FOREIGN PRIMARY LISTINGS AND CORPORATE GOVERNANCE BONDING

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Abstract:

This paper investigates whether a *foreign primary listing* is associated with corporate governance bonding of PRC firms listed in Hong Kong and Singapore. Consistent with bonding theory, there is a significant difference between the corporate governance quality of PRC firms with a *foreign primary listing* and counterparts with a domestic primary listing only (i.e. the PRC benchmark). The corporate governance quality of PRC *foreign primary listing* firms is not significantly different from foreign market benchmarks. The association between the *foreign primary listing* and corporate governance quality holds when firm characteristics are controlled for. Findings from this paper contribute to the cross listing literature by providing direct evidence on the corporate governance bonding associated with PRC *foreign primary listings*.

Keywords: foreign primary listings, corporate governance, bonding

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1. Introduction

Motivations driving firms to list on a foreign stock exchange have drawn intensive scholarly attention in recent years. The traditional explanation (e.g. Alexander *et al.*, 1987; Miller 1999) is that firms list overseas to access foreign capital, increase liquidity, reduce cost of capital or improve firm visibility (Karolyi, 2006). An emerging explanation, bonding theory (Coffee, 1999, 2002; Stulz, 1999), posits that firms seek to enhance corporate governance by linking to stronger foreign regimes. Advocates of bonding theory (e.g., Coffee, 1999, 2002; Reese and Weisbach, 2002; Stulz, 1999) argue that a firm may elect to list on a foreign exchange in a nation with higher legal, disclosure, accounting and enforcement standards to signal a higher level of shareholder protection, so as to attract investors that would otherwise be unwilling to invest. A number of recent studies (e.g. Charitou and Louca, 2009; Doidge, 2004; Lel and Miller, 2008) provide empirical evidence in support of bonding theory.

Whilst papers supporting bonding theory generate ample evidence, several questions remain unanswered. Firstly, virtually all existing studies restrict the examination of bonding based on cross-listings. Other overseas listing paths are not examined. Secondly, the majority of the current literature overly dwells on firms cross listing on the developed markets especially the U.S. (Ferris *et al.*, 2009). It is not clear whether bonding theory is applicable in a broader setting such as a firm from a poor institutional regime listing on a more reputed market. Thirdly, although bonding theory derives from corporate governance, most of the bonding papers are based on the capital market evidence of the bonding effect (Ferris *et al.*, 2009). Direct tests on how cross listing affects a firm's corporate governance quality are very rare.

Motivated by the gaps in the literature, this paper examines whether overseas listing leads to higher corporate governance quality using firms

from the People's Republic of China (hereafter PRC). PRC firms are chosen because of a unique listing path, *foreign primary listing*, associated with these firms. The traditional cross listing follows the path that firms establish their primary listings on a domestic stock exchange before they conduct a secondary listing on a foreign exchange. In contrast, during the past two decades, a substantial and growing number of unseasoned PRC domiciled firms have established primary listings on foreign exchanges instead of either the PRC's two domestic exchanges (i.e., Shanghai Stock Exchange (hereafter SHSE) or Shenzhen Stock Exchange (hereafter SZSE)). Indeed, by the end of 2009, PRC *foreign primary listing* firms comprised nearly a quarter of the approximately 1,700 PRC publicly listed firms worldwide (Zero2 IPO Research Center, 2009)[42]. To date, little research has been conducted to understand the fundamentals behind this unique listing arrangement.

The *foreign primary listing* phenomenon associated with PRC firms is a puzzling issue from the firm perspective. Frequently, cross-listing researchers argue firms list abroad to pursue economic benefits such as a lower cost of capital. However, prior research (Sun and Tong, 2000; Wang and Jiang, 2003) indicates H-Share firms[43] listed on the Hong Kong Stock Exchange (hereafter HKEx) continuously trade at price discounts relative to A- and B-Share[44] firms listed on PRC domestic exchanges. If at least on the surface a *foreign primary listing* does not lead to a lower cost of capital, the puzzle is why PRC firms persist in establishing a primary listing on a foreign exchange.

