

Choice of Foreign Listing Location: Experience of Chinese Firms

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Abstract

At the end of October 2003, there were 237 Chinese firms listed in various stock exchanges outside of mainland China. Beyond geographical proximity and other obvious explanations of why Chinese firms prefer a listing in Hong Kong more than the U.S., we identify two additional benefits of a Hong Kong listing over the U.S. We find that Chinese firms that are listed in Hong Kong have better information environment than those that are solely listed in the U.S. We also find that the Hong Kong-listed firms are less financially constrained, which may be due to their ability to access the Hong Kong capital market for external financing. The results of our study show that different stock markets are expected to offer different benefits as a listing venue and so the benefits of foreign listing may be dependent on the choice of listing location.

JEL classification: G15

Keywords: Foreign listing; Cross-listing; Listing location; Chinese stocks

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1. Introduction

Why do some firms list their stocks on a foreign exchange? Academics have identified a host of reasons for such listings, including hypotheses relating to investor recognition, access to capital, protection of minority shareholders, visibility, and improvement in information environment. Foerster and Karolyi (1999) investigate 153 foreign companies that list their shares in the U.S. and find the abnormal returns around such listings to be consistent with improvement in investor recognition (an average increase in shareholder base of 28.8 per cent) as well as the greater liquidity these firms achieve upon their listing in the U.S. Lins, Strickland, and Zenner (2003) find that following a U.S. listing, the sensitivity of investment to cash flow decreases significantly for firms from emerging markets, but does not change for firms from developed markets. This supports the argument that access to external capital markets is also an important benefit of foreign listings. Another set of literature views foreign listings as a means to raise capital despite majority shareholders having to give up some private benefits of control. Reese and Weisbach (2002) examine the relation between cross-listing, shareholder protection, and subsequent equity offering. They find that firms from countries with weak shareholder protection are willing to cross-list and hence give up some private benefits of control (by having to abide by stringent U.S. securities laws) because of the need to raise equity capital. Doidge, Karolyi, and Stulz (2004) find that the Tobin's q of foreign firms listed in the U.S. is 16.5% higher than non cross-listed firms from the same country. Hence, firms with growth opportunities that cannot be funded internally will choose to cross-list in the U.S. because the benefit (ability to get external financing) is greater than cost (reduction in private benefits of control). In addition, Doidge (2004) finds that for those non-U.S. firms with dual classes of high-voting and low-voting shares, those listed on a U.S. exchange have voting premiums (proxy for private benefits of control) that are 43% lower

than those not listed in the U.S. This indicates that U.S. cross listing decreases the private benefits of control and increases the protection afforded to minority shareholders. Recently, another set of literature argues that foreign listings improve firms' information environment and visibility. Baker, Nofsinger, and Weaver (2002) show that international firms listing on the New York Stock Exchange (NYSE) or London Stock Exchange (LSE) enjoy a significant increase in visibility, which is proxied by analyst coverage and print media attention. Lang, Lins, and Miller (2003) find that non-US firms listed on a U.S. exchange have greater analyst coverage and increased forecast accuracy than firms not listed in the U.S. and attribute this to the better information environment.

Although foreign listings in general bring about beneficial effects, recent studies seem to indicate that the choice of listing location is also important. Froot and Dabora (1999) document that for twin companies whose charter fixes the division of cash flows to each twin, and hence whose stock prices should move in a fixed ratio determined by the proportional division of cash flows, prices show persistent and large deviations from the ratio of cash flow. A twin's relative price is more highly correlated with the stock-market index of the country where it is traded most actively. This evidence suggests that location of trade matters for the pricing of stocks. Similarly, Chan, Hameed, and Lau (2003) find that for Jardine stocks that delisted from Hong Kong and moved their trading to Singapore, though their main business location continued to be in Hong Kong, Jardine stocks correlated less (more) with the Hong Kong (Singapore) market after delisting. Lau and McInish (2003) find that individual firm trading volume is most closely associated with the market where the stocks are traded, and firms that switch their primary listing locations can expect the trading characteristics of their shares to become similar to those of the new market. Pagano, Roell, and Zechner (2002) examine the aggregate trends in foreign listings. They find that high-tech and export-oriented European companies that expand rapidly without significant leveraging choose the U.S. as

their foreign listing location, while European companies that do not grow unusually fast and increase leverage after cross-listing prefer a foreign listing location within Europe. Blass and Yafeh (2001) find that young and high-tech oriented Israeli firms choose the U.S. versus domestic exchanges as their listing location. These findings suggest that different stock markets are expected to offer different benefits as a listing venue and so the benefits of foreign listing may be dependent on the choice of listing location.

In this paper we examine the foreign listing experience of Chinese firms. Specifically, we look at Chinese firms' foreign listing in Hong Kong and the U.S. We document two foreign listing benefits that appear to be dependent on the choice of listing location. Using analyst coverage as a proxy, we show that Chinese firms with a foreign listing in Hong Kong have a better information environment than those that choose to list in the U.S. Using investment sensitivity to cash flow as a proxy, we show that Chinese firms with a Hong Kong listing are generally not financially constrained but those that choose to list in the U.S. usually are. This may be due to the ability of the Hong Kong-listed firms to access the Hong Kong capital market for external financing. This paper provides further evidence that the benefits of foreign listing are dependent on the listing location.

An examination of Chinese foreign stock listing is timely and warranted: there are several recent newspaper reports on the interest in Chinese foreign-listed stocks by foreign investors (The Wall Street Journal, December 10, 2003) and the surge in the number of Chinese firms' foreign listings in the U.S., Hong Kong, and Singapore (New York Times, December 9, 2003; Financial Times, December 9, 2003; Reuters News, May 26, 2003). The Chinese Securities Regulatory Commission recently also simplified the approval process to make it easier for Chinese firms to list on foreign stock exchanges (Reuters News, May 26, 2003). With few exceptions such as Baker, Nofsinger, and Weaver (2002) and Lang, Lins, and Miller (2003), Chinese cross-listed firms are not included in previous studies.

Table 1 provides background information regarding the listing of Chinese firms in domestic and foreign markets. Prior to the establishment of domestic stock markets (Shanghai Stock Exchange in 1990 and Shenzhen Stock Exchange in 1991), there were only four Chinese firms with foreign listings. All these listings were in Hong Kong and resulted from Chinese firms acquiring companies already listed in Hong Kong and then injecting business into those companies.

