A Corporate Governance Explanation of the A-B Share Discount in China

by

Wilson H.S. Tong* [(852)2766-4399, afwtong@polyu.edu.hk]

Wayne W. Yu [(852)2766-7970, afwyu@polyu.edu.hk]

School of Accounting and Finance

Hong Kong Polytechnic University

Hung Hom, Kowloon, Hong Kong SAR

Abstract

This paper offers an alternative explanation to a rather interesting puzzle that B-shares listed in China are traded at substantial discounts to their corresponding A-shares although they have identical rights. We hypothesize that relative to domestic investors, foreign investors care much more about the effectiveness of a firm's corporate governance. Therefore, the B-share discount is expected to be larger for firms with weaker corporate governance and we find consistent results. We find that the average discount increased substantially during the Asian Financial Crisis, a period of heightened concern over corporate governance by foreign investors. In addition, the discount is higher for firms with weaker corporate governance arrangements characterized by higher ownership concentration in the hands of the controlling shareholder, ineffective boards of directors with higher proportion of directors nominated by the parent company, lower dividend payout, higher level of information asymmetry, and lower institutional ownership. Our findings hence extend the literature on the linkage between valuation and corporate governance. Our evidence suggests that corporate governance may not be valued equally by all investors, and hence that corporate governance reforms may not have their intended effects on valuation in emerging capital markets in the absence of 'sophisticated' investors and other economic institutions.

* Correspondence author and conference presenter

1. Introduction

A market segmentation phenomenon in which companies issue two classes of shares, restricted shares that can be held only by local citizens and unrestricted shares that can be held by both local and foreign investors is well studied. Probably the first piece of work is Hietala (1989) on the Finnish stocks. Later come Bailey and Jagtiani's (1994) work on Thai stocks, Stulz and Wasserfallen's (1995) study on the Nestle Company, and Domowitz, Glen, and Madhavan's (1998) investigation on Mexican stocks. One common feature in their samples is that unrestricted shares opened up for foreign investors are typically trading at a price premium over the restricted shares. The opposite situation documented by Bailey (1994) that Chinese A-shares that were for domestic investors only were actually traded at a price premium relative to the B-shares that were for foreign investors only is a uniquely interesting but puzzling phenomenon.

A few explanations have been provided in the literature. Bailey (1994) argues that the A-share premium is caused by the lower cost of domestic capital because investors in China lack investment alternatives other than low-yielding bank deposits. Alternatively, the premium may be caused by the difference in risk attitudes between domestic and foreign investors, as proposed by Ma (1996) and Eun, Janakiramanan and Lee (2001). Relative to foreign investors, domestic investors have a much smaller diversification opportunity set in that they cannot invest in foreign stock markets and are thus willing to take on more risk in the A-shares market. Sun and Tong (2000) argue that the "H-shares" and "red-chip shares" traded in Hong Kong but issued by companies domiciled in mainland China are good substitutes of the B-share stocks. They find a negative relationship between the premium and the number of listings and trading volumes of H-shares and red-chip shares. A third explanation is based on the differences in liquidity of the A and B shares. Trading has been much more active in the A-shares market relative to the B-shares market, especially before February 2001. Chen, Lee, and Rui (2001) discover a positive relationship between the premium and the relative trading volume of A-shares to B-shares. Finally, Chakravarty, Sarkar, and Wu (1998), and Chui and Kwok (1998) both postulate that the discount may reflect information asymmetry between domestic and foreign investors. Chan, Menkveld, and Yang (2002) use high frequency data to show that the China B-share price discount is due to information asymmetry rather than liquidity reason. In a different way, Karolyi and Li (2005) also find liquidity being unimportant. Instead, firm size is important, which they interpret as consistent with asymmetric information explanation. Mei, Scheinkman, and Xiong (2005) show that speculative motive of Chinese local investors is the main cause.

In this paper, we attempt to offer an explanation for the discount that is based on economic fundamentals. We hypothesize that the discount phenomenon is driven by the corporate governance quality of the Chinese firms. The hypothesis is built on two assumptions. First, corporate governance affects firm valuation. Recent research provides voluminous supporting evidence. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (LLSV, 2002) document evidence of higher valuation of firms in countries with better investor protection of minority shareholders and in firms with higher cash flow ownership by the controlling shareholder. In addition, Gompers, Ishii, and Metrick (GIM, 2003) also find a positive relationship between firm value and protection of shareholder rights in the US. In Asian markets with weaker governance quality, Mitton (2002) find strong impact of corporate governance on firm performance during the East Asian financial crisis of 1997-1998 in his sample of 398 firms from Indonesia, Korea, Malaysia, the Philippines, and Thailand. Similarly, Claessens et al. (2002) find linkage of firm value with cash-flow and control rights of major shareholders of 1,301 publicly traded corporations in eight East Asian economies. Baek, Kang, and Park (2004) find Korean firms with better governance experienced a smaller reduction in their share value during the 1997 Korean financial crisis. It is true that studies like Bhagat and Black (2001) and Larcker, Richardson, and Tuna (2004) cast doubt on such relationship. However, in the China context, Sun, Tong, and Wu (2005) confirm that Chinese A-shares receive higher valuation if they also issue H-shares in Hong Kong to leverage on higher governance quality of the Hong Kong market in the spirit of the bonding argument put forth by Coffee (1999, 2002) and Stulz (1999).

The second assumption necessary for our conjecture to go through is that the governance-valuation linkage is weaker in the A-share market than in the B-share market. This could be the case if B-share investors who are predominantly foreign investors care *more* about firms' governance quality than the Chinese local investors in the A-share market do. We should emphasize that we are not suggest that domestic investors in China do not pay much attention to a firm's corporate governance practice. We only suggest that they do not pay *as much attention as* foreign investors do. Although this assumption is hard to test, it can be the case under Merton's (1987) model in which firms receive differential valuations by different investor bases. Although the A- and B-shares carry the same rights, they are traded by two segmented investor bases: the A-shares by domestic investors and B-shares by foreign investors. More importantly, it is consistent with the implications of Morck, Yeung and Yu (2000) who find that stocks in emerging markets including China tend to move in tandem – very little firm-specific information such as corporate governance mechanisms is reflected by

the stock price. To the extent that B-share investors (foreign) care more about firm-specific information than do A-share investors (local) and firms of good governance provide more and better firm information to the public, we would expect to see share price disparity driven by differential governance quality of the firms. Specifically, we would observe 1) a general discount in B-share prices relative to A-share prices due to foreign investors' concern over the generally poor investor protection in China, and 2) better-governed firms have smaller price disparity in their issued A- and B-shares.

Our results provide supportive evidence to our conjecture that the average discount varies with foreign investors' risk assessment regarding corporate governance. First, we find that the average discount increased substantially during the Asian Financial Crisis, a period of heightened concern over corporate governance by foreign investors. In addition, we find that the discount is higher for firms with weaker corporate governance arrangements characterized by higher ownership concentration in the hands of the controlling shareholder, ineffective boards of directors with higher proportion of directors nominated by the parent company, lower dividend payout, higher level of information asymmetry, and lower foreign institutional ownership.

The rest of the paper is organized as follows: Section 2 provides brief background information about the Chinese stock market. Section 3 describes the data and governance proxies used in our study. Section 4 presents our empirical findings, and Section 5 concludes.

2. China's stock market

A major effort in China's reforms is to privatize state-owned enterprises. The government selects some state-run enterprises and restructures them to allow the most attractive parts of these enterprises to form new companies. Hence, a new company so formed is often only a fraction of the original enterprise.[1] Shares of the new company are then issued and sold to the public as well as to foreign investors. The first equity issue in China was in 1984 when a department store in Beijing issued its shares to the employees of the store. In the following few years, more state-owned enterprises (SOEs) were "incorporated" through the selling of shares to their own employees or to other share companies and SOEs. Stock trading was prohibited, but black markets emerged in several large cities. As a result, the State Council decided in 1989 to establish two national stock

---

[1] For example, Shanghai Petrochemical is basically a complete town with hotels, schools, housing and a college. When listed in 1993, the company consisted only of some selected buildings, a plant and equipment.

exchanges. The Shanghai Stock Exchange (SHSE) was inaugurated on December 19, 1990 and the Shenzhen Stock Exchange (SZSE) opened in April 1991.

A Chinese company can issue five types of shares in the domestic market: state shares, legal person shares, employee shares, tradable "A" shares and "B" shares. Only the last two types of shares are freely tradable. A shares are ordinary equity shares available exclusively to Chinese citizens and domestic institutions. When going public, companies are required to issue no less than 25 percent of their total outstanding shares as tradable A shares.

B shares are issued to attract foreign capital. The first B-share issue was in 1992. Firms can choose to list their B shares on either of the two national exchanges, the Shanghai Stock Exchange and the Shenzhen Stock Exchange, but not both. B shares can only be bought by and traded amongst foreign investors.[2]

Since the RMB is not convertible under capital accounts, B shares are traded in either US dollars (in the SHSE) or HK dollars (in the SZSE).[3] However, the B-share market has generally experienced light trading, without much liquidity. Various measures have been introduced by the Chinese government to vitalize the market, such as lowering the trading stamp duty on B-shares, allowing non-state-owned firms to issue B-shares, establishing joint B-share funds, and so forth. However, these measures had not been very effective. Then, on February 19, 2001, the China Securities Regulatory Commission (CSRC) and the State Foreign Exchange Administration Bureau (SAFE) announced that, starting from February 28, 2001, Chinese nationals with existing foreign currency deposit accounts with a domestic commercial bank would be allowed to trade B-shares. Those who opened a foreign currency deposit account with a domestic bank after February 19 would be allowed to trade B-shares only from June 1, 2001 onwards. The B-share market was closed for a week after the announcement, and resumed trading on February 28th.