Bonding theory provides an important avenue to explain the *foreign primary listing* phenomenon associated with the PRC firms. There are long lingering questions of legal, accounting, and governance standards in the PRC, whilst the corporate governance standards in Hong Kong and Singapore are generally regarded as the leaders in Asia (CLSA, 2005, 2007). This may provide an impetus for a substantial number of PRC firms to establish listings abroad to signal their commitment to higher corporate governance quality and reassure investors' confidence. The PRC government has long acknowledged that overseas listing is an important strategy to boost corporate governance of PRC firms and attract foreign investors (Sun *et al.*, 2006). It is, therefore, imperative to test if *foreign primary listings* of PRC firms lead to corporate governance bonding.

The primary research objective of this paper is to examine whether *foreign primary listings* are associated with corporate governance bonding of PRC firms listed in Hong Kong and Singapore. PRC and foreign market benchmarks are constructed to contrast the corporate governance quality of PRC *foreign primary listing* firms with those benchmark firms. Data examined are firms' 2006 annual reports. The corporate governance score is calculated as the sum of twenty-four [24] corporate governance items. Results suggest that consistent with bonding theory, there is a significant difference between the corporate governance quality of PRC firms with a *foreign primary listing* and counterparts with a domestic primary listing only. The corporate governance quality of PRC *foreign primary listing* firms is not significantly different from foreign market benchmarks. The association between the *foreign primary listing* and corporate governance quality holds when firm characteristics are controlled for.

This paper contributes to the bonding literature in several important ways. Firstly, this paper examines whether bonding theory can be applied to the unique *foreign primary listing* phenomenon associated with the PRC firms. Secondly, different from previous capital market based bonding studies, this paper directly exlpores whether *foreign primary listing*s of PRC firms are associated with corporate governance bonding with foreign market standards. By comparing the corporate governance quality with both domestic and foreign market benchmarks, this paper provides a new understanding of how corporate governance might change in response to a *foreign primary listing*. Thirdly, this paper investigates whether quality Asian markets such as Hong Kong or Singapore can provide bonding mechanisms beyond the traditional U.S. market. This enriches the international corporate governance literature. Finally, compared with previous studies (e.g. Sun *et al.*, 2006) that examine PRC overseas listings based on a small sample of H-Share firms, this study provides comprehensive empirical analysis using a large

[42] In developed economies such as Europe, North America and Australia, the number of firms with a *foreign primary listing* is less than one percent (Sun *et al.*, 2006). The only other substantial occurence of firms from a specific nation establishing *foreign primary listing*s involved Israeli technology firms listing on the NASDAQ for a brief period in the 1990s (Blass and Yafeh 2001; Sun *et al.*, 2006). The 'Dot.Com Bubble' burst and Sarbannes-Oxley Act has virtually curtailed any further such listings by Israeli firms. *Foreign primary listing*s by PRC firms are more sustained and widespread (i.e., involving more stock exchanges worldwide) and continue to grow.

[43] Two types of shares are issued by PRC domiciled firms listed in Hong Kong – H-Share and Red-Chip Share. The difference between the H-Share and Red-Chip Share is that H-Shares are issued by firms incorporated in the PRC whilst Red-Chip Shares are issued by firms incorporated outside the PRC.

[44] Two types of shares are listed on the PRC domestic stock exchanges – A-Share and B-Share. The difference between the A-Share and B-Share is that A-Shares are issued by PRC firms for PRC citizens whilst B-Shares are mainly issued for foreign investors.

sample of PRC firms listed in Hong Kong (H-Share and Red-Chip Shares) or Singapore (S-Shares[45]).