Since the formal establishment of domestic stock markets, Chinese firms' foreign listings increased tremendously with 237 foreign listings in Hong Kong, the U.S., Singapore, and London by the end of October 2003. In all years with the exception of 1995 and 1998, there were more Chinese firms' foreign listings in Hong Kong than in the U.S. About 67% or 158 listings are presently in Hong Kong. Among the 68 U.S. listings, 21 of them are on the NYSE, one on the American Stock Exchange, six on NASDAQ, and 40 on the over-the-counter market. The six NASDAQ-listed companies are all young and high-tech oriented companies. This pattern is consistent with the evidence shown in Blass and Yafeh (2001) that most Israeli firms listed in the U.S. are young and overwhelmingly high-tech oriented and most choose the NASDAQ as the listing location. It should be noted that of the 68 U.S. listings, 47 (69%) are listed in both Hong Kong and the U.S. Besides geographical proximity and other obvious explanations such as same culture and language, why do Chinese firms prefer to list in Hong Kong rather than the U.S.? What are the benefits that a Hong Kong listing can bring about? These are the questions we aim to address in this paper.

The remainder of the paper is organized as follows: The next section examines the difference in information environment between a Chinese firm's Hong Kong listing versus U.S. listing. In Section 3 we use panel and time series data to investigate the difference in investment sensitivity to cash flow. In Section 4 we present robustness tests by using cash sensitivity to cash flow in place of investment sensitivity to cash flow, and the methodology

according to Kaplan and Zingales (1997). Section 5 presents a brief discussion on costs and benefits associated with Hong Kong or U.S. listing. Concluding remarks are given in Section 6.

2. The information environment

2.1. Hypothesis 1

It has been shown that investors prefer to invest in familiar stocks while often ignoring the implications of the principles of portfolio policy. Huberman (2001) studies the geographic distribution of shareholders of seven U.S. Regional Bell Operating Companies (RBOCs). He finds that a disproportionate number of an RBOC's customers tend to hold a disproportionate number of shares and invest a disproportionate amount of money in their local RBOC. Grinblatt and Keloharju (2001) find that in the Finnish stock market a firm's proximity, language, and culture are three important attributes of familiarity which all contribute to investor preferences for certain stocks. Coval and Moskowitz (1999) provide empirical evidence that geographic proximity plays an important role in determining investors' portfolio choice. Investors prefer to invest in companies in a geographical location close to them. Coval and Moskowitz argue that such investment behavior can be explained by the fact that investors have a better information environment for firms that they are familiar with or that are located nearer to them. Merton (1987) develops a theoretical model of capital market equilibrium with incomplete information in which investors construct their optimal portfolios using only those stocks they are aware of. In all the three dimensions of distance, language, and culture, Hong Kong investors are more familiar with mainland Chinese firms than are U.S. investors. The difference in the disparate degrees of familiarity between Hong Kong and U.S. investors may result in different investment interests in Chinese stocks and different costs of acquiring relevant information about Chinese stocks. Given Hong Kong investors' investment preference for mainland Chinese companies and the lower costs of generating

information for such firms, we have a priori that Chinese firms that are cross-listed in Hong Kong have better information environment than those that are solely listed in the U.S. We assume that Hong Kong investors are not at an information advantage about these firms until their shares start trading in Hong Kong. This is because prior to Hong Kong listing, these Chinese shares are either not traded in any public market or only traded in mainland China as A-shares and Hong Kong investors are not eligible to invest in A-shares. These lead us to Hypothesis 1: foreign listing location has no effect on information environment versus the alternative that the listing location matters.

2.2. Data and methodology

We considered all Chinese firms that are included in the I/B/E/S International database (IBES). To qualify for selection, each firm must have had at least one analyst following it and 260 firms qualified.¹ We used data from 2001 (for the cross-sectional regression), instead of data from earlier years, to include as many listings as possible. Each firm must also have had earnings data for the three years from 1999 to 2001. With these restrictions, we ended up with a sample of 136 firms. We classify these 136 firms into four mutually exclusive groups of firms: (1) D group: Chinese firms (43 of them) with only a domestic listing; (2) H group: Chinese firms (55 of them) with a Hong Kong listing; (3) U group: Chinese firms (seven of them) with a U.S. listing; and (4) HU group: Chinese firms (31 of them) with both a Hong Kong and a U.S. listing. As very few firms were de-listed during our sample period we do not think that our analysis is subject to significant survivorship bias.

Ideally, we should perform both cross-sectional and time series analyses but unfortunately analyst coverage data for the pre-listing period are not available. This is

¹ The small sample size is not surprising because many Chinese firms are either too small or lack investment interests and hence do not have analysts coverage.

because almost all Chinese firms with a foreign listing in Hong Kong or the U.S. begin to have coverage data in IBES some time after their foreign listing events.²

To examine and compare the information environment for Chinese firms listed in Hong Kong (H firms), listed in the U.S. (U firms), and listed in both Hong Kong and the U.S. (HU firms), following Lang, Lins, and Miller (2003) and Leuz (2003), and taking into consideration our research purpose, we conducted the following regression:

$$\text{NOFA} = \beta_0 + \beta_1 H + \beta_2 U + \beta_3 HU + \beta_4 TA + \beta_5 EV + \beta_6 ES + \text{industry dummies} + \text{random disturbance term.} \quad (1)$$

The dependent variable NOFA is the number of analysts who provided annual earnings forecasts for the firm. NOFA is our proxy for the information environment. It is reasonable to argue that if there are more analysts covering a firm, the firm should have more information available to investors and hence enjoy a better information environment. This proxy is also used by Lang, Lins, and Miller (2003) and Baker, Nofsinger, and Weaver (2002).

Our focus is on the dummies we used in the regression: $D = 1$ if the firm is only listed domestically (D firms), but $D = 0$ otherwise. D is the base in the above regression specification. $H = 1$ if the firm is listed in Hong Kong (H firms), but $H = 0$ otherwise. $U = 1$ if the firm is listed in the U.S. (U firms), but $U = 0$ otherwise. $HU = 1$ if the firm is listed in both Hong Kong and the U.S. (HU firms), but $HU = 0$ otherwise. Most of the firms in the H, U, and HU groups are also listed domestically. The dummies are the key to our analysis. We

² Lang, Lins, and Miller (2003) also face this problem with their firms although they managed to obtain pre-listing data for a smaller sample size. Lang, Lins, and Miller also point out: “it is possible to envision situations in which the information environment is important, but is not necessarily reflected in changes around cross listing.” They also state that “even if the information environment explicitly changes because of the cross listing, the timing may not be clear.”

used them to divide our sample of Chinese firms into four mutually exclusive groups and examined the difference in the information environment among these groups.