Unfortunately, such policy has brought only a brief rally to the B-share market in the first few months. Starting in June 2001, the Shanghai and Shenzhen B-share markets lost steam and entered into the bear market since then. To be fair, the China stock market as a whole continued to decline in the past five years. The Shanghai and Shenzhen A-share markets have dropped 44% and 58%, respectively. The Shanghai and Shenzhen B-share

---

[2] There are also *H-shares* listed in Hong Kong since 1993. *N-shares* listed on the New York Stock Exchange are in the form of IPOs or American Depository Receipts (ADRs). N-shares were first issued in September 1992 but the market is very thin. To limit foreign ownership, the Chinese government allows no more than 49% of a company's shares to be B, H or N shares until very recently.

[3] B shares are still denominated in RMB nominally but quoted and traded in USD or HKD.

markets have dropped 71% and 47%, respectively, if excluding the rally period of first half year of 2001.

This five-year bearish trend seems to be reversed near the end of 2005 when the implementation of the "split-share reform" was viewed to be fully carried out (the first batch of trial companies started the reform on May 19, 2005). The reform plan allows shares held by the state, which were barred from public trading, to be floated on the A-share market after getting the consensus of the existing holders of A-shares. To make the reform successful, the state offers attractive compensations in both cash and shares to the existing A-share investors. As of the end of 2005, a total of 107 listed companies have implemented the reform. On the other hand, the B-share market picked up the steam in early January of 2006 and jumped up 20% in just half a month upon the rumor that the A-share and B-share markets may merge after China completes its share reform initiative.

Over this whole period, however, B-shares have been trading at deep discounts relative to A-share prices although both the A-share and B-share of a firm are identical in terms of both the control and cash-flow rights. For our full sample period of 1995 through 2003, the discount averages to 61% (relative to the A-share price). Before the opening of the B-shares market to domestic investors in February 2001, the mean discount value is 72% while after the opening, the mean value drops to 46%. Although the discount became smaller, it still exists and actually widens up again in the recent years. The market segmentation (especially prior to February 2001) and the no short-selling policy adopted by the Chinese stock market effectively prevent any efficient arbitraging between A and B shares.

3. Data and Variable Definitions

Our maintained hypothesis is that corporate governance drives the price discount of the A-B shares. As such, good proxy variables to measure the quality of corporate governance of Chinese firms are essential. Yet, construction of reliable and meaningful measures is perhaps one of the most challenging tasks in doing research for an emerging market, such as China. For example, management ownership has been found to be an important determinant of firm value (see, for example, Morck, Shleifer, Vishny, 1988), because a higher management ownership represents a better alignment of interests between managers and shareholders. However, for Chinese firms, management ownership is virtually zero for almost all the firms, because most managers are appointed by the state, which is most often the controlling shareholder. Therefore, most managers are simply former public servants or politicians, who could not possibly own any meaningful proportion of a listed

firm's shares due to their wealth constraint. Another example is the executive compensation scheme in China is hardly related to firm performance. Top executives' pay is largely determined by the state, and it is usually a trivial amount. For example, the average annual top three executive compensation from 1998 – 2002 was 97,474 yuan or about US$12,000 for 2003 (Kato and Long, 2004) although some executives received over a million yuan a year (China Corporate Governance Report, 2003, p.169). In summary, most of the corporate governance variables commonly used in the literature are not applicable to China, either because it fails to capture the spirit or it does not have meaningful variations. As a result, we resort to some other measures we think are sensible. To facilitate the discussion, let us first set out the basic cross-sectional regression model as follows[4]:

$$\text{Discount}_i = \text{Constant} + a_1\text{Controlshr}_i + a_2\text{Herfindal}_i + a_3\text{InstOwn}_i$$
$$+ a_4\text{Greyboard}_i + a_5\text{RPT}_i + a_6\text{Log(OwnNews)}_i + a_7\text{Log(News)}_i$$
$$+ a_8\text{Payout}_i + a_9\text{Log(TA)}_i + a_{10}\text{Leverage}_i + e_i \qquad (1)$$

We compute the price discount of firm i's A-B share by subtracting the ratio of the currency-adjusted B-share price over the A-share price from one.[5] "Discount" is time-series average of the computed monthly discounts over the sample period. Hence, a value of 0.75 means that on average, the B-share is traded 75% off of its corresponding A-share price, and a *negative* value, on the other hand, means a premium of the B-share price over the A-share price instead. Therefore, a higher value of our measure represents a bigger (B-share price) discount.

The first group of governance variables we think important is the ownership structure. We use several proxies. "Controlshr" is the percentage ownership of the controlling shareholder. La Porta, Lopez-de-Silanes, Shleifer, and Vishny(1999) provide a survey on corporate ownership around the world and find that many listed firms in countries other than the US and UK have a controlling shareholder (defined as owning more than either 20% or 30%). A concentrated ownership may have two opposite effects: 1) A controlling shareholder may have more incentives and power to monitor management, therefore reducing agency

---

[4] We use cross-sectional approach instead of panel-data approach mainly because corporate governance quality of a firm seldom changes much from one year to another. Accordingly, the data of governance proxy variables, no matter what they are, do not change much within a short period of time. Furthermore, governance variables are typically annual data. Hence, panel data won't give much mileage in such a setting.

[5] The currency conversions of B-share prices are based on the exchange rate figures from CEIC database of McGraw-Hill.

costs; or 2) A controlling shareholder may abuse the power to benefit themselves at the expense of minority shareholders, especially when there is a divergence in voting rights and cash-flow rights (LLSV, 1999). In countries with weak legal protection for investors, it's more likely that the controlling shareholder uses its power to their own advantage (Johnson et al. 2000). We therefore expect a positive relationship between the A-B share price discount and the level of ownership by the controlling shareholder.

We construct an ownership concentration measure as an alternative measure of the influence of the controlling shareholder. "Hefindahl", which is the Herfindahl index, is our second proxy variable on the ownership structure. It measures the ownership concentration ratio based on the top ten largest shareholders of a firm. Intuitively, the higher the concentration level, the easier it is for the largest shareholder to take self-serving actions. Similar to the presence of a controlling shareholder, we believe that a high ownership concentration is conducive for tunneling minority shareholders' wealth into the hands of a few large shareholders. We therefore expect a positive relationship between the A-B share discount and ownership concentration ratio.

"InstOwn" is our third ownership variable that captures the outside block ownership. There is a rather distinctive feature in the ownership structure of Chinese firms. Shares of a listed firm can be owned by the state, known as 'state' shares, through the State Asset Management Commission and various other government agencies, by another firm, known as 'legal-person' shares, owned most likely by other state-owned firms, or by the general public. State-owned shares or legal-person shares are not tradable[6], only 'public' shares are traded on the Shanghai or Shenzhen Stock Exchanges.[7] Outside block ownership has been found to be value enhancing in the literature (e.g. McConnell and Servaes, 1990). We define block ownership as the sum of institutional ownership of tradable shares among the top ten shareholders. A higher level of block ownership may represent additional external monitoring and therefore may increase the cost of misappropriation by the controlling shareholder. We also use an alternative definition for outside block ownership – the sum of public ownership greater than 5%. We expect the A-B share discount to be negatively related to the level of block ownership.

---

[6] They can be transferred, however. But the transfer price is typically much lower than the market price quoted in the stock market.
[7] The non-tradable portion is so significant, around two-third of the total shares of the listed firm, that the Chinese government has thought of different plans to convert them into tradable shares and the ultimate plan is the "split-share reform", as mentioned earlier in Section 2.

The literature on board composition has focused on the role of independent directors. Weisbach (1988) reports that a board dominated by independent directors is more likely to fire a non-performing CEO than a board dominated by inside directors. Rosenstein and Wyatt (1990) find that share price rises on average when the appointment of an independent director is announced. Choi *et al* (2005) document a 20% value premium for Korean firms whose boards are dominated by independent directors. However, the effect of independent directors is far from being conclusive. For example, both Mehran (1995) and Dalton *et al* (1998) fail to find any significant relationship between independent directors and corporate performance. Agrawal and Knoeber (1996) even find a negative relationship between the two. Bhagat and Black (2001) have a large-sample, long-horizon study and also find no evidence that firms with more independent boards perform better than other firms.

"Greyboard" is the ratio of non-executive directors appointed by the controlling shareholder over board size and is used as a proxy for the effectiveness of board monitoring. The use of independent directors was sparse in China prior to the promulgation of the *Corporate Governance Codes for Listed Firms* by China Securities Regulatory Commission in January 2001, which stipulates that independent directors must account for at least 33% on the board of directors of a listed firm by the end of June 2003. The listed firms rushed to comply with the new regulation by mainly appointing university professors as independent directors. Therefore, there is lack of meaningful variations on the use of independent directors by the listed firms for our sample. Instead of using the ratio of independent directors, we measure the board composition by using a rather unique feature of the listed firms in China, which are mainly a division of an unlisted parent company who retains a controlling share of the listed firm. It is therefore a common practice that most of the directors including the board chairman and chief executive officer are appointed by the parent company. Even if most of the appointed directors are non-executives, they probably do not play a significant role in monitoring their own 'brothers and sisters' from the same parent company. We classify them as 'grey' directors and use the ratio of grey directors in our analysis to capture the effectiveness of the board in serving its corporate governance role. We expect a positive relationship between the A-B share discount and the ratio of grey directors.

