-1.89]	-0.31 [-1.61]
Strategic Industry	-0.68*** [-3.28]	-0.78*** [-3.69]	-0.61*** [-3.09]	-0.72*** [3.60]
Industry Leader	-0.98*** [-4.87]	-1.07*** [-5.04]	-1.10*** [-4.95]	-1.20*** [-5.21]
Industry Herf. Index	2.89*** [8.10]	2.93*** [7.69]	2.98*** [8.16]	3.01*** [7.61]
Post WTO	1.79*** [5.89]	1.75*** [6.67]	1.78*** [6.10]	1.70*** [6.78]
P/E-Chinese Market	-0.01 [-0.63]	-0.01 [-0.59]	-0.01 [-0.68]	-0.01 [0.59]
P/E-Hong Kong Market	0.08*** [3.56]	0.07*** [4.00]	0.08*** [3.66]	0.07*** [4.01]
Intercept	-15.91*** [-9.16]	-16.01*** [-9.54]	-16.05*** [-8.42]	-16.46*** [-9.44]
No. of Obs.	1377	1364	1377	1364
Pseudo R ²	0.6997	0.6929	0.7035	0.6948

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Table 1: Summary Statistics of Market Capitalization and P/E Ratio across Control Groups

The table presents summary statistics for market capitalization and P/E ratio for four groups of firms/shares: i) Newly offered A-shares of Hong Kong-listed firms upon returning to China, i.e., of dual-listed firms (Panel A); ii) Hong Kong-listed shares (H-shares) of dual-listed firms (Panel B); and iii) A-shares of domestic firms going public and listing only in China (Panel C); and A-shares of domestic-only listed SEO firms (Panel D). Summary statistics include the number of firms, mean, median, standard deviation, 5th percentile and 95th percentile. P/E is the firm's market capitalization scaled by net income. Variables are measured at the end of the offering year and market capitalization figures are in millions of Chinese currency Yuan (RMB). All observations are winsorized at the top and bottom 1 percentile. The sample period is from 1993 to 2008.

Variable	No of firms	Mean	Median	Std Dev	P5	P95
Panel A: Newly Offered A-Shares of Dual-Listed Firms						
Market Capitalization	46	18,000.04	2,145.66	19,752.62	284.44	56,352.12
P/E	46	35.80	28.24	18.58	19.59	69.32
Panel B: H Shares of Dual-Listed Firms						
Market Capitalization	46	55,653.29	12,177.26	79,745.72	882.27	204,979.43
P/E	46	18.26	14.33	12.81	5.41	39.63
Panel C: A-Shares of Domestic-only IPO Firms						
Market Capitalization	1271	633.01	520.45	362.78	223.36	1,340.40
P/E	1271	42.73	36.87	19.46	20.48	80.33
Panel D: A-Shares of Domestic-only SEO Firms						
Market Capitalization	229	3,066.01	1,777	4,023.01	622.13	10,769.84
P/E	229	31.42	19.40	51.91	6.17	57.57

Table 2. Dual-Listed vs. Domestic-Only Listed: Distribution over Time, Industry, and Exchange Listing

Panel A presents the number of domestic A-share offerings per calendar year and average offer price and proceeds of dual-listed and domestic-only listed Chinese firms from 1993 to 2008. Dual-listed firms are Chinese firms listed both on the Hong Kong Stock Exchange (HKSE) and the Shenzhen or Shanghai Stock Exchanges (SZSE/SHSE). Domestic-only listed firms are those solely listed on the SZSE or SHSE. Panel B presents the statistics based on four-digit industry sector. Sample firms are sorted into 9 industry sectors (excluding financials) based on the Global Industry Classification Standard (GICS). Panel C presents the statistics based on the listing exchange.