The other right-hand side variables are the control variables: TA is the log of the total assets of the firm in millions of U.S. dollars. It is included in the regression to control for firm size effect because larger firms can have more analyst coverage (Bhushan, 1989; Lang and Lundholm, 1996). EV is earnings volatility, which is measured by the standard deviation of earnings over the previous three years and scaled by the firm's stock price. ES is earnings surprise, which is measured by the absolute value of the difference between current earnings per share and earnings per share from the prior year, divided by the firm's stock price. The rationale for including EV and ES is because studies have shown that earnings volatility and surprise may affect analysts' behavior towards a firm. Lang and Lundholm (1996), for example, find that analysts prefer to follow firms with less variable performance. They also find that analyst forecast characteristics are likely to be affected by the magnitude of the earnings information to be released and that the inclusion of the measure of earnings surprise accounts for such a factor. To control for industry effect, we included industry dummy variables based on the IBES sector classification.

2.3. Empirical findings

Table 2 provides the descriptive statistics of our dependent and independent variables. Our sample firms on average have about 9.294 analysts covering their stocks.³ Among the four groups of firms, the D firms have the lowest number of analysts (on average about 2.350), with the H and HU firms having the largest number of analysts (on average about 10.655 for H firms and about 17.903 for HU firms). In contrast with firms that have a Hong Kong listing, U firms have about the same number of analysts following them as the D firms

³ This number is quite big because as mentioned previously, most Chinese firms have no analyst coverage and hence are not included here.

(an average 3.143). In terms of firm size, firms with foreign listings are predominately larger than purely domestic firms. Firms in the HU group are also much larger than those of the H and U groups suggesting that the largest firms prefer to have both a Hong Kong and a U.S. listing. With respect to earnings volatility and earnings surprise, the numbers are also bigger for firms with foreign listings than purely domestic firms.

Our focus is on the cross-sectional regression results in Table 3. Panel A of Table 3 shows that the HU coefficient is statistically significant. This indicates that there are more analysts covering HU stocks than D stocks, which is consistent with the statistics in Table 2. This finding is generally consistent with Baker, Nofsinger, and Weaver (2002), who show that international firms listing shares on the NYSE or LSE experience a significant increase in visibility. The H coefficient is also statistically significant but the coefficient of U is not. To investigate this further, we used the Wald test (results in Panel B) to examine the null hypothesis that the coefficients of H and U are equal. The Wald test rejects the null hypothesis that they are equal. We also used the Wald test to examine the hypothesis that the coefficients of H and HU are equal, but the result is not statistically significant.

Some people might argue that it could be possible that while more analysts follow a Hong Kong listing than a U.S. listing, U.S. analysts may have higher information generation capability than the same number of Hong Kong analysts. However, we do not think this is the case. Malloy (2004) examines how geographical distance affects the performance of analysts. He finds that geographically proximate analysts provide significantly more accurate forecasts and their forecasts and recommendations are of higher investment value than other analysts. As Hong Kong analysts are located nearer to Chinese firms, it is not likely that their information generation capability for Chinese firms is lower than U.S. analysts. Another concern is that our results are due to the difference in the two host markets: Hong Kong firms generally have higher analyst coverage than U.S. firms do. To address this concern, we

extract analyst coverage data at December 2001 for all the Hong Kong and U.S. firms excluding our sample firms. We find that the median number of analysts following a Hong Kong or a U.S. firm is the same (4.0) though U.S. has a lower mean (5.7 for U.S. and 8.8 for Hong Kong). Therefore it seems unlikely that our results are driven by the difference in the two host markets. These findings show that Chinese firms benefited from a Hong Kong listing in the form of a better information environment, but that these benefits were not evident from the U.S. listing.

The control variables are generally with the expected signs. Firm size is significantly positively related to the number of analysts following the firm, which is consistent with the findings from Bhushan (1989), Lang and Lundholm (1996), and Lang, Lins, and Miller (2003), that larger firms tend to attract more analyst coverage. Earnings volatility has a negative sign, suggesting that analysts prefer to follow firms with less performance variability. The coefficients on earnings volatility and earnings surprise are not statistically significant, as is the case in Lang, Lins, and Miller (2003). The empirical results that we obtained above support Hypothesis 1.

2.4. Additional analysis

When a firm becomes listed it typically takes some time before an analyst initiates the coverage of the firm. This time lag can be a proxy for investment interests: the shorter the lag, the greater the number of investors interested in the stock, and vice versa. Hence we compared such time lags for U firms and H firms. If a Hong Kong listing improves the information environment while a U.S. listing alone does not, we should find H firms have a significantly shorter lag between their Hong Kong listing and the time they have coverage data, than the time lag for U firms between U.S. listing and the time when they have coverage

data.⁴ We find that the mean (median) between the foreign listing event and the initiation of analyst coverage is 11.3 (6) months for U firms while the corresponding mean (median) lag is only 2.6 (2) months for H firms. Both t-test and non-parametric Wilcoxon Rank Sum/Mann-Whitney test show that H firms have significantly shorter time lags than U firms.

It is also possible that an analyst that has been covering the stocks discontinue coverage because of the lack of investment interest in the stock. Hence, if a Hong Kong listing is helpful for the information environment of Chinese firms, one should find a significantly lower percentage of H firms with discontinued coverage than U firms. We compared the proportion of firms that analysts discontinued coverage of by July 2002 (end of our dataset) for U and H firms.⁵ By July 2002, 65 per cent of the U firms no longer have analyst coverage. In contrast all except one of the H firms continued to be covered by analysts. The t-statistic for the difference between the discontinued proportion for U and H firms is 7.19 and is statically significant at the one per cent level.

Finally, we also consider whether a firm's first foreign listing is associated with a more profound response than subsequent foreign listings since Sarkissian and Schill (2004) find that valuation gains from foreign listing diminish for multiple foreign listings. Of the 36 HU firms for which we have the data, 14 are first listed in Hong Kong, 20 are simultaneously listed in Hong Kong and the U.S., and only two are first listed in the U.S. Hence, this restriction (only two firms first listed in the U.S.) prohibits us from exploring the effect of market sequencing.

3. Investment to cash flow sensitivity

3.1. Hypothesis 2

⁴ Bruner, Chaplinsky, and Ramchand (2004) similarly utilize time lags to examine investment interests in international firms conducting initial public offerings in the U.S.

⁵ Data are compiled from IBES.

Assuming information asymmetry between firms' management and outside investors, Myers and Majluf (1984) show that there exists a financing hierarchy (pecking order) for firms seeking financing for investments. The preference order is first internal funds, then debt, and finally equity. If a firm has a better information environment than other firms, the information asymmetry between its management and outside investors should be less than other firms and it should have less costly external financing than other firms. If the cost disadvantage of external financing is small, firms will simply use external funds to smooth investment when internal finance fluctuates and their investment is therefore less significantly related to their cash flow level. On the other hand, if the cost disadvantage of external financing is significant for a firm, its investment tends to be driven by fluctuations in cash flow (Fazzari, Hubbard, and Peterson, 1988; Lins, Strickland, and Zenner, 2003).