"RPT" stands for related-party transactions. Johnson et al. (2000) find that in countries with weak legal protection for investors, controlling shareholders often tunnel resources out of firms at non-market prices at the expense of minority shareholders. One of the popular methods of tunneling is related-party transactions at prices favoring the controlling shareholder. Bae, Kang, and Kim (2002) find that controlling shareholders among

the top 30 Korean business groups benefit from related-party acquisitions at the expense of minority shareholders. Bae, Kang, and Lee (forthcoming) present concrete evidence of tunneling among Korean firms within the same chaebol by showing that the chaebol-affiliated issuers sell private securities at a larger discount when the controlling shareholders are expected to receive greater wealth gains from the discount. We collect the data on related-party transactions for the years of 2001 and 2002, scaled by total revenue as another corporate governance measure. Presumably, the higher the related-party transactions, the more opportunities for the controlling shareholder to expropriate minority shareholders and hence the worse the firm's corporate governance. We therefore expect a positive relationship between the A-B share discount and the level of related-party transactions.

"Log(OwnNews)" and "Log(News)" are used to capture information available to outside investors and are intended to measure information asymmetry between management and outside investors. In particular, Log(OwnNews) is the natural logarithm of the number of news items released by the firm itself, and Log(News) is the natural logarithm of the number of news items reported by third-parties found in the news media. The Taiwan Economic Journal Database has such data and we simply count the number of news coverage and put in logarithmic terms. Conceivably, the news coverage may not be exhaustive and hence the two variables are hardly precise, especially the media industry in China is not particularly efficient and effective.[8] We hope that the variables can somehow reflect the degree of transparency of a firm. This is particularly the case for "Log(OwnNews)" as a firm with higher transparency is more likely to disclose its own information to the public when necessary.

"Payout" is the dividend payout ratio. Easterbrook (1984) shows that dividend payments would increase a firm's reliance on external capital, so a higher payout policy necessitates more frequent monitoring of the firm's management by the capital market, thereby reducing the agency costs. More recently, LLSV (2000) propose that cash dividends can either serve as a substitute for other corporate governance mechanisms or is the outcome of an effective corporate governance system. Using a sample of firms from 33 countries, they find supporting evidence for the 'outcome' hypothesis in countries with strong investor protections and the 'substitute' hypothesis in countries with weak investor protections. Since

---

[8] The situation is not as bad as commonly perceived though. In a recent incidence, an H-share company called Beijing Media has its six senior executives arrested by the Beijing anti-corruption bureau for economic felony during June to September of 2005. The company never disclosed information to the Securities and Futures Commission, the regulatory body of Hong Kong. It is a Chinese magazine named *Finance and Economics* that first disclosed the information.

a cash dividend is proportionately paid to shareholders according to their cash-flow rights, it does not favor a controlling shareholder whose voting rights may exceed cash-flow rights. Therefore, a higher payout may alleviate minority shareholders' concern over misappropriation by the controlling shareholder. This may especially be the case in China since Chinese firms typically pay low or no dividends. Hence, although recent studies on US firms give little support to the signaling theory of payout policy (Franklin and Michaely, 2003 and Brav et al., 2005, among others), we still believe that for Chinese firms, high dividend payout has strong signaling implication that the firm has high earnings ability[9] and controls free cash flow problems. Based on this view, we expect a negative relationship between the discount and the dividend payout ratio.

"Log(TA)_i" is the logarithmic value of the total assets of firm i. In Karolyi and Li's (2005) study, firm size is almost the only variable significant in their price discount regressions. They interpret that as consistent with asymmetric information explanation which echoes Chan, Menkveld, and Yang's (2002) finding. Arguable, corporate governance is highly related to information asymmetry. Firms with good governance and high transparency may reduce information asymmetry between management and outside investors. Of course, larger firms also tend to attract more media and analysts coverage. In any event, the variable is expected to be negatively correlated with price discount.

Finally, "Leverage" is the ratio of total debt to total assets. The standard view on the use of debt is that debt can mitigate the effects of agency and information problems (Myers and Majluf, 1984; Jensen, 1986). However, we are not sure if it applies in China because most of the corporate debt are bank loans from China's four largest state-owned banks. There are many anecdotal evidences that these loans are "policy loans" and the banks hardly perform their monitoring role effectively. Hence, although firm's leverage should be negatively correlated to price discount if debt can mitigate agency and information problems, it may not be the case in China.

4. Empirical Results
4.1   Full Sample

---

[9] According to the study by DeAngelo, DeAngelo, and Skinner (2004) on the dividend payouts of US industrial firms in the past two decades, industrial firms exhibit a two-tier structure in which a small number of firms with very high earnings collectively generates the majority of earnings and dominates the dividend supply, while the vast majority of firms has at best a modest collective impact on aggregate earnings and dividends.

Stock market data including monthly closing prices and trading volume are collected from the Taiwan Economic Journal (TEJ) Database for the period of January 1996 through December 2003. As of December 2003, there were 90 pairs of A and B shares, with 46 listed on the Shanghai Stock Exchange and 44 on the Shenzhen Stock Exchange.

Figure 1 displays the average discount during our sample period. As evident from the figure, the average discount has a wide range of fluctuations, ranging from a minimum value of 30% discount when the B-share market opened up to A-share investors in February 2001 to a maximum value of 84% around late 1998, a year after the Asian Financial Crisis. In general, the average discount increased substantially after October 1997, coincident with the onset of the Asian financial crisis and the average discount dropped substantially after the B-shares market was made available to domestic investors in February 2001.

We interpret the first finding as evidence that, in the wake of the crisis, foreign investors demanded a higher premium to compensate for the additional risk related to weak investor protection. This is consistent with the findings by Johnson, Boone, Breach, and Friedman (2000) and Mitton (2002). However, the heightened discount persisted beyond 1998, which is commonly viewed as the end of the Asian financial crisis. Furthermore, China was largely immune from this crisis attack, thanks to the currency control system of China. One explanation for the persistent discount may lie in the fact that many corporate scandals within China began to unfold since 1998.

(Insert Table 1 Here)

Table 1 provides some statistics of the scandals from 1998 through 2003. In all the cases, the listed firm failed to protect the interest of minority shareholders. For example, GuangXia was a listed pharmaceutical company, falsified profits for several years to present itself as a fast-growing entity with sophisticated, state-of-the-art technologies. The company fabricated sales contracts and export figures and exaggerated its financial statements, reportedly inflating net profits by ¥745 million ($90 million). CSRC initiated an extensive probe of the company in August 2001, and the Ministry of Finance eventually stripped the accounting license of its longstanding auditor (Shi and Weisert, 2002). Another case is HouWang, which was listed in 1993, with HouWang Group Ltd. as its controlling shareholder. The company's performance kept deteriorating ever since its listing. After the parent company, HouWang Group Ltd., declared bankruptcy in early June 2000, the company was forced to disclose on June 15 that 1) it had provided ¥891 million loans to its parent

company, with ¥590 millions still outstanding; and 2) it had provided loan guarantees of ¥459 millions to the parent company and its subsidiaries. The company's total assets as of June 2000 was ¥934, already less than the sum of its losses of ¥1,049 millions (590+459) related to the parent company. Not surprisingly, outside investors had practically lost everything invested in the company (www.cg.org.cn).

With regard to the second observation that the average discount narrowed substantially after the B-share market was made accessible to domestic investors in Feb 2001, we view it as further evidence that is consistent with our hypothesis that domestic investors do not pay as much attention to corporate governance as foreign investors do. Therefore, when domestic investors were legally allowed to trade in the B-share market, they bid up the prices.

Later in this section we will conduct formal statistical analysis to ascertain the effect of both the Asian Financial Crisis and the opening up of the B-share market on the discount. We expect that the relationship between the discount and corporate governance to be stronger during the Asian Financial Crisis relative to the pre-crisis period; and the relationship to be weaker after the market was made accessible to domestic investors. As such, when we present the descriptive statistics in Table 2, other than the full-sample statistics in Panel A, we give sub-sample statistics in Panel B that spans from 1995 to 2000, the pre-opening-up period and Panel C that spans from 2001 to 2003, the post-opening-up period.

(Insert Table 2 Here)

We use paired t-test and Wilcoxon sign rank test to compare the mean and the median, respectively of the variables in question across the two sub-samples. It can be seen that both tests show almost uniformly that differences exist with statistical significance. Specifically, the price discount, the Herfindal index, the amount of control share ownership, the percentage of non-executive directors from the parent company, the dividend payout ratio, and the institutional ownership all show significant drops in value after the B-share market was opened up for domestic investors. On the other hand, the amount of related party transactions, firm size, leverage, the number of disclosure items by the firm, and the number of third-party news items have significant increases after the opening up of the B-share market.

To get a feeling of how price discounts relate with the explanatory variables and also how the variables relate to one other, we show the Pearson correlation statistics in Table 3.