	Initial Domestic offerings by Dual-Listed Firms			IPOs by Domestic Firms			SEOs by Domestic Firms		
	No of IPOs	Offer price (RMB)	Proceeds (RMB billion)	No of IPOs	Offer price (RMB)	Proceeds (RMB billion)	No of Offerings	Offer price (RMB)	Proceeds (RMB billion)
Panel A: Full Sample									
1993	3	4.87	0.83	61	17.44	0.11	-	-	-
1994	3	4.39	0.97	69	4.64	0.13	-	-	-
1995	5	3.90	0.27	8	6.28	0.11	-	-	-
1996	4	4.37	0.13	138	5.71	0.12	-	-	-
1997	3	3.27	0.65	168	6.32	0.32	-	-	-
1998	1	3.37	0.27	86	7.87	0.43	7	4.84	0.44
1999	1	9.98	1.10	82	6.13	0.47	4	17.00	1.11
2000	-	-	-	123	8.02	0.60	14	18.59	0.93
2001	5	5.97	3.32	65	9.46	0.59	22	15.27	0.88
2002	3	2.91	0.72	64	7.22	0.57	25	10.68	0.59
2003	2	2.45	1.63	63	7.55	0.58	15	10.04	0.56
2004	-	-	-	98	8.53	0.36	10	9.23	1.53
2005	1	2.52	1.93	14	6.94	0.27	4	5.75	6.75
2006	4	3.91	5.47	58	8.52	0.75	13	7.27	1.95
2007	8	14.03	22.97	104	11.01	0.44	31	16.87	0.80
2008	3	9.58	12.87	70	12.06	0.53	84	17.63	1.06
Total/Avg	46	6.36	6.19	1,271	8.20	0.40	229	14.54	1.07

Table 2, continued

	Initial Domestic offerings by Dual-Listed Firms			IPOs by Domestic Firms			SEOs by Domestic Firms		
	No of IPOs	Offer price (RMB)	Proceeds (RMB billion)	No of IPOs	Offer price (RMB)	Proceeds (RMB billion)	No of Offerings	Offer price (RMB)	Proceeds (RMB billion)
Panel B: By Industry Sector									
Energy	7	13.58	25.44	46	10.77	0.63	8	10.73	0.90
Materials	10	4.10	2.60	293	7.24	0.47	62	15.12	1.68
Industrials	21	5.18	3.34	300	8.16	0.41	49	14.92	1.18
Cons. discretionary	1	9.98	1.10	230	8.10	0.31	43	15.07	0.72
Cons. staples	1	8.09	0.70	108	8.01	0.34	14	11.14	0.60
Health care	1	3.45	0.03	96	8.86	0.29	12	13.77	0.49
IT	1	5.10	0.12	138	9.73	0.32	30	16.32	0.63
Telecommunication	-	-	-	4	9.89	3.02	-	-	-
Utilities	4	4.91	2.06	56	6.97	0.54	11	10.57	0.99
Panel C: By Stock Exchange									
SHSE	39	6.19	7.16	658	8.35	0.48	95	14.10	0.78
SZSE	7	7.29	0.95	613	8.03	0.32	134	14.85	1.27

Table 3. Dual-Listed vs. Domestic-Only Listed: Operating Performance, Stock Performance, Tobin's q, and Offering Experience

ROA, *ROS*, and sales growth are averages over the three years post offering. Changes in *ROA*, *ROS*, and sales growth are from three years before to three years after offering. Stock performance measures in Panel B are 1-, 2-, and 3-year cumulative abnormal returns (*CAR*), where the benchmark used is the Chinese value-weighted market index. Average Tobin's *q* is presented in Panel C. Tobin's *q* for an individual firm is market value of equity plus book value of liabilities, divided by book value of assets. In Panel D, proceeds-to-sales ratio is issue proceeds divided by prior year's sales; underpricing is the percent change from the offer price to first-day closing price. Expense ratio is underwriter spread and administrative expenses per offered share divided by the offer price. In all panels, the differences in means of respective groups are provided. Wilcoxon tests for two sample differences are applied (except for alpha). Sample period is 1993-2008. ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.

	Dual-listed	Domestic IPO Firms	Difference (Dual - IPO)	Domestic SEO Firms	Difference (Dual - SEO)
Panel A: Operating performance					
Post-offering ROA (%)	3.12	4.48	-1.36**	3.52	-0.40
Post-offering ROS (%)	7.12	9.15	-2.03**	8.60	-1.48*
Post-offering Sales Growth (%)	21.23	23.38	-2.15**	23.14	-1.91*
Change in ROA (%)	-8.56	-4.71	-3.85***	-3.28	-5.28***
Change in ROS (%)	-6.21	-5.10	-1.11*	-3.53	-2.68***
Change in Sales Growth (%)	-2.33	-1.24	-1.09*	-1.45	-0.88*
Panel B: Stock Performance					
CAR 1 year after offering	-24.21	-10.98	-13.23 **	-1.90	-22.31***
CAR 2 years after offering	-37.14	-14.26	-22.88***	-3.27	-33.87***
CAR 3 years after offering	-53.37	-24.40	-28.97***	-5.65	-47.72***
Panel C: Tobin's q					
1 year after offering	0.99	1.24	-0.25*	1.31	-0.32**
2 years after offering	0.63	1.11	-0.48***	1.17	-0.54**
3 years after offering	0.70	1.31	-0.61***	1.04	-0.34**
Panel D: Underwriting outcome					
Underpricing (%)	87.91	129.76	-41.85**	22.12	65.79*
Expense Ratio (%)	2.87	4.58	-1.71***	4.14	-1.27***
Proceeds-to-sales (%)	210.42	100.33	110.09***	61.35	149.07***