The remainder of this paper is organised as follows. Section 2 provides an overview of PRC *foreign primary listings* and contrasts investor protection enviornments in the PRC, Hong Kong and Singapore. It also develops testable hypotheses based on prior literature. Section 3 presents the research design. Section 4 reports statistical results. Concluding remarks are detailed in the last section.

2. Literature review and hypothesis development

2.1 PRC foreign primary listings

A firm's first Initial Public Offering (IPO) is labelled the primary listing whilst future seasoned offerings on another stock exchange are termed the secondary listing (HKEx, 2007). For obvious reasons (e.g., locality, market base, reputational capital), the majority of firms will conduct the IPO via a domestic primary listing (Karolyi, 2006). The firm's listing on another domestic stock exchange or a foreign stock exchange is called the domestic secondary listing and foreign secondary listing respectively. A domestic primary - foreign secondary listing composition is generally perceived as the traditional cross-listing arrangement (Karolyi, 2006). Whilst not common, a firm may conduct the IPO on a foreign exchange, thereby, creating a *foreign primary listing*. Any subsequent listing on a domestic stock exchange is termed a domestic secondary listing. The establishment of a foreign primary - domestic secondary listing composition gives rise to a reverse cross-listing arrangement.

Presently, on established stock exchanges such as New York Stock Exchange and London Stock Exchange, a large number of listed firms are cross-listing firms (Karolyi, 2006). The *foreign primary listing*, however, only appears in the Israeli and PRC domiciled firms (Sun *et al.*, 2006). The Israeli *foreign primary listings* took place in the 1990s when a group of young and high technology firms went public on the U.S. offshore stock exchange (Blass and Yafeh, 2001). Nonetheless, the number of Israeli *foreign primary listing* firms declined quickly after the burst of the high technology bubble and the enactment of the Sarbanes-Oxley Act in 2002. By contrast, the *foreign primary listing* phenomenon of PRC firms is more sustained and widespread (i.e., involving more stock exchanges worldwide) and continues to grow (Sun *et al.*, 2006).

PRC firms started to list overseas since 1993. Of various overseas markets, New York was the initial preferred location for PRC firms to establish an IPO. Hong Kong, however, became the main location of choice during the 1990s (PWC, 2007). Before 1997 only one PRC firm was listed in Singapore. The number of firms listed in Hong Kong and Singapore has converged since 2003. By the end of 2006, the number of PRC firms listed on the Singapore stock Exchange (hereafter SGX) nearly surpassed those on the HKEx (PWC, 2007). Consequently, as of the end of 2006, more than 80% of PRC firms with a *foreign primary listing* are listed in Hong Kong and Singapore (Zero2IPO Research Center, 2007).

2.2 Corporate governance environments in the PRC, Hong Kong and Singapore

The regulatory environments of the PRC, Hong Kong and Singapore differ greatly as reflected by the distinct international rankings these jurisdictions receive. For instance, in the international corporate governance survey conducted by the IMD (2004), the PRC ranks on the low-end (average rank 41.5) out of sixty economies in the world. In contrast, Singapore and Hong Kong received a far higher ranking of 7.5 and 16.0 respectively. Moreover, in the Credit Lyonnais Securities Asia (hereafter ***CLSA***) (2007) corporate governance report, Hong Kong and Singapore position the top two among 11 Asian countries and regions. The PRC, however, rates ninth out of all Asian markets.

The most important corporate governance rules in the PRC are the national *Company Law* (1994) and the *Code of Corporate Governance* (2002). Although the corporate governance requirements are mainly in line with the western countries, the real effectiveness differs (Firth *et al.*, 2007; Clarke, 2006). For example, the *Company Law* (1994) requires a quasi two-tier model of corporate governance: a board of directors and a supervisory board[46]. However, the supervisory board in the PRC firms has been criticized for not functioning well and failing to identify managerial corruption (Clarke, 2003; Sun *et al.*, 2006). Meanwhile, the true independence of directors is questionable. As most of the dominant investors are linked to the state, the government is able to influence the appointment of independent directors (Allen *et al.*, 2005). Minority shareholders are able to vote on

[45] PRC domiciled firms listed in Singapore are commonly termed S-Share firms.