(Insert Table 3 Here)

For the full sample in Panel A, price discount is seen to be related positively with the Herfindal Index and the level of controlling share ownership while related negatively with the dividend payout ratio, the firm size, and the amount of self-released news. These relationships show a general picture that price discount would be larger if the shareholdings are more concentrated but would be smaller if the firm pays out more dividends and is more transparent. This is consistent with our conjecture. On the other hand, it should be noticed that the dividend payout ratio is significantly correlated with other explanatory variables such as institutional ownership, firm size, leverage, and news coverage on the firm.

The results are similar for the sub-sample of the pre-opening-up period shown in Panel B. However, for the post-opening-up period, Panel C shows that the price discount is now correlated significantly only with the Herfindal Index and the payout ratio, making the controlling share ownership only marginally significant at the 10% level. That gives the first hint that the linkage between price discount and governance variables becomes weaker when the B-share market opens up to the Chinese local investors.

To formally test our hypothesis that the discount is related to a firm's corporate governance, we run the cross-sectional regression equation (1) under different models within which different sets of explanatory variables are included to check the differential explanatory power of the variables. The full-sample results are presented in Table 4.

(Insert Table 4 Here)

In Model 1, the key significant variable is the dividend payout ratio. The coefficient is -0.2024 with a t-value of -3.69 which is statistically significant at any reasonable level. When a company has a higher dividend payout, the discount of its B-share price relative to the A-share price will be smaller. Given the high agency problems revealed in the anecdotal evidences mentioned before of major shareholders expropriating minor shareholders' rights, tunneling, and even outright theft of firm capital, high dividend payout is conceivably a credible signal of better governance quality, i.e. the firm is running at a profit and faces less free cash flow problem. Also note that with only three explanatory variables, the Model is already able to explain away 21% of the discount phenomenon, as evidenced by the adjusted R-square figure.

In Model 2 without the payout variable, the Herfindal Index and the Greyboard variable show up significantly at the 5% level or better. Both coefficients are positive, suggesting that more concentrated ownership and higher percentage of non-executive directors from the parent company on the board are unwelcome by the B-share investors, leading to lower valuation of the company share relative to the A-share investors.

Results in Model 3 show that when the payout variable is added in, the explanatory power of the Herfindal Index and the Greyboard variable dissipate. Yet, they still contribute 9% explanatory power to the model as the adjusted R-square figure increases to 30%.

In Model 4, we take out the variables of dividend payout and institutional ownership and replace by the variable on related party transactions. The variable only enters into the regression with marginal significance at the 10% level, the t-value being 1.74. We expect that related party transactions with significant amount of money involved would be an important indicator of bad corporate governance. It is indeed positively related to price discount but its importance is weaker than we thought, as the adjusted R-square is only 0.12.

We add in the "Log(News)" variable in Model 5 together with the two accounting variables, total assets and total debt ratio. Firm size seems to matter a lot as the coefficient is -0.0565 with a t-value of -5.39 which is statistically significant at the 1% level. Yet, the proxy for news coverage does not enter significantly into the regression although the negative sign is consistent with our conjecture, i.e. firms with more news coverage give more confidence to the B-share investors. In any case, these newly added variables increase the model explanatory power to 50%.

In Model 6, we take out the Herfindal Index and the payout variable but add in "Controlshr", the ownership of the controlling shareholder and "Log(Newsown)", the amount of news released by the firm itself. The results show that "Controlshr", "Greyboard", "RPT", and "Leverage" are all significantly related to the price discount, whose signs are all consistent with our hypothesis. In addition, firm size and the amount of self-released news contribute negatively to the price discount significantly.[10] Notice that the adjusted R-square is an impressive 56% even without the dividend payout as an explanatory variable.

All in all, the results are in general consistent with our hypothesis that firms with better governance in terms of less ownership concentration, higher dividend payout, and more transparent lead to less discount of the B-share price relative to the A-share price.

---

[10] "Log(Newsown)" becomes insignificant if we add back the payout variable. Furthermore, we did not put the two news variables together into the same regression because of the high correlation coefficient of 0.6410 shown in Panel A of Table 3.

4.2   Before and After the Opening up of the B-share Market

        In this section, we divide our sample into two sub-periods, one before and one after the opening up the B-share market to local investors. The pre-opening sample spans from January 1999 to February 2001 and the post-opening sample spans from March 2001 to December 2003. We re-run Equation (1) on the two samples separately.[11] As argued before, if domestic investors are less concerned with corporate governance than foreign investors --- intuitively, domestic investors may not differentiate among firms with respect to corporate governance, it is the foreign investors who are responsible for valuation differences across firms --- then we should see weaker explanatory power of the governance variables on the price discount phenomenon after the B-share market becomes available to A-share investors. Our regressions results, reported in Table 5, provide supporting evidence.

                                    (Insert Table 5 Here)

        Panel A of Table 5 reports regression results for the pre-opening period, while Panel B displays the regressions results for the post-opening period. We highlight a few key findings as follows. Firstly, in the pre-opening sample (Panel A), "Log(Newsown)" in Model 5 has a coefficient of -0.0382 with a t-value of -2.00 which is statistically significant at the 5% level. That is to say, when the firm provides more information, the price discount is smaller. Similarly, "Log(News)" in Model 6 has a coefficient of -0.0335 with a t-value of -2.21 which is also statistically significant at the 5% level. Hence, when there is more news coverage on a particular firm, that firm tends to have smaller price discount. These two variables show up significantly in the regressions even when all the other explanatory and controlling variables are put in.

        Secondly, when comparing results in Panels A and B, we would see that other than ownership concentration (Herfindal Index) and firm size (Total Assets), other variables that have significant explanatory power in the regression results in Panel A become much less significant or insignificant in Panel B. Even the dividend payout ratio, which is uniformly and highly significant in Panel A (and also in Table 4), has lost much of its explanatory power in Panel B, especially in Models 5 and 6. Consequently, the adjusted R-square figures in Panel B become much smaller than those in Panel A. All these results support our proposition that

---

[11] The sample period is chosen for the symmetry reason. Our findings reported here are not materially different from those with different sample windows.

the importance of governance quality on the B-share price valuation weakens significantly after the Chinese local investors were allowed to invest in the B-share market. Such "contamination" of the A-share investors makes the effects of firm's governance quality on price valuation by the B-share investors less noticeable.

4.3   Before and After the Asian Financial Crisis

In this part, we do a different partition of our sample, i.e. we divide our *pre-opening up sample* into one that is before and one that is after the Asian Financial Crisis. The pre-crisis period spans from January 1996 to September 1997 and the post-crisis period spans from October 1997 to June 1999.[12] We argue the B-share investors who are mainly foreign institutional investors paid more attention to companies' governance quality when the financial crisis hit the Asian region. As such, we expect to see stronger relationships between our governance variables and the price discount. We find supporting evidence to our conjecture, and our regression results are reported in Table 6.

(Insert Table 6 Here)

Again, without going into specific details, we focus on the adjusted R-square figures which summarize the explanatory power of the various models. Panel A of Table 6 shows model results on the pre-crisis sample. The R-square figures range from 12% to 39%. Panel B shows the results on the post-crisis sample. The R-square figures range from 35% to 50%. If we compare model by model across the two samples, we also observe a general increase in the R-square figure for the post-crisis sample. The results hence support our proposition that governance quality has explanatory power on the price discount phenomenon, especially when the Asian Financial Crisis hit the region.

4.4   The Cointegration Relationship

There can be another dimension of looking at the issue. Since A-shares and B-shares are two classes of shares issued by the sample company, a company's economic fundamentals should drive the movements of the A-share and B-share prices through time, i.e. the two share prices should have a long-run cointegrating relationship. Yet, this is true only if markets are efficient, which, in turn, critically depends on information flow across markets.

---

[12] Again, the sample period is chosen for the symmetry reason. Our findings reported here are not materially different from those with different sample windows.

To the extent that firms with better governance quality are more transparent and investors are better informed, A-share and B-share prices of better-governed firms would be cointegrated more strongly than those of worse-governed firms. In fact, a study by Sun, Tong, and Yan (STY, 2005) find that out of the 83 pairs of A-share and B-share prices they examine, most of them are actually not cointegrated. The situation improves after the B-share market opens up but still, there are over 20 pairs having no cointegrating relationship. Based on this argument, we expect better-governed firms to have stronger cointegrating relationship among their A-share and B-share prices. We hence propose that A- and B-shares with stronger cointegrating relationship in their prices would have smaller price disparity also.

Empirically, we use the eigenvalues coming out from the Johansen (1989, 1991) procedure of cointegration estimation to capture the tightness of the cointegrating relationship among the A-share and B-share prices. To see the linkage, recall that the cointegrating relationships among various time-series variables can be expressed as the following vector error-correction system:

$$\Delta X_t = \sum_{i=1}^{k-1} \Gamma_i \Delta X_{t-i} - \Pi X_{t-k} + \varepsilon_t \tag{2}$$

$$\text{where} \quad \Gamma_i = -I + \Pi_1 + ... + \Pi_i, (i = 1, ..., k-1),$$

$$\text{and} \quad \Pi = I - \Pi_1 - ... - \Pi_k.$$

X_t is an nx1 vector of I(1) variables and Π is an nxn matrix that has rank r < n if X_t are cointegrated with $\Pi = \alpha\beta$'. β are rxp cointegrating matrices and α are the corresponding pxr weighting matrices. Let R_{ot} and R_{kt} be the residuals of regressions of ΔX_t and X_{t-k} on the lagged differences, respectively. The Johansen procedure is essentially maximizing the canonical correlations between R_o and R_k with respect to α and β.[13] Hence, when X_t are more cointegrated, the canonical correlations (the square of which are the eigenvalues) would tend to be larger in value.