Given the findings in Section 2 on the better information environment for Chinese firms listed in Hong Kong, the H and HU firms should also have a smaller cost disadvantage in external financing than U firms. This lower cost of external financing implies that an H or HU firm's investment may not be significantly related to its cash flow, which is the internal source of funds for investment. Hence we propose a second hypothesis: the investment of firms that have a Hong Kong listing (H and HU firms) is not significantly related to their cash flow; while the investment of U firms (those with a U.S. listing) is significantly related to their internal cash flow.

3.2. Data and methodology

To examine our second hypothesis, we used data from 1998 to 2002 and conducted a panel data analysis to compare the investment sensitivity to cash flows for the above three groups of firms. There were 13 H firms at the end of 1996 and we included all of them in our sample. There were also 13 U firms but we had to exclude three of them: one changed its primary listing location to Hong Kong in October 1999 and hence became an HU firm;

another was de-listed in 2001; and we couldn't find the necessary data for the third firm. Hence we have 10 U firms in our sample. There were 19 HU firms at the end of 1996 and we included all of them in our sample. We used data from 1998 to 2002 so we could strike a balance between covering as many firms as possible and having a timeframe of at least five years. Data on Chinese firms were hard to obtain so we extracted the necessary data from several sources: Compustat, Osiris, Worldscope, Datastream, annual reports, and 20-F filings to the U.S. Securities and Exchange Commission.

For this analysis, we utilized the well-known methodology by Fazzari, Hubbard, and Petersen (1988):

$$\frac{I_{i,t}}{TA_{i,t-1}} = \beta_0 + \beta_1 \frac{CF_{i,t}}{TA_{i,t-1}} + \beta_2 Q_{i,t-1} + \beta_3 \frac{SALE_{i,t-1}}{TA_{i,t-1}} + \beta_4 \frac{CASH_{i,t-1}}{TA_{i,t-1}} + \beta_5 Q_{i,t} + \text{disturbance term.} \quad (2)$$

The dependent variable $I_{i,t}$ is the annual investment in property, plant, and equipment (PP&E) for firm i at year t and is our proxy for investment. $CF_{i,t}$ is the annual cash flow of firm i at year t , and includes income before consideration of extraordinary items and depreciation and amortization. This is our proxy for firms' internal source of funds available for investment. $Q_{i,t-1}$ is the one-period lagged Tobin's q ratio for firm i at year t and is the control variable to isolate the effect of a firm's growth potential. Fazzari, Hubbard, and Petersen (1988) show that after controlling for the different growth potentials faced by their sample firms, investment is not significantly related to cash flow for firms that face a relatively less costly external source of financing.

In addition to the variables that we have already defined in the second equation, $SALE_{i,t-1}$ is the one-period lagged annual net sales for firm i at year t . This variable is used to control for the effect of production on investment. $CASH_{i,t-1}$ is the one-period lagged cash and its equivalent for firm i at year t . It controls for the financing slack available for the firm.

The reason for including $CASH_{i,t-1}$ is that if a firm has a lot of cash available for investment then its investment sensitivity to cash flow may be lower. These two control variables are used in Lins, Strickland, and Zenner (2003). We included another control variable $Q_{i,t}$, the contemporary Tobin's q ratio for firm i at year t, because Blinder and Poterba (1988) argue that by doing so, the "coefficients on cash flows in these equations are somewhat cleaner than those from the models with only lagged q, since they avoid biases that result when cash flow incorporates later information than the q variable." All variables except q ratios are in millions of U.S. dollars to isolate the noise from inflation. All variables except q ratios are also scaled by $TA_{i,t-1}$, the beginning-of-period total assets, to control for the size effect. In all regressions we control for the firm-fixed effects.

We conducted a panel data analysis to compare the investment sensitivity to cash flows for the three groups of firms: H, U and HU. There were annual data for 42 firms spanning five years, resulting in a total of 210 observations.

3.3. Empirical results

Table 4 presents the descriptive statistics for the variables used in the panel regression. The result shows that H firms invested more than U firms. H firms on average invested 4.7% of their total assets while U firms only invested 1.7% of their total assets. The same is true for HU firms - they invested 5.2% of their total assets on average. The difference between H firms and HU firms is not significant. With regard to cash flow, sales, and cash and equivalents, the numbers are all larger for H and HU firms than for the U firms. For the q ratio, the U firms on average have a larger q ratio than the H and HU firms. U firms have an average q ratio of 2.120, while the number for H and HU firms is 1.788 and 1.170, respectively. The higher q ratio suggests that U firms should invest more than H and HU firms because they have more valuable investment opportunities. The inconsistency between the high q ratio and the low investment ratio indirectly supports our second hypothesis. The U

firms have larger information asymmetry between the firm's management and outside investors, which leads to higher cost disadvantage of external financing and constrains their ability to invest in profitable projects.

The panel regression results for the three groups of firms are presented in Table 5. Kaplan and Zingales (1997) point out that when deciding the status of capital constraint, one should focus on whether investment is sensitive to cash flow or not rather than focus on the magnitude of the sensitivity. Therefore, our emphasis is on the statistical significance of the cash flow coefficients. The cash flow coefficient is not statistically significant for the H and HU firms but is statistically significant for the U firms. This means that for the U firms, their investment is statistically significantly related to their cash flow. The difference in investment sensitivity to cash flow between H and HU firms and U firms is consistent with Hypothesis 2.

3.4. Additional analysis

To further explore our second hypothesis, we collected another set of panel data and conducted an additional test for the U firms. We examined whether there was any significant change in investment sensitivity to cash flow during a four-year window consisting of two years before and two years after their U.S. exchange listing. The sample period was from $t-2$ to $t+2$ and we did not use data points for year t , the year in which the U.S. listing occurred. If a U.S. exchange listing did not lead to an improvement in the information environment for these firms, we expected to see no significant change in their investment sensitivity to cash flow following their U.S. listing.

To perform this analysis, we needed data for three years before and two years after a firm's listing on a U.S. exchange. We needed data for $t-3$ because of the lagged variables that we used. Although in 2001 there were 12 U firms, we were unable to obtain complete data for two of them. Therefore we have a sample of 10 firms and four years for a total of 40

observations. These data were obtained from Compustat and the corporate filings of these firms.