[46] The PRC adopts a quasi two-tier structure of board governance, with a board of directors and a supervisory board. It has been observed that the blending of the Anglo-Saxon model and the German model, with a duplication and overlap of functions, can create redundancy and confusion in the governance structure. It dilutes the authority of both boards and at the same time increases administrative costs for the company (Cheung *et al.*, 2008).

major decisions but votes of the dominant investors are actually decisive (Sun *et al.*, 2006; Cheung *et al.*, 2008). In addition, there are few professional financial analysts in the PRC market and the role of the PRC press is very limited in monitoring the management of listed firms due to the censorship policy of the government (Eccher and Healy, 2000; Clarke, 2003).

As the first in Asia to produce an official code of best practice (ACGA, 2007a), Hong Kong's corporate governance requirements and enforcement procedures are much stricter than the PRC (Wang and Jiang, 2003). For example, if the controlling shareholder has an interest in a business that competes or is likely to compete (directly or indirectly) with the firm's business, the HKEx may refuse to list the firm. Meanwhile, the board of directors must include at least three independent non-executive directors who have the character, integrity, independence, and experience necessary to fulfill directorial roles on the board (Sun et al. 2006). Apart from the basic full listing rules, HKEx has separate additional listing rules (Chap. 19A.21) for firms incorporated in mainland China (i.e. H-Share firms). These requirements include the competence of independent non-executive directors and disclosure of related parties. Moreover, as a world-class stock market, there is strict scrutiny deriving from different market intermediaries such as underwriters, debt-rating agencies, and securities analysts in Hong Kong (Sun *et al.*, 2006).

With the legal and governance framework very much aligned to the Anglo-American model, Singapore is recognized as the leader of corporate governance in Asia (Goodwin and Seow, 2009; Mak and Chng, 2000). A feature of the enforcement of the Singapore rules and regulations is that it links the firm's disclosure responsibilities with civil liability (Anandarajah, 2004). For instance, whilst the *Securities and Futures Act* (SFA) requires firms listed on the SGX to disclose material information on a continuous basis, a failure to disclose will either constitute a criminal offence or give rise to civil liability, and not just a breach of the listing rules (ACGA, 2007b). The governance and disclosure requirements for foreign issuers in Singapore are as strict as Hong Kong. For instance, SGX requires at least two independent directors to be appointed to the audit committee for international listed firms, one of whom must be resident in Singapore on a continuing basis. In addition, Singapore also has sophisticated financial intermediaries to act as market monitors (Mak and Chng, 2000).

2.3 Bonding Theory and Hypothesis Development

Bonding theory posits that higher listing rules and stringent corporate governance standards can be 'rented' by firms domiciled in a jurisdiction with poor investor protection and enforcement systems (Coffee, 1999, 2002). Coffee (2002) explains "bonding' as the process by which a firm improves its corporate governance through cross listing on a foreign exchange with superior governance. The bonding process is viewed to work in two ways: legal and reputational bonding mechanisms (Coffee, 1999, 2002; Stulz, 1999). The legal bonding mechanism operates through the enforcement of regulatory requirements such as courts and stock exchange listing rules. The reputational bonding, meanwhile, functions via 'reputational intermediaries' such as underwriters, auditors, debt-rating agencies, securities analysts as well as listing exchanges (via listing requirements). These reputational intermediaries provide additional scrutiny or monitoring in the foreign market that is not available in the home market.