In any case, we rerun the cross-sectional regression equation (1) with the eigenvalue as an additional explanatory variable. If our conjecture is correct, we would expect to see the eigenvalue being negatively correlated with price discount, i.e. the stronger the cointegrating

---

[13] For details of the Johansen method, please refer to Johansen (1988) and Johansen and Juselius (1990).

relationship, the smaller the price discount. The results presented in Table 7, again, show supporting evidence.

(Insert Table 7 Here)

First of all, the variable "eignevalue" enters uniformly negative in all models with statistical significance. That is, when A-share and B-share prices are more cointegrated, their relative price gap is smaller. Specifically, Model 1 in Table 7 shows that the eigenvalue has a coefficient of 0.1873 with a t-value of -3.89 which is statistically significant at the 1% level. Furthermore, when comparing with the results in Model 1 of Table 4, we see that the adjusted R-square value has a great increase from 21% to 36%. This suggests that the eigenvalue variable has great explanatory power on price discount. Indeed, when looking across various models, the eigenvalue variable takes away even the explanatory power of the dividend payout ratio which used to be highly significant in all the regression models in Table 4. Also notice that "Log(Newsown)" retains its explanatory power in Models 5 and 6 although statistical significance lie only at the 10% level.

Without reporting here, we find that when such regressions with the eigenvalue variable added in are applied to the sub-sample period of January 1999 through February 2001 (before the B-share market opening up to Chinese local investors), the eigenvalue variable again shows up uniformly negative with statistical significance in all the models. Yet, when they are applied to the sub-sample period beyond February 2001, the post-opening-up period, the eigenvalue variable loses its explanatory power. This is consistent with our conjecture and our results in Table 5 that governance quality becomes less relevant to price disparity when the Chinese A-share investors have moved into the B-share market to crowd out the valuation impact of the original, foreign B-share investors. This should also be put into the perspective that STY find *more* cointegrating pairs after the opening up of the B-share market, which is conceivable actually. Hence, our finding of the dissipation of eigenvalue's explanatory power on price discount in the post-opening-up period provides strong, though indirect evidence that corporate governance contributes to the price discount phenomenon.

5. Conclusion

In this paper we propose an alternative explanation to the A-B share price discount in the Chinese stock market. We hypothesize and find supporting evidence that the price

discount is partly caused by the firm's corporate governance practice. We realize that our hypothesis critically depends on an assumption that domestic investors pay less attention to a firm's corporate governance than do foreign investors, resulting in differential valuations of two shares with identical rights. We view our assumption as probable, given that Morck, Yeung, Yu's (2000) findings that stock prices in emerging markets are mostly driven by economy-wide factors, and very little by firm-specific factors. Our assumption is also consistent with the implication of Merton (1987), who shows that stocks with different investor bases can be priced differently due to incomplete information.

We summarize our findings as follows. First, we find that the average discount increased substantially during the Asian Financial Crisis, a period in which foreign investors had heightened concerns over corporate governance practices in Asia. In addition, we find that after the B share market was made legally accessible to domestic investors, the average discount significantly narrowed. But more importantly, we find that in a series of cross-sectional analyses, the price discount is significantly related to a firm's governance arrangements. In particular, we find that the discount is higher for firms with weaker corporate governance arrangements characterized by higher ownership concentration in the hands of the controlling shareholder, ineffective boards of directors with higher proportion of non-executive directors appointed by the parent company, lower dividend payout, higher level of information asymmetry, and lower institutional ownership. Furthermore, we find that the relationship between the discount and the governance variables is stronger in the period when domestic investors were barred from trading in the B share market, and in period following the Asian Financial Crisis.

Our findings extend the literature that documents a positive relationship between valuation and corporate governance. Our evidence suggests that corporate governance may not be valued equally by all investors, and hence that corporate governance reforms may not have their intended effects on valuation in emerging capital markets in the absence of 'sophisticated' investors and other economic institutions.

References

Brav, Alon, John R Graham, Campbell R Harvey, and Roni Michaely. 2005, Payout policy in the 21st century, Journal of Financial Economics v 77n3, 483-527.

Jae-Seung Baek, Jun-Koo Kang, and Jin-Mo Kim, 2002, Tunneling or value added? Evidence from mergers by Korean business groups, Journal of Finance 57, 2695-2740.

Jae-Seung Baek, Jun-Koo Kang, and Inmoo Lee, forthcoming, Business Groups and Tunneling: Evidence from Private Securities Offerings by Korean Chaebols, Journal of Finance.

Baek, Jae-Seung, Jun-Koo Kang, Kyung Suh Park, 2004, Corporate governance and firm value: evidence from the Korean financial crisis, Journal of Financial Economics 71, 265–313.

Bailey, W., 1994. Risk and return on China's new stock markets: Some preliminary evidence, Pacific Basin Finance Journal 2, 243-260.

Bailey, W., Jagtiani, J., 1994. Foreign ownership restrictions and stock prices in the Thai capital market. Journal of Financial Economics 36, 57-87.

Bailey, W., Chung, P., Kang, J.-K., 1999. Foreign ownership restrictions and equity price premiums: What drives the demand for cross-border investments? Journal of Financial and Quantitative Analysis 34, 489-511.

Bhagat, Sanjai and Bernard Black, 2001, The Non-Correlation Between Board Independence and Long Term Firm Performance, *Journal of Corporation Law* 27, 231-274.

Chan, Kalok, Albert J. Menkveld, and Zhishu Yang, 2002, Evidence on the foreign share discount puzzle in China: Liquidity or information asymmetry?, working paper.

Claessens, Stijn, Simeon Djankov, Joseph P. H. FAN, and Larry H. P. Lang, 2002, Disentangling the Incentive and Entrenchment Effects of Large Shareholdings, Journal of Finance v57n6, 2741-2771.

Coffee, J., 1999, The future as history: the prospects for global convergence in corporate governance and its implications, *Northwestern University Law Review* 93, 641-708.

Coffee, J., 2002, Racing towards the top? The impact of cross-listings and stock market competition on international corporate governance, Columbia Law Review 102, 1757-1831.

DeAngelo, Harry, Linda DeAngelo, and Douglas J Skinner, 2004, Are dividends disappearing? Dividend concentration and the consolidation of earnings, Journal of Financial Economics v72n3, 425-456.

Domowitz, I., Glen, J., Madhavan, A., 1997. Market segmentation and stock prices: Evidence from an emerging market. Journal of Finance 52, 1059-1085.

Franklin, Allen and Roni Michaely, "Payout Policy", from Handbook of the economics of finance / edited by George M. Constantinides, Milton Harris, and René M. Stulz. Boston : Elsevier/North-Holland, 2003

Hietala, P., 1989. Asset pricing in partially segmented markets: Evidence from Finnish market. Journal of Finance 49, 614-697.

Jensen, Michael C, 1986, Agency costs of free cash flow, corporate finance, and takeovers. American Economic Review v76n2, 323–329.

Johansen, Soren, 1991, Estimation and hypothesis testing of cointegration vectors in Gaussian vector autoregressive models, Econometrica 59, 1551-1580.

Karolyi, G. Andrew and Lianfa Li, 2005, A Resolution of the Chinese Discount Puzzle, Ohio State University working paper.

Kato, Takao and Cheryl Long, 2004, Executive Compensation, Firm Performance, and Corporate Governance in China: Evidence from Firms Listed in the Shanghai and Shenzhen Stock Exchanges, working paper.

Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer, Robert W Vishny. 2000. Agency problems and dividend policies around the world, Journal of Finance v55n1, 1-33.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 2002. Investor protection and corporate valuation, Journal of Finance v57n3, 1147–1170.

Larcker, David F., Scott A. Richardson, and Irem Tuna, 2004, Does corporate governance really matter?, Wharton School working paper.

Ma, X., 1996. Capital controls, market segmentation and stock prices: Evidence from the Chinese stock market. Pacific Basin Finance Journal 4, 219-239.

Mei, Jianping, Jose A. Scheinkman, and Wei Xiong, 2005, Speculative trading and stock prices: Evidence from Chinese A-B share premia, working paper.

Merton, Robert C., 1987, A simple model of capital market equilibrium with incomplete information, Journal of Finance v42n3, 483-510.

Mitton, Todd, 2002, A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis, Journal of Financial Economics v64n2, 215-241.

Morck, Randall, Andrei Shleifer and Robert Vishny, 1988, Management Ownership and Market Valuation: An Empirical Analysis, *Journal of Financial Economics* 20, 293-315.

Morck, Randall, Bernard Yeung, and Wayne Yu, 2000, The information content of stock markets: Why do emerging markets have synchronous stock price movements? *Journal of Financial Economics* 58, 215-260.

Myers, S. C. and N. S. Majluf, 1984, Corporate Financing and Investment Decisions: When Firms Have Information That Investors Do Not Have, *Journal of Financial Economics* 13, 187-221.

Shi, Steven and Drake Weisert, 2002, Corporate Governance with Chinese Characteristics, China Business Review v29n5, 40-44.