The research methodology is similar to that in Section 3 and is based on Fazzari, Hubbard, and Petersen (1988) and Lins, Strickland, and Zenner (2003). The regression specification is:

$$\frac{I_{i,t}}{TA_{i,t-1}} = \beta_0 + \beta_1 \frac{CF_{i,t}}{TA_{i,t-1}} + \beta_2 POST + \beta_3 \frac{CF_{i,t}}{TA_{i,t-1}} * POST + \beta_4 \frac{SALE_{i,t-1}}{TA_{i,t-1}} + \beta_5 \frac{CASH_{i,t-1}}{TA_{i,t-1}} + \beta_6 SG_{i,t} + \text{disturbance term.} \quad (3)$$

We cannot use the same specification as that in Lins, Strickland, and Zenner because all 10 firms conducted their IPOs when they listed in the U.S. and therefore no Tobin's q ratio can be calculated for the two years before their U.S. listing. Consequently we replaced Tobin's q and its lag with $SG_{i,t}$, the sales growth during the last two years, to control for the firm's growth potential. POST is a dummy variable which equals one for years after the U.S. exchange listing and zero otherwise. We used this dummy to isolate post-U.S. listing changes in investment that were not related to cash flow. The other variables: CF, SALE, and CASH have the same definitions as they do in Section 3. Our focus is on the coefficient of the interaction term of cash flow and dummy variable POST, CF*POST. We argue that the coefficient for this term should not be significantly different from zero if a U.S. listing does not bring about a significant change in a firm's information environment and hence its investment sensitivity to cash flow. We controlled for fixed effects in our panel regression. The results are presented in Table 6, which shows that the coefficient on the interaction term of cash flow and dummy variable POST (CF*POST) is not significantly different from zero. This means there was no change in investment sensitivity to its cash flow and no improvement in information environment as a result of U.S. listing. This finding is consistent with Hypotheses 1 and 2.

4. Robustness tests

Our analysis so far uses investment sensitivity to cash flow as the measure of the extent to which a firm is financially constrained. This measure was pioneered in Fazzari, Hubbard, and Petersen (1988) and has been widely used in corporate finance literature. In a recent paper Almeida, Campello, and Weisbach (2004) formulate a model of a firm's demand for liquidity. They show that a firm's propensity to save cash out of its cash flows (the cash flow sensitivity of cash) is a theoretically justified and empirically useful measure of a firm's financing constraints. Using a large sample of U.S. manufacturing firms from the years from 1971 to 2000, they find that financially constrained firms have a positive cash flow sensitivity of cash, while financially unconstrained firms' cash savings are not significantly related to their cash flow. We hence used the cash flow sensitivity of cash to replace the cash flow sensitivity of investment as the measure of a firm's financial constraint status and replicated our analysis in Section 3.4. That is, we examined whether there was any significant change in a firm's financing constraint status around its listing on a U.S. exchange. We conducted a panel regression using data from 1998 to 2002 for our sample firms. The regression specification is based on Almeida, Campello, and Weisbach (2004):

$$\Delta \text{CashHoldings}_{i,t} = \beta_0 + \beta_1 \text{CashFlow}_{i,t} + \beta_2 \text{POST} + \beta_3 \text{CashFlow}_{i,t} * \text{POST} + \beta_4 \text{SG}_{i,t} + \text{disturbance term.} \quad (4)$$

The variable $\text{CashHoldings}_{i,t}$ is the ratio of cash and equivalents to total assets for firm i at year t . $\text{CashFlow}_{i,t}$ is the ratio of annual cash flow to total assets for firm i at year t . $\text{SG}_{i,t}$ is the sales growth during the last two years. It is included to account for a firm's investment opportunities. POST is a dummy variable which equals to one for all years after the U.S. listing and zero otherwise. This dummy is used to isolate changes in cash savings not related to cash flow, after the U.S. exchange listing. Our focus is on β_3 , the coefficient of the

interaction term of CashFlow and POST. An insignificant β_3 indicates that a U.S. listing does not bring any significant change in a firm's financing constraint status, which is consistent with the result in Section 2 that a U.S. listing does not improve the listing firm's information environment. In this regression we also controlled for firm-fixed effects and used White heteroskedasticity-consistent standard errors to calculate the t-statistics.

We present the panel regression results in Table 7. The results show that β_3 , the coefficient of the interaction term of CashFlow and POST, has a negative sign but is not statistically significant. This result is consistent with our findings in Section 3.4 that a U.S. listing does not bring any significant change in the listing firm's financing constraint status around its listing event.

Some researchers including Kaplan and Zingales (1997) have questioned whether investment sensitivity to cash flow is a useful measure of a firm's financial constraint status. The usefulness of investment sensitivity to cash flow as a measure of financing constraints is still under debate (Fazzari, Hubbard, and Petersen, 2000; Kaplan and Zingales, 2000). Kaplan and Zingales (1997) argue that, "while it is easy to show that constrained firms should be sensitive to internal cash flow while unconstrained firms should not, it is not necessarily true that the magnitude of the sensitivity increases in the degree of financing constraints." Since Section 3 of our analysis does not rely on the differential magnitude of the investment to cash flow sensitivity but on whether there is a significant relation or not, we do not consider that Kaplan and Zingales (1997) critique concerns our results in Section 3.4. Although we do not think the Kaplan and Zingales critique concerns our analysis in Section 3.4, we still utilized information from firms' annual reports to classify our sample firms from Section 3 into two broad categories of financial constraint status: NFC (not financially constrained) or FC (financially constrained) for each year from 1998 to 2002. This methodology is based on Kaplan and Zingales (1997) except that they have five categories

instead of two. If we find that most of the firm-years for the U firms fall in the FC category while most of the firm-years for the H and HU firms are in the NFC category, we can imply that our analysis in Section 3 is robust and further corroborate our hypotheses.

We collected corporate filings for the 42 sample firms for the years from 1998 to 2002, which is the same sample and time period utilized in Section 3. The corporate filings for those listed on a U.S. exchange were Form 20-F filed to the U.S. Securities and Exchange Commission and the annual report. For the other firms we used their annual reports. Out of a total of 210 firm-years (42 firms * 5 years) we found annual reports or 20-F forms for 209 firm-years. For the remaining one firm-year, we used the data from Form 6-K, as the firm was about to be de-listed from the NYSE. We then examined each firm's chairman's statement, management discussion and analysis, operating and financial review and prospects, and financial statements to determine which firm-year fell into the NFC or FC category.