The bonding of corporate governance involves a process that firms converge upon the higher corporate governance norm of the foreign market. Whilst cross-listing firms are subject to foreign regulatory institutions, those firms will have to adapt to the mandated rules and legitimize themselves in the foreign environment for survival and legitimization (Coffee, 2002; Peng, 2004; Stulz, 1999). To avoid criticisms from the monitoring powers (such as the listing exchange and other regulatory authorities), overseas listed firms will try to imitate local firms and to reach at least the average corporate governance level in the foreign jurisdiction. Through this process, corporate governance of cross-listed firms converges with the higher corporate governance norms in the overseas market. A cross listing on a foreign exchange with stricter regulations is, thus, used by firms to signal quality and gain credibility among investors (Coffee, 1999, 2002; Doidge, 2004).

Earlier studies supporting bonding theory mainly focus on the capital market evidence such as better valuation, lower cost of capital, more scrutiny by financial analysts, and greater access to external finance (Miller, 1999; Tribukait, 2002; Lang *et al.*, 2003, 2006; Benos and Weisbach, 2004; Doidge *et al.*, 2004; King and Segal, 2004; Hail and Leuz, 2006). Recent research is starting to generate direct evidence on the corporate governance bonding. For example, Durnev and Kim (2005) and Klapper and Love (2004) show that firms from emerging markets listing on a U.S. stock exchange tend to have better corporate governance practice. Consistent with those results, Wojcik *et al.* (2005) find European companies with a U.S. cross-listing have higher corporate governance ratings

than other companies without a U.S. cross-listing. Specifically, the U.S. cross-listed firms have higher ratings not only in terms of disclosure but also in respect of board structure and functioning. Doidge *et al.* (2007), meanwhile, claim that a U.S. listing as a form of access to global capital markets increases the firm-level incentives for good corporate governance. In addition, Charitou *et al.* (2007) find that U.S. cross-listed Canadian firms have more independent boards and audit committees after the listing, relative to a non-cross-listed matched sample. Recently, Lel and Miller (2008) note that firms from weak investor protection regimes that are cross-listed on a major U.S. exchange are more likely to terminate poorly performing CEOs than non-cross-listed firms.

Limited PRC studies (Medera and Sun, 2005; Sun and Tobin, 2005; Sun *et al.*, 2006) explore the bonding tenets. For example, case studies on the Bank of China (Hong Kong) (Sun and Tobin, 2005) and China Mobile (Madera and Sun, 2005) suggest that international listing is used as a mechanism of commitment to more credible corporate governance practices. Sun *et al.* (2006) contrast a sample of 53 H-Shares listed on the Hong Kong stock exchange against a control sample of A-Share firms listed on the PRC stock exchanges. They find corporate governance of H-Share firms is closer to international norms compared to A-Share firms. Hung *et al.* (2008) argue that the overseas listing decision of PRC firms is primarily driven by political needs[47]. However, they also state that relative to the PRC domestically listed firms, overseas listed PRC firms tend to have more professional boards of directors, greater accounting conservatism and higher investment efficiency.

The above literature (e.g., Doidge *et al.*, 2007; Durnev and Kim, 2005; Sun *et al.*, 2006) generally provides evidence in support of the corporate governance bonding associated with cross-listing firms. That is, the convergence to the better corporate governance norm in the foreign market with higher standards is possible through a cross listing. Meanwhile, cross-listing firms can distinguish from the home market firms in terms of corporate governance. Compared to cross listing firms, a firm that establishes a *foreign primary listing* is subject to full listing requirements of the foreign exchange with no concessions. Moreover, a *foreign primary listing* firm normally receives more stringent scrutiny from financial analysts given it has no prior listing history. Therefore, it is reasonable to expect that the corporate governance bonding is also associated with *foreign primary listings*. The following hypotheses are thus proposed:

H1: The corporate governance quality of PRC firms with a foreign primary listing is significantly higher than the PRC benchmark.

H1a: The corporate governance quality of H-Share firms is significantly higher than PRC benchmark firms.

H1b: The corporate governance quality of Red-Chip Share firms is significantly higher than PRC benchmark firms.