Table 4: Determinants of the Decision to Return to China to List and Issue Stock

Estimation results for a Cox proportional hazards model on the determinants of the hazards rate for returning to China; Weibull and exponential accelerated failure time models on the determinants of the length of time between a firm's Hong Kong IPO and its subsequent domestic A-share IPO; and a probit model on the determinants of the likelihood of returning to China, estimated with error terms clustered at the firm level. All models are estimated with a panel dataset covering the period of 1993 to 2008 for 137 Chinese companies that are listed on the Hong Kong Stock Exchange. *Tradable Industry* is a dummy variable that equals one if a firm is from the chemicals, consumer goods, electronics, manufacturing, healthcare, mining, oil and gas, or paper industries, and zero otherwise. *Strategic Industry* is a dummy variable that equals one if a firm is from the infrastructure, power, transportation, petrochemicals, steel, telecom, or oil and gas industries, and zero otherwise. *Industry Leader* is a dummy variable that equals one for a firm with sales among the top 30% of its industry based on two-digit GICS code, and zero otherwise. *Industry Herfindahl Index* is the sum of the squared market shares (in %) of all the firms in an industry based on the two-digit GICS code. *Leverage* is the ratio of total liabilities to shareholders' equity. *Capital Expenditure to Assets* ratio is a firm's capital expenditure divided by its total assets. *Asset Growth* is the annual growth rate of the total assets. *Sales Growth* is the annual growth rate of sales. *Market/Book* is the market value of equity to book value of equity. *P/E-Chinese Market Level* is the value-weighted price to earnings ratio of all the firms listed on the Chinese stock exchanges. *P/E-Hong Kong Firm Level* is the price to earnings ratio of a Chinese firm cross-listed on the Hong Kong Stock Exchange. Robust z-statistics are in brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Cox Proportional Hazards Model		Weibull AFT Model		Exponential AFT Model		Probit Model	
Intercept			6.96***	7.16***	8.61***	8.62***	-5.09***	-4.99***
			[5.91]	[5.47]	[6.49]	[6.06]	[-5.96]	[-5.69]
ROA	-0.02		0.02		0.03		-0.02	
	[-0.64]		[0.94]		[1.33]		[-1.42]	
ROS		-0.32		0.09		0.20		-0.09
		[-0.83]		[0.31]		[0.67]		[-0.54]
Sales Growth		0.99**		-0.75**		-0.87*		0.44
		[2.06]		[-2.07]		[-1.96]		[1.63]
Asset Growth	2.24***		-1.54***		-1.84***		0.87***	
	[6.38]		[-6.50]		[-6.38]		[3.96]	
P/E-Chinese Market Level (× 100)	0.15	0.63	-0.09	-0.51	0.06	-0.55	-0.01	0.01
	[0.08]	[0.34]	[-0.06]	[-0.33]	[0.03]	[-0.30]	[-0.10]	[0.20]
P/E-Hong Kong Firm Level (×100)	-0.28	-0.19	0.59	0.11	0.56	0.10	-0.01	-0.01
	[-0.72]	[-0.55]	[1.43]	[0.44]	[1.24]	[0.32]	[-1.15]	[-0.43]