We present these results in Table 8. For the H firms, of the 65 firm-years, only 26% (17 firm-years) are financially constrained. The other 74% of the 65 firm-years are not financially constrained. For the U firms, of the 50 firm-years, 72% of them are financially constrained. Only 28% of the 50 firm-years are not financially constrained. The result for the HU firms is consistent with those of the H firms – only about one quarter of the firm-years are financially constrained. These results are consistent with our findings in Section 3 that investment for U firms is significantly affected by their internal cash flow. This is not the case for H and HU firms. The findings in Table 8 corroborate our analysis in Section 3.

5. Discussion on cost-benefit comparison between foreign listings in different locations

Since the beginning of Chinese stock market, there has been a strict quota system on the number of IPOs during every year, which was finally revoked in 2001. The limited quota caused a long queue of Chinese firms, which need to raise capital for their investment projects, waiting for the chance of going public. Many Chinese firms thirst for capital then try

to raise fund via listings in Hong Kong or the U.S. A Chinese firm trades benefits against costs in its choice of foreign listing locations. Such trade-off for Chinese firms may be very different from that for European firms choosing between European and U.S. market as well as that for Israeli firms choosing between Tel Aviv and U.S. market. Our contribution in this paper is that we identify two benefits on which Hong Kong market do better than the U.S. market: Hong Kong market brings about more information production and better access to capital than U.S. market for Chinese firms. According to statistics from China Securities Regulatory Commission, from 1993 till 2003 Chinese firms raised about 676 billion RMB yuan through domestic A-share market, while data from Hong Kong Stock Exchange show that Chinese firms raised a remarkable amount of around 725 billion Hong Kong dollars in Hong Kong market during the same time period. These figures show the importance of Hong Kong market for Chinese firms' capital raising and support our findings in this paper. However, this does not necessarily deny the importance of U.S. market. U.S. market may offer other benefits better than Hong Kong market, such as better protection of shareholders, much maturer and deeper capital markets, and a larger number of sophisticated institutional investors. Moreover, even if there is no immediate benefit following a U.S. listing, a Chinese firm may still want to list in the U.S. for greater potential in the future. However, such higher benefits do not come without higher costs: U.S. market has stricter listing requirements, requires more comprehensive disclosure, and has more litigious investors than the Hong Kong market. The pattern in the choice of listing locations resulting from the cost-benefit analysis is that Hong Kong market may offer a low-cost-low-benefit choice while the U.S. market offers a high-cost-high-benefit alternative for Chinese firms.

6. Summary and conclusion

In this paper we examine the foreign listing experience of Chinese firms. As of October 2003, there were 237 Chinese firms listed on various stock exchanges outside mainland

China. The majority of these listings were in Hong Kong (158) and the U.S. (68), and the rest in London and Singapore. Beyond geographical proximity and other obvious explanations of why Chinese firms prefer a listing in Hong Kong rather than the U.S., we sought to know whether there are other benefits that a Hong Kong listing might bring about. This investigation is timely because of the huge interest by foreign investors in stocks of Chinese foreign-listed firms. There has also been a surge in the number of Chinese firms' foreign listings in the last 10 years and as the Chinese economy continues to expand, many more Chinese firms are interested in listing their shares overseas. Using analyst coverage as a proxy, we find that Chinese firms listed in Hong Kong have better information environment than those that are solely listed in the U.S. A better information environment lowers the cost of external financing. Utilizing panel data analysis, we find that there is a significant difference in the extent of capital constraint for Chinese firms with a Hong Kong listing from those only with a U.S. listing. The investment for Chinese firms with a Hong Kong listing is not significantly related to their cash flows while the investment for Chinese firms only with a U.S. listing is significantly related to their cash flow. This finding is robust when we change the proxy for capital constraint from investment sensitivity to cash flow to cash sensitivity to cash flow. Direct evidence of financial constraint status obtained from corporate filings also shows patterns consistent with our regression results. Our research indicates that Hong Kong-listed firms are less financially constrained than those with a U.S. listing, which may be due to their ability to access the Hong Kong capital market for external financing. These results of our study show that different stock markets are expected to offer different benefits as a listing venue and the benefits of foreign listing may be dependent on the choice of listing location.

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Table 1

The geographical distribution of Chinese firms' stock listings

This table shows the number of new listings by year. Chinese firms are listed in Hong Kong, the U.S., Singapore, and London, as well as domestically in Shanghai and Shenzhen. The data are compiled from the China Securities Regulatory Commission and web sites of various stock exchanges and investment banks.

Year	Hong Kong	United States	Singapore	London	Foreign Total	Domestic Total
1986	2	0	0	0	2	0
1987	2	0	0	0	2	0
1988	0	0	0	0	0	0
1989	0	0	0	0	0	0
1990	0	0	0	0	0	10
1991	0	0	0	0	0	4
1992	8	1	0	0	9	39
1993	25	5	1	0	31	130
1994	18	11	0	0	29	108
1995	4	8	1	0	13	32
1996	11	7	1	0	19	207
1997	28	9	1	3	41	215
1998	2	3	0	0	5	106
1999	8	3	0	0	11	98
2000	9	7	0	1	17	139
2001	12	4	1	1	18	72
2002	18	9	0	0	27	64
2003	11	1	1	0	13	54
Total	158	68	6	5	237	1,278

Table 2

Descriptive statistics for variables used in the examination of information environment

NOFA is the number of I/B/E/S analysts covering the firm. TA is the total assets of the firm and is in millions of U.S. dollars. EV (earnings volatility) is the standard deviation of earnings over the previous three years scaled by the firm's stock price. ES (earnings surprise) is the absolute value of the difference between current earnings per share and earnings per share from the prior year, divided by the firm's stock price. D stands for domestically listed firms, H stands for Hong Kong listed firms, U stands for U.S. listed firms, and HU stands for firms with both Hong Kong and U.S. listings. These data are from 2001.