Stulz, R., 1999, Globalization, corporate finance, and the cost of capital, Journal of Applied Corporate Finance 12, 8-25.

Sun, Qian and Wilson H.S. Tong, 2000, The effect of market segmentation on stock prices: The China syndrome, Journal of Banking and Finance 24, 1875-1902.

Sun, Qian, Wilson H.S. Tong, and Yujun Wu, 2005, Bonding Premium: A General Phenomenon, Working Paper.

Sun, Qian, Wilson H.S. Tong, and Yuxing Yan, 2005, Market Liberalization within a Country, Working Paper.

TABLE 1

Summary Statistics on the Number and Dollar Amount of Reported Corporate Scandals in China during 1998 through 2005

Year	Number of Scandals	Total Amount in Millions of RMB	Mean Amount in Millions of RMB
1998	6	913	152
1999	6	2,116	353
2000	8	83,911	10,489
2001	14	9,696	693
2002	15	14,604	974
2003	6	10,157	1,693
2004	15	12,264	818
2005	24	15,202	633

Sources: Various newspapers and finance magazines.

TABLE 2

Summary Statistics Over Three Time Periods: 1995 To 2003, 1995 To 2000 and 2001 To 2003

Panel A includes the summary statistics of the full sample period from 1995 to 2003; Panel B reports the summary statistics over the period of 1995 through 2000 (pre-opening period of the B-share market to domestic investors); Panel C reports the summary statistics over the period of 2001 to 2003 (post-opening period). Discount is equal to one minus the ratio of currency-adjusted B-share's price to A-share's price averaged over monthly data. Other variables are based on the annual data for respective time periods. Herfindal represents the ownership concentration ratio based on the top 10 shareholders. Controlshr is the ownership by the controlling shareholders. Greyboard is the ratio of non-executive directors from the parent company. Payout is the dividend payout. Institutional Ownership represents the percentage of institutional ownership. RPT represents the ratio of total related-party transactions over total revenue. Log (Total Assets) is equal to the logarithm of total assets. Leverage is based on the ratio of total debt to total assets. Log (Newsown) is equal to the logarithm of the number of news items disclosed in media by the company. Log (News) is the logarithm of the number of newspaper articles discussing about the firm. Two-tailed paired t-test and Wilcoxon Sign Rank test are used for testing the difference of mean and median between Panel B and Panel C. ***, **, * denote significance levels of 1%, 5%, 10%, respectively.

| | Time Period | Panel A. From 1995 To 2003 | | | | | | Panel B. From 1995 To 2000[1] | | | | | | Panel C. From 2001 To 2003[2] | | | | | |
		N	Mean	Standard Deviation	Max	Median	Min	N	Mean	Standard Deviation	Max	Median	Min	N	Mean	Standard Deviation	Max	Median	Min
Discount	1995 – 2003	89	0.61	0.11	0.84	0.62	0.22	87	0.72	0.09	0.86	0.73	0.47	89	0.46 ***	0.11	0.74	0.47 ***	0.11
Herfindal	1999 – 2003	89	0.20	0.13	0.54	0.17	0.01	85	0.21	0.13	0.54	0.17	0.01	88	0.19 ***	0.13	0.54	0.17 ***	0.01
Controlshr	1999 – 2003	89	0.41	0.16	0.74	0.41	0.07	85	0.41	0.16	0.74	0.42	0.07	88	0.41 ***	0.16	0.74	0.41 ***	0.07
Greyboard	1999 – 2003	89	0.47	0.22	0.89	0.52	0.00	85	0.55	0.24	1.00	0.57	0.00	88	0.43 ***	0.22	0.89	0.48 ***	0.00
Payout	1995 – 2003	89	0.26	0.21	0.87	0.21	0.00	85	0.28	0.21	0.89	0.26	0.00	86	0.22 **	0.27	0.96	0.10 ***	0.00
Institutional Ownership	1995 – 2003	86	0.20	0.24	1.00	0.09	0.00	84	0.21	0.26	1.00	0.09	0.00	86	0.15 ***	0.23	1.00	0.03 ***	0.00
RPT	1998 – 2002	64	2.93	11.13	67.64	0.06	0.00	52	2.99	14.44	102.06	0.15	0.00	59	3.95	16.39	115.83	0.08 ***	0.00
Log (Total Assets)	1995 – 2003	89	21.45	0.81	23.42	21.42	19.77	85	21.34	0.76	22.85	21.30	19.80	88	21.48	0.94	23.68	21.50 ***	19.05
Leverage	1995 – 2003	89	0.54	0.38	2.55	0.49	0.13	85	0.46	0.18	0.94	0.46	0.12	88	0.68 **	0.95	6.20	0.52 ***	0.09
Log (Newsown)	1997 – 2002	83	2.85	0.24	3.41	2.84	2.34	83	2.68	0.26	3.26	2.72	1.95	82	3.14 ***	0.49	4.51	3.09 ***	2.14
Log (News)	1997 – 2002	84	2.85	0.45	3.43	2.91	0.47	84	2.62	0.66	3.27	2.76	-1.39	83	3.25 ***	0.50	4.54	3.22 ***	1.95

Notes: 1. Discount is calculated from Jan 1995 through Feb 2001; 2. Discount is calculated from March 2001 through Dec 2003.

TABLE 3

Pearson Correlation Matrices For Discount And Various Explanatory Variables

Panel A reports the Pearson Correlation Matrix from 1995 to 2003; Panel B reports the Pearson Correlation Matrix over the period 1995 to 2000; Panel C reports the Pearson Correlation Matrix over 2001 to 2003. Discount is equal to one minus the ratio of B-shares' price to A-shares' price over three exact periods. Other variables are based on the annual data for respect time period. Herfindal represents the ownership concentration ratio based on the top 10 shareholders. Controlshr is the ownership by the controlling shareholders. Greyboard is based on the percentage of non-executive directors from the parent company. Payout is the dividend payout. Institutional Ownership represents the percentage of institutional ownership. RPT represents the ratio of total operating related-party transactions over total revenue. Log (Total Assets) is equal to the logarithm of total assets which represents the size. Leverage is based on the ratio of total debt to total assets. Log (Newsown) is equal to the logarithm of the number of news disclosed in media by the company. Log (News) is based on the logarithm of the number of newspaper articles discussing about the firm. ***, **, * denote significance levels of 1%, 5%, 10%, respectively, using two-tailed simple correlation test.

Panel A. From 1995 To 2003

	Discount	Herfindal	Controlshr	Greyboard	Payout	Institutional Ownership	RPT	Log (Total Assets)	Leverage	Log (Newsown)	Log (News)	eigenvalue
Discount	1	0.2806***	0.1908*	0.1508	-0.4446***	-0.1198	0.1695	-0.5244***	0.0854	-0.2327**	-0.088	-0.5061***
Herfindal		1	0.9422***	-0.0987	-0.3534***	-0.3924***	-0.0696	0.0073	0.1543	-0.1164	0.0703	-0.0342
Controlshr			1	-0.1262	-0.3034***	-0.4075***	-0.0261	0.0596	0.0966	-0.1149	0.1032	
Greyboard				1	-0.078	0.2168**	-0.0746	-0.0314	0.0445	-0.0107	0.0665	-0.3440***
Payout					1	0.225**	-0.1441	0.2347**	-0.3396***	-0.1353	-0.3073***	0.3468***
Inst. Ownership						1	0.0763	-0.1647	-0.0891	0.0033	-0.1811	-0.0206
RPT							1	-0.1582	-0.0036	0.1793	0.1284	
Log(Total Assets)								1	0.0275	0.2033*	0.1777	0.1871*
Leverage									1	0.3597***	0.1896*	-0.0951
Log(Newsown)										1	0.641***	-0.3538***
Log (News)											1	-0.4236***

Panel B. Discount (From Jan, 1995 To Feb, 2001) And Explanatory Variables (1995 To 2000)

	Discount	Herfindal	Controlshr	Greyboard	Payout	Institutional Ownership	RPT	Log (Total Assets)	Leverage	Log (Newsown)	Log (News)
Discount	1.0000	0.2912 ***	0.3440 ***	-0.1653	-0.3059 ***	-0.2294 **	0.1091	-0.4355 ***	0.0443	-0.0722	-0.1377
Herfindal		1.0000	0.9482 ***	-0.1066	-0.4045 ***	-0.4312 ***	-0.1254	0.0588	0.2379 **	-0.1155	0.1579
Controlshr			1.0000	-0.1184	-0.3602 ***	-0.4681 ***	-0.0892	0.0631	0.1790	-0.0914	0.2126
Greyboard				1.0000	-0.0373	0.1997 *	0.0417	0.0952	-0.0197	0.0192	0.1059
Payout					1.0000	0.3366 ***	-0.0474	0.1867 *	-0.3983 ***	-0.0705	-0.3364 ***
Institutional Ownership						1.0000	-0.0277	-0.1568	-0.1931 *	0.0313	-0.2593 **
RPT							1.0000	0.0019	0.0537	0.1197	0.1361
Log (Total Assets)								1.0000	0.2357 **	0.2438 **	0.2366 **
Leverage									1.0000	0.3017 ***	0.1223
Log (Newsown)										1.0000	0.4837 ***
Log (News)											1.0000

Panel C. Discount (From Mar, 2001 To Dec, 2003) And Explanatory Variables (2001 To 2003)