Table 4, continued

	Cox Proportional Hazards Model		Weibull AFT Model		Exponential AFT Model		Probit Model	
Ln(Assets)	0.33***	0.31***	-0.25***	-0.23***	-0.35***	-0.31***	0.22***	0.20***
	[3.76]	[3.06]	[-3.71]	[-3.03]	[-4.24]	[-3.47]	[4.18]	[3.67]
Tradable Industry	0.37	0.28	-0.26	-0.25	-0.35	-0.31	0.28	0.22
	[1.11]	[0.79]	[-0.92]	[-0.86]	[-1.07]	[-0.91]	[1.44]	[1.20]
Strategic Industry	0.74*	0.66*	-0.62*	-0.59*	-0.75*	-0.71*	0.37*	0.34*
	[1.80]	[1.71]	[-1.77]	[-1.66]	[-1.89]	[-1.86]	[1.84]	[1.79]
Industry Leader	0.16	0.00	-0.14	0.00	-0.17	0.03	0.12	0.05
	[0.41]	[0.00]	[-0.44]	[0.00]	[-0.43]	[0.08]	[0.56]	[0.23]
Industry Herfindahl Index	1.15	1.30*	-0.73	-0.92	-0.92	-1.12	0.51	0.55
	[1.52]	[1.70]	[-1.16]	[-1.37]	[-1.22]	[-1.43]	[1.26]	[1.41]
Leverage	-1.38	-1.09	1.20**	0.73	1.72**	1.07	-1.21**	-0.89*
	[-1.50]	[-1.21]	[2.00]	[1.08]	[2.09]	[1.24]	[-2.51]	[-1.88]
Capital Expenditure to Assets	0.45	2.98	-1.38	-2.60	-2.36	-3.38	1.66	2.04
	[0.18]	[1.18]	[-0.68]	[-1.24]	[-0.90]	[-1.27]	[1.12]	[1.42]
Market/Book	-0.24	-0.09	0.12	0.06	0.16	0.09	-0.10	-0.07
	[-1.64]	[-0.85]	[1.17]	[0.79]	[1.31]	[0.94]	[-1.53]	[-1.28]
No. of Observations	649	650	649	650	649	650	649	650
No. of firms listed on the HKSE	136	137	136	137	136	137	136	137
No. of firms listed on both the HKSE and Chinese domestic exchanges	39	39	39	39	39	39	39	39
Wald chi squared	98.48	29.20	90.63	25.07	98.48	31.51	44.13	25.40
Prob > Chi squared	0.0000	0.0037	0.0000	0.0145	0.0000	0.0016	0.0000	0.0130

Table 5: Multivariate Regressions of CAR and Tobin's q

The sample includes HK-listed Chinese firms that returned to China to issue stock and list between 1993 and 2008, inclusive, as well as separately Chinese firms conducting IPOs in China, and China-listed firms making SEOs, during the same period. The dependent variables are either the 36-month cumulative market-adjusted stock returns (*CAR*) or Tobin's *q* calculated three years after the offering. Tobin's *q* is the sum of the market value of equity and book value of liabilities divided by total book value of assets. The main explanatory variable, *CL*, is equal to one for the initial stock offerings in China made by a HK-listed Chinese firm, and zero otherwise. Other firm characteristics include *ROA*, sales growth, firm age (*Age*), the ratio of total liabilities to total assets (*Leverage*), the natural logarithm of assets (*Ln(Assets)*), market-to-book ratio (*Market/Book*), the inverse Mills ratio estimated from a probit model on the decision for a Chinese firm to cross-list in Hong Kong exchange (*IMR*₁), and the inverse Mills ratio estimated from a probit model on the decision for a cross-listed Chinese firm to come back to the Chinese domestic stock market to have an IPO (*IMR*₂). All the firm characteristics are measured in the year before issuance except for *Market/Book*, which is measured at the end of IPO/SEO year; if the number is missing, the averages in preceding two years are used. The t-statistics are provided in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable	CAR		Tobin's q	
	IPO firms	SEO firms	IPO firms	SEO firms
Domestic Control Group				
Intercept	-0.21 [-1.28]	-3.10*** [-4.53]	14.65*** [10.47]	0.67 [1.38]
CL	-0.15** [-2.20]	-0.18*** [-3.00]	-0.21** [-2.17]	-0.20*** [-3.54]
ROA	0.80*** [3.03]	1.52** [2.18]	1.03*** [3.12]	1.59** [2.11]
Sales Growth	-0.02 [-0.25]	0.49** [2.35]	0.15* [1.81]	0.19* [1.72]
Age	0.01* [1.85]	0.07* [1.98]	0.01 [0.73]	0.04** [2.13]
Leverage	-0.18* [-1.99]	-0.17* [-1.75]	-0.13** [-2.23]	-0.14* [-1.81]
Ln(Assets)	-0.03** [-2.19]	-0.04 [-1.34]	-0.46*** [-8.72]	-0.07*** [-3.12]
Market/Book	0.25*** [13.32]	0.42*** [9.36]		
IMR ₁	0.06** [2.34]	0.19* [1.92]	0.40** [2.06]	0.12 [1.35]
IMR ₂	0.08 [0.38]	0.36** [2.15]	-0.05 [-1.04]	-0.08 [-1.06]
Industry Dummies	Yes	Yes	Yes	Yes
No. of Obs.	1245	229	1251	229
Adjusted R ²	0.19	0.25	0.23	0.28