H1c: The corporate governance quality of S-Share firms is significantly higher than PRC benchmark firms.

H2: The corporate governance quality of PRC firms with a foreign primary listing is not significantly different from the foreign market benchmarks.

H2a: The corporate governance quality of H-Share firms is not significantly different from the Hong Kong benchmark firms.

H2b: The corporate governance quality of Red-Chip Share firms is not significantly different from the Hong Kong benchmark firms.

H2c: The corporate governance quality of S-Share firms is not significantly different from the Singapore benchmark firms.

3. Research design

3.1 base sample selection

The target firms of this paper are PRC firms with a *foreign primary listing* on the HKEx (H-Share and Red-Chip Share) and SGX (S-Share). As a cross-sectional study, 2006 is the focus year of this paper. Lists of PRC firms with *foreign primary listings* were obtained from the HKEx and SGX websites[48]. The entire population of the PRC domiciled firms listed on the HKEx and SGX as at 31 December 2006 were included in the initial sample. The following firms were then excluded from the initial sample: (a) listings during the 2006 calendar year; (b) delisted and reinstated during the 2006 calendar year; (c) in the financial service (including banks,

[47] There are two other alternative explanations for the PRC *foreign primary listings*. One is the 'market order' argument (Sun *et al.*, 2006) and the other one is 'political connection' hypothesis (Hung *et al.*, 2008). However, neither of those two arguments denies the bonding effect of PRC *foreign primary listings*. On the contrary, both those studies find evidence supporting bonding theory.

[48] Unlike the HKEx that has a lengthy history of formally identifying PRC firms listed on the exchange, S-Share firms have not been formally defined by any well-cited authority. SGX only recently developed the FTSE ST China index (SGX 2008). However, the FTSE ST China index merely includes a limited number of top-ranking S-Share firms. To generate a relatively complete list of S-Share firm, this paper identifies PRC domiciled firms listed on the SGX following rules for eligibility in the FTSE ST China Index. To ensure consistency and completeness, the S-Share list was cross-referenced against the ShareInvestor China Index (2009).

financial intermediaries and insurance firms) industry; and (d) with annual reports missing. Table 1 Panel A provides a description of the base sample selection process.

Insert Table 1 about here

Based on the above selection process, the final base sample comprises 99 *H-Share* firms, 79 *Red-Chip* Share firms and 97 *S-Share* firms.

3.2 Benchmark Sample Selection

To establish the national corporate governance standards that PRC *foreign primary listing* firms can compare with, the benchmark sample of each nation has to be selected. There is no one consistent benchmark of corporate governance standards in the literature. This paper uses the national average corporate governance quality of PRC, Hong Kong, and Singapore local firms[49] as the benchmarks of each market. The PRC, Hong Kong and Singapore local firms listed on the PRC stock exchanges, HKEx and SGX as of 31 December 2006 comprise the national benchmark population of each jurisdiction.

For the PRC benchmark sample, the initial population comprises all PRC A-Share[50] firms listed on the PRC domestic stock exchanges. Due to the large population of A-Share firms, 100 firms were randomly selected from its population. Consistent with the base sample, criteria for firms excluded from the initial benchmark sample are in line with the base sample. Meanwhile, 100 Hong Kong and 100 Singapore sample firms are selected from the respective local benchmark firm population. Details on the formation of the final benchmark samples are provided in Table 1 Panel B.

3.3 Corporate Governance Score Measurement

In line with prior literature (e.g. Black *et al.*, 2006; Chang and Sun, 2009; Wojcik *et al.*, 2005) that examines the corporate governance of cross-listing firms, this paper uses a composite corporate governance score (denoted $CGS_{i,t}$) to measure the overall corporate governance quality of PRC firms. The comprehensive $CGS_{i,t}$ index items in this paper are constructed based on the approaches of the CLSA (2005) and Black *et al.* (2006) scoring system. Table 2 summarizes the final twenty-four [24] $CGS_{i,t}$ index items that cover six dimensions: board characteristics[51], board disclosures, audit committee, nomination committee, remuneration committee and ownership concentration[52].