	Discount	Herfindal	Controlshr	Greyboard	Payout	Institutional Ownership	RPT	Log (Total Assets)	Leverage	Log (Newsown)	Log (News)
Discount	1.0000	0.2983 ***	0.2095 *	0.1744	-0.3244 ***	0.0763	0.0754	-0.4053***	0.0101	-0.0379	-0.1485
Herfindal		1.0000	0.9383 ***	-0.0978	-0.2260 **	-0.2439 **	0.0179	-0.0844	0.1064	-0.0718	-0.1067
Controlshr			1.0000	-0.1133	-0.2020 *	-0.2451 **	0.0493	0.0096	0.0531	-0.1337	-0.1579
Greyboard				1.0000	-0.0821	0.1312	-0.1939	-0.0647	0.0388	-0.0209	-0.0254
Payout					1.0000	0.0955	-0.1805	0.3054 ***	-0.2676 **	-0.0233	-0.0336
Institutional Ownership						1.0000	0.3151 **	-0.2073*	-0.0317	-0.0533	-0.0725
RPT							1.0000	-0.3104**	0.0312	0.0016	-0.0117
Log (Total Assets)								1.0000	-0.3030 ***	-0.1847 *	-0.1313
Leverage									1.0000	0.2473 **	0.2332 **
Log (Newsown)										1.0000	0.9707 ***
Log (News)											1.0000

TABLE 4

Regression Results of Discount From 1995 To 2003

This table reports the cross-sectional regression results of Discount on various explanatory variables. The dependent variable is equal to one minus the ratio of B-shares' price to A-shares' price over the period of 1995 to 2003. Other variables are based on the annual data over the same period. Herfindal represents the ownership concentration ratio based on top 10 shareholders. Controlshr is the ownership by the controlling shareholders. Greyboard is based on the percentage of non-executive directors from the parent company. Payout is the dividend payout. Institutional Ownership represents the percentage of institutional ownership. RPT represents the ratio of total related-party transactions over total revenue. Log (Total Assets) is equal to the logarithm of total assets which represents the size. Leverage is based on the ratio of total debt to total assets. Log (Newsown) is equal to the logarithm of the number of news disclosed in media by the company. Log (News) is based on the logarithm of the number of newspaper articles discussing about the firm. Numbers in parentheses are Student t-statistics. ***, **, * denote significance levels of 1%, 5%, 10%, respectively, using a two-tailed t-test.

	Model					
	1	2	3	4	5	6
Intercept	0.6009 ***	0.5002 ***	0.6072 ***	0.5311 ***	1.8509 ***	2.0461 ***
	(14.95)	(13.37)	(15.24)	(15.37)	(7.23)	(8.45)
Herfindal	0.1463	0.2980 ***	0.1553	0.2539 **	0.1723 **	
	(1.57)	(2.95)	(1.65)	(2.63)	(2.07)	
Controlshr						0.2007 ***
						(2.91)
Greyboard	0.0708	0.1090 **	0.0760	0.0874 *	0.0851 **	0.0855 **
	(1.43)	(2.06)	(1.60)	(1.73)	(2.04)	(2.25)
Payout	-0.2024 ***		-0.2618 ***		-0.1934 ***	
	(-3.69)		(-4.84)		(-3.46)	
Institutional Ownership		-0.0228	0.0133		-0.0464	-0.0400
		(-0.33)	(0.22)		(-0.84)	(-0.74)
RPT				0.0018 *		0.0013
				(1.74)		(1.61)
Log (Total Assets)					-0.0582 ***	-0.0622 ***
					(-4.79)	(-5.77)
Leverage					-0.0215	0.0864 **
					(-0.65)	(2.30)
Log (Newsown)						-0.0937 **
						(-2.01)
Log (News)						
N	89	86	86	64	86	61
R^2	0.23	0.14	0.34	0.16	0.50	0.56
Adjusted R^2	0.21	0.11	0.30	0.12	0.46	0.50
F Statistic	8.63	4.62	10.27	3.73	13.06	9.58

TABLE 5

Regression Results of Discount Before And After The Market Open to Domestic Investors In February of 2001

This table reports the cross-sectional regression results of Discount before (from January of 1999 to February of 2001) and after (from March of 2001 to December of 2003) the market open to domestic investors on various explanatory variables which are reported annually over the periods of 1999 to 2000 and 2001 to 2003 respectively. The dependent variable is equal to one minus the ratio of B-shares' price to A-shares' price. Herfindal represents the ownership concentration ratio based on top 10 shareholders. Greyboard is based on the percentage of non-executive directors from the parent company. Payout is the dividend payout. Institutional Ownership represents the percentage of institutional ownership. Log (Total Assets) is equal to the logarithm of total assets which represents the size. Leverage is based on the ratio of total debt to total assets. Log (Newsown) is equal to the logarithm of the number of news disclosed in media by the company. Log (News) is based on the logarithm of the number of newspaper articles discussing about the firm. Numbers in parentheses are Student t-statistics. ***, **, * denote significance levels of 1%, 5%, 10%, respectively, using a two-tailed t-test.

	Panel A. Model Before February Of 2001 (Jan, 1999 To Feb, 2001)						Panel B. Model After February Of 2001 (Mar, 2001 To Dec, 2003)					
	1	2	3	4	5	6	1	2	3	4	5	6
Intercept	0.7781***	0.7289***	0.7715***	1.6536***	1.7316***	1.7175***	0.3853***	0.3430***	0.3808***	1.2532***	1.2162***	1.2355***
	(34.04)	(30.77)	(32.31)	(10.01)	(10.34)	(10.47)	(11.41)	(10.52)	(10.78)	(4.63)	(4.16)	(4.29)
Herfindal	0.1096*	0.2173***	0.1273**	0.1375**	0.1355**	0.1335**	0.2319***	0.3107***	0.2448***	0.2300**	0.2588***	0.2550***
	(1.87)	(3.66)	(2.08)	(2.62)	(2.64)	(2.62)	(2.64)	(3.37)	(2.65)	(2.62)	(2.93)	(2.87)
Greyboard	0.0312	0.0317	0.0296	0.0459*	0.0616**	0.0652***	0.1062**	0.0966*	0.0960*	0.0870*	0.0632	0.0628
	(1.18)	(1.06)	(1.10)	(1.98)	(2.53)	(2.66)	(2.17)	(1.94)	(1.92)	(1.82)	(1.29)	(1.28)
Payout	-0.1217***		-0.1229***	-0.0735**	-0.0682**	-0.0748**	-0.1011**		-0.1065**	-0.0727*	-0.0426	-0.0427
	(-4.21)		(-4.22)	(-2.64)	(-2.38)	(-2.59)	(-2.42)		(-2.51)	(-1.70)	(-0.88)	(-0.89)
Institutional Ownership		0.0217	0.0307	-0.0033	-0.0013	-0.0014		0.0917	0.0734	0.0295	0.0669	0.0666
		(0.59)	(0.91)	(-0.11)	(-0.05)	(-0.05)		(1.29)	(1.01)	(0.42)	(0.90)	(0.90)
Log (Total Assets)				-0.0429***	-0.0421***	-0.0422***				-0.0400***	-0.0376***	-0.0376***
				(-5.39)	(-5.40)	(-5.45)				(-3.25)	(-3.01)	(-3.04)
Leverage				0.0502	0.0773**	0.0824**				-0.0115	-0.0102	-0.0091
				(1.47)	(2.19)	(2.32)				(-0.77)	(-0.66)	(-0.59)
Log (Newsown)					-0.0382**						-0.0049	
					(-2.00)						(-0.21)	
Log (News)						-0.0335**						-0.0104
						(-2.21)						(-0.44)
N	78	82	77	77	75	75	86	86	85	85	79	79
R^2	0.30	0.15	0.31	0.52	0.52	0.53	0.21	0.15	0.22	0.31	0.28	0.28
Adjusted R^2	0.27	0.12	0.28	0.47	0.47	0.48	0.18	0.12	0.18	0.26	0.21	0.21
F Statistic	10.64	4.68	8.26	12.42	10.51	10.76	7.12	4.93	5.49	5.81	3.99	4.02

TABLE 6

Regression Results of Discount Before And After The Asia Financial Crisis in October of 1997

This table reports the cross-sectional regression results of Discount before (from October of 1995 to September of 1997) and after (from October of 1997 to September of 1999) the Asia Financial Crisis on various explanatory variables which are reported annually over the periods of 1998 to 1999. The dependent variable is equal to one minus the ratio of B-shares' price to A-shares' price. Herfindal represents the ownership concentration ratio based on top 10 shareholders. Greyboard is based on the percentage of non-executive directors from the parent company. Payout is the dividend payout. Institutional Ownership represents the percentage of institutional ownership. Log (Total Assets) is equal to the logarithm of total assets which represents the size. Leverage is based on the ratio of total debt to total assets. Log (Newsown) is equal to the logarithm of the number of news disclosed in media by the company. Log (News) is based on the logarithm of the number of newspaper articles discussing about the firm. Numbers in parentheses are Student t-statistics. ***, **, * denote significance levels of 1%, 5%, 10%, respectively, using a two-tailed t-test.