Variables	Grouping	N	Mean per Firm	Median	Standard Deviation
NOFA	D	43	2.350	2.000	1.620
	H	55	10.655	9.000	8.759
	U	7	3.143	2.000	3.024
	HU	31	17.903	18.000	9.130
	All firms	136	9.294	5.000	9.248
TA	D	43	426.744	276.370	367.350
	H	55	866.649	484.747	1,276.686
	U	7	586.225	596.494	308.784
	HU	31	6,180.608	1,800.938	12,464.615
	All firms	136	1,924.398	561.988	6,375.502
EV	D	43	0.039	0.012	0.073
	H	55	0.095	0.028	0.232
	U	7	0.106	0.090	0.085
	HU	31	0.103	0.029	0.193
	All firms	136	0.079	0.022	0.180
ES	D	43	0.045	0.014	0.110
	H	55	0.120	0.030	0.388
	U	7	0.171	0.143	0.140
	HU	31	0.129	0.032	0.283
	All firms	136	0.101	0.025	0.290

Table 3

Difference in the information environment

The regression specification is: $NOFA = \beta_0 + \beta_1 H + \beta_2 U + \beta_3 HU + \beta_4 TA + \beta_5 EV + \beta_6 ES + \text{Industry controls} + \text{random disturbance}$. The dependent variable NOFA is the number of I/B/E/S analysts covering the firm. H, U, and HU, are dummy variables. H is equal to one if the firm is listed in Hong Kong, U is equal to one if the firm is listed in the U.S., and HU is equal to one if the firm is listed in both Hong Kong and the U.S. TA is the log of the total assets of the firm and is in millions of U.S. dollars. EV (earnings volatility) is the standard deviation of earnings over the previous three years scaled by the firm's stock price. ES (earnings surprise) is the absolute value of the difference between current earnings per share and earnings per share from the prior year, divided by the firm's stock price. The industry dummies are based on sector classification by I/B/E/S. Coefficients on industry dummies are not tabulated. We use D as the base group – D is equal to one if the firm is only domestically listed and zero otherwise. The sample consists of 43 D firms, 55 H firms, seven U firms and 31 HU firms. These data are for 2001.

Panel A			
Independent variables	Coefficient	T-statistic	P-value
INTERCEPT	-21.4802	-7.10	0.0000
H	7.3801	5.42	0.0000
U	-0.5543	-0.32	0.7458
HU	8.4251	5.20	0.0000
TA	4.0331	8.95	0.0000
EV	-15.5598	-1.22	0.2261
ES	4.2125	0.63	0.5309
Adjusted R-squared:	0.64		
Panel B: Wald Test			
Test of the null hypothesis: Coefficient of H=Coefficient of U			
Chi-square	21.4719		
P-value	0.0000		
Test of the null hypothesis: Coefficient of H=Coefficient of HU			
Chi-square	0.3949		
P-value	0.5297		

Table 4

Descriptive statistics for variables used in the examination of investment sensitivity to cash flow

I is the annual investment in property, plant, and equipment. TA is total assets. CF is the annual cash flow. SALE is the one-period lagged annual net sales. CASH is the one-period lagged cash and its equivalent. Q (lag) is the one-period lagged Tobin's q ratio. Q is the contemporary Tobin's q ratio. All variables are in millions of U.S. dollars. For the grouping of firms, H stands for Hong Kong listed firms, U stands for U.S. listed firms, and HU stands for Chinese firms with both Hong Kong and U.S. listings. The time period is from 1998 to 2002.

Variables	Grouping	No. of Firms	No. of Obs.	Mean	Median	Standard Deviation
I/TA	H	13	65	0.047	0.033	0.045
	U	10	49	0.017	0.009	0.022
	HU	19	95	0.052	0.035	0.055
CF/TA	H	13	65	0.044	0.068	0.083
	U	10	49	0.015	0.030	0.076
	HU	19	95	0.066	0.074	0.084
SALE/TA	H	13	65	0.492	0.395	0.427
	U	10	50	0.310	0.221	0.273
	HU	19	95	0.527	0.432	0.424
CASH/TA	H	13	65	0.149	0.135	0.094
	U	10	50	0.110	0.099	0.054
	HU	19	95	0.138	0.118	0.101
Q (lag)	H	13	65	1.741	1.599	1.347
	U	10	50	2.035	1.983	1.214
	HU	19	95	1.174	1.060	0.862
Q	H	13	65	1.788	1.616	1.350
	U	10	50	2.120	2.367	1.227
	HU	19	95	1.170	0.999	0.894

Table 5

Difference in investment sensitivity to cash flow

The regression specification is: $\frac{I_{i,t}}{TA_{i,t-1}} = \beta_0 + \beta_1 \frac{CF_{i,t}}{TA_{i,t-1}} + \beta_2 Q_{i,t-1} + \beta_3 \frac{SALE_{i,t-1}}{TA_{i,t-1}} + \beta_4 \frac{CASH_{i,t-1}}{TA_{i,t-1}} + \beta_5 Q_{i,t} + \text{disturbance term}$. $I_{i,t}$ is the annual investment in property, plant, and equipment for firm i at year t . $TA_{i,t-1}$ is the total assets for firm i at year $t-1$. $CF_{i,t}$ is the annual cash flow of firm i at year t . $Q_{i,t-1}$ is the one-period lagged Tobin's q ratio for firm i at year t . $SALE_{i,t-1}$ is the one-period lagged annual net sales for firm i at year t . $CASH_{i,t-1}$ is the one-period lagged cash and its equivalent for firm i at year t . $Q_{i,t}$ is the contemporary Tobin's q ratio for firm i at year t . All these variables are in millions of U.S. dollars. The sample consists of 13 H firms (65 observations), ten U firms (49 observations) and 19 HU firms (95 observations). The time period is from 1998 to 2002.

Independent variables	Coefficient	T-statistic	P-value
Panel A: Chinese firms listed in Hong Kong (H firms)			
CF/TA	0.1132	1.67	0.1025
Q (lag)	-0.0049	-1.65	0.1059
SALE (lag)/TA	-0.0437	-1.62	0.1124
CASH (lag)/TA	0.2067	2.64	0.0113
Q	0.0052	0.79	0.4337
Adjusted R-squared: 0.39			
Panel B: Chinese firms listed in the U.S. (U firms)			
CF/TA	0.0619	1.97	0.0565
Q (lag)	-0.0010	-0.32	0.7438
SALE (lag)/TA	0.0273	1.45	0.1570
CASH (lag)/TA	0.0826	1.88	0.0690
Q	0.0031	1.11	0.2737
Adjusted R-squared: 0.56			
Panel C: Chinese firms listed in both Hong Kong and the U.S. (HU firms)			
CF/TA	-0.0552	-1.02	0.3131
Q (lag)	0.0133	1.13	0.2617
SALE (lag)/TA	0.0506	1.86	0.0667
CASH (lag)/TA	0.2595	1.89	0.0635
Q	-0.0034	-0.37	0.7091
Adjusted R-squared: 0.34			

Table 6

Impact of a U.S. exchange listing on investment sensitivity to cash flow

The regression specification is:

$$\frac{I_{i,t}}{TA_{i,t-1}} = \beta_0 + \beta_1 \frac{CF_{i,t}}{TA_{i,t-1}} + \beta_2 \text{POST} + \beta_3 \frac{CF_{i,t}}{TA_{i,t-1}} * \text{POST} + \beta_4 \frac{SALE_{i,t-1}}{TA_{i,t-1}} + \beta_5 \frac{CASH_{i,t-1}}{TA_{i,t-1}} + \beta_6 SG_{i,t} + \text{disturbance term.}$$

$I_{i,t}$ is the annual investment in property, plant, and equipment for firm i at year t . $TA_{i,t-1}$ is the total assets for firm i at year $t-1$. $CF_{i,t}$ is the annual cash flow of firm i at year t . POST is a dummy variable equal to one for all years after the U.S. listing and equal to zero otherwise. $SALE_{i,t-1}$ is the one-period lagged annual net sales for firm i at year t . $CASH_{i,t-1}$ is the one-period lagged cash and its equivalent for firm i at year t . $SG_{i,t}$ is the sales growth during the last two years. Except for POST and $SG_{i,t}$, all variables are in millions of U.S. dollars. This analysis is for the U firms only. The sample consists of 10 firms for a total of 40 observations. The time period is from 1998 to 2002.