Table 6: Multivariate Regression of Proceeds-to-Sales, Underpricing, and Expenses Ratio

This table presents the estimates of multivariate regressions of offer proceeds to sales ratio, underpricing, and expense ratio on pre-offering firm characteristics for the period of 1993 to 2008. Sales are measured in the year prior to offering. Underpricing is the percent difference between the first-day closing price and the offer price. The expense ratio is issue expenses (including underwriter spread and administrative expenses) per offered share divided by the offer price. The main explanatory variable *CL* is a dummy variable indicating initial domestic offerings by returning Chinese firms. Other firm characteristics include *ROA*, firm age (*Age*), the ratio of total liabilities to total assets (*Leverage*), the natural logarithm of assets (*Ln(Assets)*), the natural logarithm of proceeds (*Ln(Proceeds)*), the inverse Mills ratio estimated from a probit model on the decision of a Chinese firm to go public in Hong Kong instead of in China (*IMR₁*), and the inverse Mills ratio estimated from a probit model on the decision of a HK-listed Chinese firm to come back to China to offer shares and list (*IMR₂*). Firm characteristics are for the fiscal year before offering/returning; if an observation is missing, the average over the preceding two years is used. The t-statistics are provided in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable	Proceeds /Sales	Proceeds /Sales	Underpricing	Underpricing	Expense Ratio	Expense Ratio
Domestic Control Group	IPO firms	SEO firms	IPO firms	SEO firms	IPO firms	SEO firms
Intercept	5.37*** [6.21]	5.99*** [6.02]	9.06*** [11.37]	2.89*** [3.36]	27.46*** [19.85]	4.99*** [5.80]
CL	0.31*** [3.50]	0.24*** [4.37]	-1.59** [-2.15]	0.84** [2.53]	-2.91*** [-2.76]	-2.35*** [-3.89]
ROA	-0.12** [-2.09]	-0.01*** [-2.83]	-0.05 [-1.26]	-0.01 [-0.46]	0.07 [1.28]	0.11*** [3.27]
Age	-0.03*** [-2.97]	-0.01 [-0.67]	-0.04*** [-2.22]	-0.02* [-1.78]	0.14*** [10.79]	0.01 [1.09]
Leverage	-2.51*** [-8.95]	-0.73* [-1.71]	-0.09 [-0.37]	-0.26* [-1.93]	0.82** [2.30]	-0.40 [-1.57]
Ln(Assets)	-0.16*** [-2.64]	-0.24** [-2.27]				
Ln(Proceeds)			-0.40*** [-9.73]	-0.14*** [-3.41]	-1.19*** [-16.79]	-0.25*** [-6.10]
IMR ₁	0.08* [1.83]	0.18 [1.26]	0.16** [2.49]	0.01 [0.05]	0.72*** [2.66]	0.39*** [4.23]
IMR ₂	-0.46 [-1.27]	0.19 [0.49]	0.58 [1.39]	0.24 [0.86]	1.44** [2.12]	0.13 [0.54]
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
No. of Obs.	1,245	217	1,245	229	1,221	229
Adjusted R ²	0.13	0.12	0.09	0.24	0.31	0.79