	Panel A. Model Before October Of 1997 (Oct, 1995 To Sept, 1997)						Panel B. Model After October Of 1997 (Oct, 1997 To Sept, 1999)					
	1	2	3	4	5	6	1	2	3	4	5	6
Intercept	0.6148***	0.5612***	0.6081***	1.7760***	1.7894***	1.7736***	0.7757***	0.7209***	0.7599***	1.4255***	1.4351***	1.3976***
	(12.88)	(10.37)	(12.36)	(4.51)	(4.37)	(4.37)	(32.06)	(23.52)	(32.08)	(7.50)	(7.29)	(7.19)
Herfindal	0.1793	0.3029**	0.2000*	0.2316**	0.2186*	0.2269*	0.1184**	0.2285***	0.1651***	0.1643***	0.1322**	0.1555***
	(1.62)	(2.39)	(1.73)	(2.07)	(1.77)	(1.85)	(2.08)	(3.11)	(2.92)	(3.05)	(2.26)	(2.82)
Greyboard	-0.0384	-0.0418	-0.0370	0.0224	0.0225	0.0215	0.0420	0.0240	0.0267	0.0542*	0.0513*	0.0489
	(-0.66)	(-0.63)	(-0.61)	(0.37)	(0.36)	(0.35)	(1.45)	(0.64)	(0.94)	(1.96)	(1.73)	(1.66)
Payout	-0.2415***		-0.2492***	-0.2374***	-0.2380***	-0.2367***	-0.1583***		-0.1668***	-0.1404***	-0.1435***	-0.1379***
	(-4.05)		(-4.11)	(-3.83)	(-3.75)	(-3.74)	(-5.23)		(-5.75)	(-4.75)	(-4.69)	(-4.60)
Institutional Ownership		-0.0003	0.0003	-0.0005	-0.0006	-0.0005		0.0008*	0.0010***	0.0006*	0.0005	0.0006*
		(-0.32)	(0.36)	(-0.74)	(-0.76)	(-0.73)		(1.79)	(2.80)	(1.71)	(1.54)	(1.69)
Log (Total Assets)				-0.0553***	-0.0545***	-0.0549***				-0.0328***	-0.0300***	-0.0316***
				(-2.90)	(-2.78)	(-2.77)				(-3.58)	(-3.16)	(-3.36)
Leverage				-0.0297	-0.0231	-0.0285				0.0489	0.0608	0.0456
				(-0.36)	(-0.26)	(-0.32)				(1.24)	(1.42)	(1.09)
Log (Newsown)					-0.0119						-0.0248	
					(-0.22)						(-0.97)	
Log (News)						-0.0019						0.0038
						(-0.04)						(0.28)
N	68	72	67	67	66	66	73	77	72	72	69	70
R^2	0.29	0.12	0.30	0.40	0.39	0.39	0.35	0.13	0.43	0.52	0.50	0.50
Adjusted R^2	0.25	0.08	0.25	0.34	0.32	0.32	0.32	0.09	0.39	0.48	0.45	0.44
F Statistic	8.64	3.08	6.61	6.57	5.32	5.30	12.53	3.53	12.55	11.90	8.84	8.70

Table 7

Regression Results of Discount on the Cointegration Measure 1995 through 2003

This table reports the cross-sectional regression results of Discount on the governance variables and the cointegration measure, Eigenvalue, which is obtained by using the Johansen's (1991) procedure as a measure of degree of cointegration between the prices of paired A and B shares. The dependent variable is equal to one minus the ratio of B-shares' price to A-shares' price. Herfindal represents the ownership concentration ratio based on top 10 shareholders. Greyboard is based on the percentage of non-executive directors from the parent company. Payout is the dividend payout. Institutional Ownership represents the percentage of institutional ownership. Log (Total Assets) is equal to the logarithm of total assets which represents the size. Leverage is based on the ratio of total debt to total assets. Log (Newsown) is equal to the logarithm of the number of news disclosed in media by the company. Log (News) is based on the logarithm of the number of newspaper articles discussing about the firm. Numbers in parentheses are Student t-statistics. ***, **, * denote significance levels of 1%, 5%, 10%, respectively, using a two-tailed t-test.

	1	2	3	4	5	6
Intercept	0.5911***	0.5567***	0.5830***	1.5171***	1.6319***	1.6109***
	(18.56)	(16.62)	(17.23)	(6.96)	(7.50)	(7.56)
Herfindal	0.1634**	0.2490***	0.1854**	0.1708**	0.2035***	0.1967***
	(2.20)	(3.17)	(2.33)	(2.36)	(3.14)	(3.02)
Greyboard	0.0533	0.0454	0.0537	0.0621	0.0686*	0.0685*
	(1.25)	(1.01)	(1.23)	(1.57)	(1.92)	(1.92)
Payout	-0.1102**		-0.1143**	-0.0683	-0.0412	-0.0470
	(-2.59)		(-2.62)	(-1.60)	(-1.03)	(-1.19)
Inst. Ownership		0.0349	0.0399	-0.0136	0.0150	0.0152
		(0.59)	(0.70)	(-0.26)	(0.31)	(0.31)
Log (Total Assets)				-0.0438***	-0.0434***	-0.0425***
				(-4.34)	(-4.82)	(-4.72)
Log(NewsOwn)					-0.0502*	-0.0469*
					(-1.74)	(-1.72)
Leverage				-0.0015	0.0117	0.0111
				(-0.08)	(0.68)	(0.64)
Eigenvalue	-0.1873***	-0.2307***	-0.1851***	-0.1674***	-0.0834	-0.1034*
	(-3.89)	(-4.90)	(-3.80)	(-3.78)	(-1.57)	(-1.78)
N	85	83	83	83	79	79
Adjusted R^2	0.3669	0.3242	0.3709	0.4826	0.402	0.4014
F-stat	13.31	10.95	10.79	12.06	7.64	7.62

Figure 1: The Average Of Discount Over The Period Of Jan, 1995 to Dec, 2003
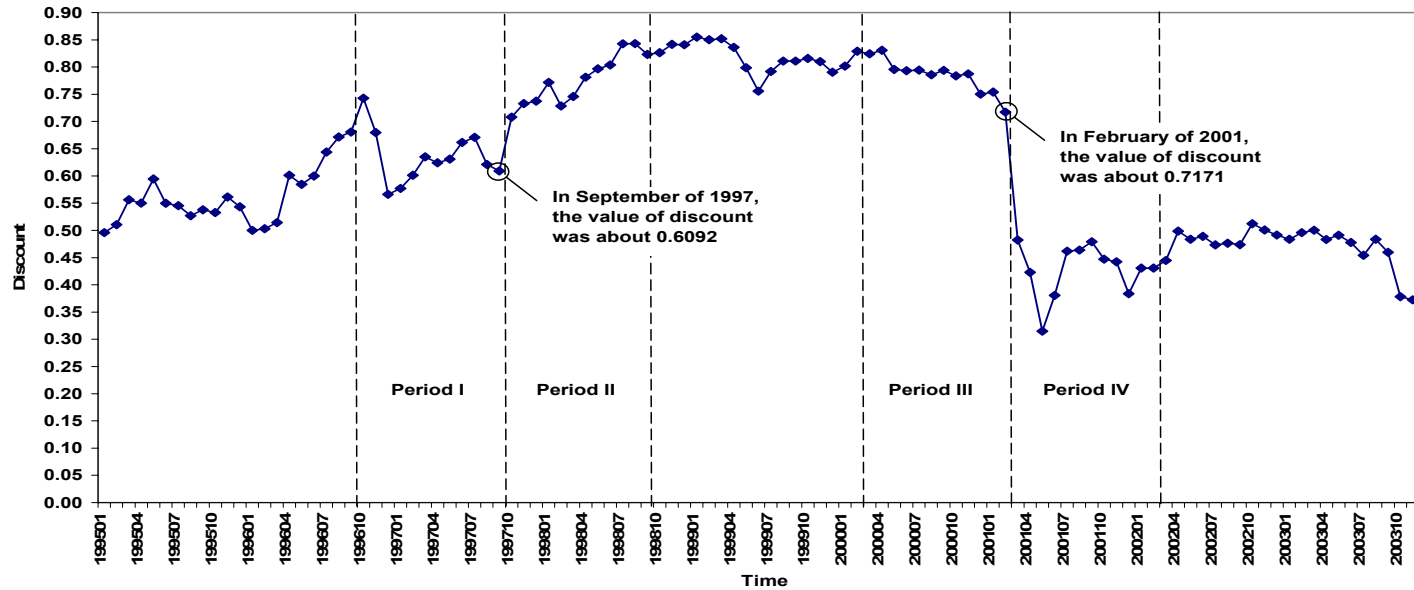
Period	Time	N	Mean		Std Dev	Max	Median		Min
I	A year before Asia Financial Crisis (Oct, 1996 – Sept, 1997)	75	0.6284		0.1059	0.8403	0.6271		0.4146
II	A year after Asia Financial Crisis (Oct, 1997 – Sept, 1998)	79	0.7741	***	0.0838	0.8997	0.7796	***	0.5454
III	A year before market open to domestic investors (Mar, 2000 – Feb, 2001)	87	0.7807		0.0597	0.8760	0.7918		0.5969
IV	A year after market open to domestic investors (Mar, 2001 – Feb, 2002)	89	0.4308	***	0.1115	0.7197	0.4275	***	0.0867

Two-tailed paired t-test and Wilcoxon Sign Rank test are used for testing the difference of mean and median before and after the two events (Asia financial crisis and market open to domestic investors). ***, **, * denote significance levels of 1%, 5%, 10%, respectively.