Independent variables	Coefficient	T-statistic	P-value
CF/TA	-0.1141	-1.05	0.3045
POST	-0.0988	-1.81	0.0825
CF/TA*POST	0.2217	0.44	0.6664
SALE (lag)/TA	0.1898	1.56	0.1329
CASH (lag)/TA	0.1179	1.26	0.2208
SG	0.0002	1.45	0.1608
Adjusted R-squared: 0.47			

Table 7

The impact of a U.S. listing on cash sensitivity to cash flow

The regression specification is:

$$\Delta CashHoldings_{i,t} = \beta_0 + \beta_1 CashFlow_{i,t} + \beta_2 POST + \beta_3 CashFlow_{i,t} * POST + \beta_4 SG_{i,t} + \text{disturbance term.}$$

$CashHoldings_{i,t}$ is the ratio of cash and its equivalents to total assets for firm i at year t . $CashFlow_{i,t}$ is the ratio of annual cash flow to total assets for firm i at year t . POST is a dummy variable which equals to one for all the years after the U.S. listing and zero otherwise. $SG_{i,t}$ is the sales growth during the last two years. This analysis is for the U firms only. The sample consists of 10 firms for a total of 40 observations. The time period is from 1998 to 2002.

Independent variables	Coefficient	T-statistic	P-value
CashFlow	0.0944	1.27	0.2164
POST	-0.0765	-5.94	0.0000
CashFlow*POST	-0.1855	-1.68	0.1042
SG	0.0000	0.14	0.8936
Adjusted R-squared: 0.45			

Table 8

Financial constraint status of sample firms

This table is based on information from firms' corporate filings: 20-F, 6-K and annual reports. We collected such corporate filings for each of the 210 firm-years (42 firms * 5 years). We then read each chairman's statement, management discussion and analysis, operating and financial review and prospects, and financial statements, in order to classify each firm-year into two categories: financially constrained (FC) or not financially constrained (NFC). This methodology is based on Kaplan and Zingales (1997) except that they have five categories instead of two.

Panel A: Chinese firms listed in Hong Kong (H firms)					
Company	1998	1999	2000	2001	2002
Beiren Printing Machinery Holdings	NFC	NFC	NFC	NFC	NFC
Jiaoda Kunji High-Tech	NFC	NFC	NFC	NFC	NFC
Tianjin Capital Environmental Protection	FC	FC	FC	NFC	NFC
Dongfang Electrical Machinery	NFC	NFC	NFC	NFC	NFC
Luoyang Glass	NFC	FC	FC	FC	FC
Sinopec Zhenhai Refining and Chemical	NFC	NFC	NFC	NFC	NFC
Chengdu PUTIAN Telecommunications Cable	NFC	NFC	NFC	NFC	NFC
Northeast Electric Development	FC	FC	FC	FC	FC
Jingwei Textile Machinery	NFC	NFC	NFC	NFC	NFC
Nanjing Panda Electronics	FC	FC	FC	FC	FC
Guangdong Kelon Electrical Holdings	NFC	NFC	NFC	FC	NFC
Anhui Expressway	NFC	NFC	NFC	NFC	NFC
Shandong Xinhua Pharmaceutical	NFC	NFC	NFC	NFC	NFC

Panel B: Chinese firms listed in the U.S. (U firms)					
Company	1998	1999	2000	2001	2002
Ek Chor China Motorcycle	NFC	NFC	NFC	NFC	NFC
China Enterprises	FC	FC	FC	FC	FC
China Yuchai International	FC	FC	NFC	NFC	NFC
Shanghai Erfangji	FC	FC	FC	FC	FC
Shanghai Chlor-Alkali Chemical	FC	FC	FC	FC	FC
Shenzhen SEZ Real Estate and Properties	FC	FC	FC	FC	FC
Shanghai Waigaoqiao Free Trade Zone	NFC	FC	FC	FC	FC
Shanghai Tyre and Rubber	FC	FC	FC	FC	FC
Shanghai Jinqiao Export Processing Zone Dev.	NFC	FC	FC	FC	FC
Shanghai Lujiazui Finance and Trade Zone Dev.	FC	NFC	NFC	NFC	NFC

Table 8 (continued)

Panel C: Chinese firms listed in both Hong Kong and the U.S. (HU firms)					
Company	1998	1999	2000	2001	2002
Sinopec Shanghai Petrochemical	FC	NFC	NFC	FC	NFC
Huaneng Power International	NFC	NFC	NFC	NFC	NFC
Jilin Chemical Industrial	FC	NFC	FC	FC	FC
Guangshen Railway	NFC	NFC	NFC	NFC	NFC
APT Satellite Holdings	FC	NFC	NFC	NFC	NFC
ONFEM Holdings	NFC	NFC	NFC	NFC	NFC
Guangdong Investment	FC	FC	FC	FC	FC
Legend Group	NFC	NFC	NFC	NFC	NFC
China Overseas Land and Investment	NFC	NFC	NFC	NFC	NFC
China Pharmaceutical Group	NFC	NFC	FC	NFC	NFC
China Resources Enterprises	NFC	NFC	NFC	NFC	NFC
Maanshan Iron and Steel	NFC	NFC	NFC	NFC	NFC
Sinopec Yizheng Chemical Fiber	FC	NFC	NFC	NFC	NFC
Qingling Motors	NFC	NFC	NFC	NFC	NFC
China Shipping Development	NFC	NFC	NFC	NFC	NFC
Harbin Power Equipment	FC	NFC	NFC	NFC	NFC
Guangzhou Shipyard International	FC	FC	FC	FC	FC
Tingyi (Cayman Islands) Holdings	FC	FC	NFC	NFC	NFC
Tsingtao Brewery	NFC	NFC	NFC	NFC	NFC