Table 7: Multivariate Regression of CAR and Tobin's q on Proceeds-to-Sales

The dependent variables are either the 36-month cumulative market-adjusted stock returns (CAR) or Tobin's q calculated three years after the offering. Tobin's q is the estimated as the sum of the market value of equity and book value of liabilities divided by total book value of assets. The explanatory variables include the ratio of proceeds to sales, the dummy variable CL which equals one if a stock offering is made by a HK-listed Chinese firm, and the interaction between *the two variables*. Other firm characteristics include ROA , sales growth, firm age (Age), the ratio of total liabilities to total assets (Leverage), the natural logarithm of assets, market-to-book ratio ($Market/Book$), the inverse Mills ratio estimated from a probit model on the decision for a Chinese firm to cross-list in Hong Kong exchange (IMR_1), and the inverse Mills ratio estimated from a probit model on the decision for a cross-listed Chinese firm to come back to the Chinese domestic stock market to have an IPO (IMR_2). All the firm characteristics are measured in the year before issuance except for Market/Book, which is measured at the end of IPO/SEO year; if the number is missing, the average over the preceding two years is used. The t-statistics are provided in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable	CAR	CAR	Tobin's q	Tobin's q
Domestic Control Group	IPO firms	SEO firms	IPO firms	SEO firms
Intercept	-0.19 [-0.46]	-2.94*** [-3.79]	15.61*** [16.36]	0.67 [1.25]
Proceeds/Sales	-0.18** [-2.22]	-0.26* [-1.73]	-0.16*** [-5.01]	-0.14** [-2.23]
CL	-0.43** [-2.05]	-1.80*** [-4.36]	-0.72*** [-2.74]	-1.13** [-2.11]
CL x Proceeds/Sales	-0.48*** [-2.85]	-0.19** [-2.31]	-0.71*** [-2.76]	-0.16** [-2.02]
ROA	0.04** [2.29]	1.30** [2.35]	0.14*** [3.25]	1.18** [2.10]
Sales Growth	0.02 [0.62]	1.24* [1.98]	0.11 [1.25]	1.19* [1.86]
Age	0.01 [1.05]	0.02* [1.82]	-0.01 [-1.00]	0.02** [2.22]
Leverage	0.07 [0.54]	-0.07 [-0.23]	-1.70*** [-5.45]	-0.03 [-0.82]
Ln(Assets)	-0.02 [-1.04]	-0.18*** [-3.82]	-0.56*** [-11.16]	-0.10*** [-2.89]
Market/Book	0.27*** [13.23]	0.12* [1.91]		
IMR ₁	0.09*** [3.15]	0.20* [1.98]	-0.44** [-2.27]	-0.09 [-1.16]
IMR ₂	-0.18 [-0.36]	0.16 [1.15]	-0.82 [-1.58]	0.27 [1.47]
Industry Dummies	Yes	Yes	Yes	Yes
No. of Obs.	1,245	227	1245	227
Adjusted R ²	0.20	0.22	0.24	0.27

Table 8: Multivariate Regression of Tunneling Measures on Proceeds-to-Sales and CL

The regressions are reported for the IPO firms and the SEO firms separately for the period of 1993 to 2008. The dependent variables are other receivables (*OREC*) and excess cash (*XCASH*). *OREC* is the ratio of other receivables to total assets. *XCASH* is estimated as the residual of the regression of the level of cash on the determinants of cash holdings documented in Appendix 3. The explanatory variables include proceeds-to-sales (*Proceeds/Sales*), the cross-listing dummy (*CL*), the interaction of *CL* and *Proceed/Sales*, *Ln(Assets)*, market-to-book ratio (*Market/Book*), the ratio of total liabilities to total assets (*Leverage*), and the inverse Mills ratios *IMR₁* and *IMR₂*. All firm characteristics are measured at the end of the last fiscal year prior to the stock offering, except for *Market/Book*, which is measured at the end of the offering year. If a variable is missing, the average over the preceding two years is used. The t-statistics are provided in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable	OREC		XCASH	
	IPO Firms	IPO Firms	SEO Firms	SEO Firms
Intercept	0.271 [0.79]	-0.462 [-0.50]	-0.058 [-0.53]	-0.104 [-0.97]
Proceeds/Sales	0.226*** [7.86]	0.837*** [3.44]	0.319*** [4.13]	0.540*** [3.02]
CL	0.148* [1.75]	0.122* [1.91]	0.046* [1.84]	0.028 [1.43]
CL* Proceeds/Sales	0.117 [1.14]	0.143 [1.34]	0.109 [1.28]	0.086 [1.04]
Ln(Assets)	-0.018 [-0.93]	0.013 [0.52]	-0.011 [-0.87]	0.012 [0.49]
Market/Book	-0.017 [-0.63]	-0.016 [-1.54]	-0.009 [-0.96]	0.019* [1.73]
Leverage	0.061 [0.89]	0.144 [1.43]	0.144* [1.89]	0.068 [1.34]
IMR ₁	0.038 [0.29]	-0.133*** [-2.90]	-0.005 [-0.16]	-0.030 [-0.32]
IMR ₂	0.120 [0.02]	-0.126 [-1.10]	0.038 [1.61]	-0.141* [-1.95]
Industry Dummies	Yes	Yes	Yes	Yes
No. of Obs.	1,253	1,271	229	229
Adjusted R ²	0.17	0.37	0.31	0.38