Insert Table 2 about here

To avoid subjective weightings allocation, a dichotomous scale (i.e., 0 or 1) is designated to each index item. A score of zero [0] indicates a negative effect on corporate governance quality and a score of one [1] indicates a positive effect on corporate governance quality. There is no theoretical basis to assign differential weights to each item within the $CGS_{i,t}$ (Cheung *et al.*, 2008). Thus, the final $CGS_{i,t}$ is the unweighted sum of scores for the twenty-four [24] items. $CGS_{i,t}$ value, therefore, can range from zero [0] to twenty four [24].

3.4 Statistical Model

This paper uses Ordinal Least Square regressions to test hypotheses. Previous studies identify several firm characteristics that influence corporate governance quality. Based on prior literature, the following variables are included in the regression to control for firm level characteristics. These control varaibles are firm size, listing age, industry type, financial performance, auditor type, leverage and growth opportunities.

To control for a potential size effect, this paper measures firm size (denoted $FSize_{i,t}$) as the natural logarithm of the average total assets of $firm_i$ as of the end of time periods *t, t-1* and *t-2*). Due to the difficulty in establishing the date of incorporation for a number of PRC firms, the age of $firm_i$ (denoted $Age_{i,t}$) is measured as the number of days from the date of listing of $firm_i$ on its primary listing exchange to the end of financial year date of $firm_i$ for period *t*. The natural logarithm is taken to reduce skewness in the data (denoted $Ln(Age)_{i,t}$). For industry type, $firm_i$ is scored one [1] if it is classified in the manufacturing or industrial

[49] Local firms are defined in this paper as firms domiciled in a nation and established a domestic primary listing in the home jurisdiction. A PRC local benchmark firm is thus a PRC domiciled firm that has a domestic primary listing in the PRC. Similarly, a Hong Kong or Singapore local benchmark firm is a Hong Kong or Singapore domiciled firm that has a domestic primary listing in Hong Kong or Singapore respectively.

[50] Whilst both A-Shares and B-Shares are listed on the PRC stock exchanges, this study chooses the A-Share as the PRC benchmark as it is the share type that is not exposed to the foreign ownership.

[51] The board of supervisors are not included in the corporate governance index as it is only applicable to PRC benchmark firms.

[52] The six dimensions incorporated in the $CGS_{i,t}$ are the focus of this research to reflect firm level overall corporate governance quality. It is not the intention of this paper to capture all dimensions of corporate governance. Aspects based on the U.S. market, such as anti-take over and entrenchment, are not applicable to PRC firms.

industries (based on applicable stock exchanges of the PRC, Hong Kong or Singapore formal classifications[53]) in time period *t*; otherwise $firm_i$ in time period *t* is scored zero [0].

This paper uses return on assets (denoted $ROA_{i,t}$) to proxy past financial performance, The $ROA_{i,t}$ is measured as the average ratio of net profit after income tax and interest to total assets of $firm_i$ for time periods *t, t-1* and *t-2*. Auditor type (denoted $Aud_{i,t}$) is included as a control variable. A firm is scored one [1] if it engages a *Big-4* audit firm as the auditor at financial year *t*; otherwise, it is scored zero [0]. The leverage level is captured as the average ratio of total liabilities to total assets of $firm_i$ for time periods *t, t-1* and *t-2*. Following Wojcik *et al.* (2005), the growth opportunity (denoted $Growth_{i,t}$) is measured as the average ratio of total assets growth from period *t-2* to period *t-1* and period *t-1* to period *t*. Finally, indicator variables ($HSh_{i,t}$, $RC_{i,t,}$ $SSh_{i,t}$, $PRCBch_{i,t}$, $HKBch_{i,t}$, $SGBch_{i,t}$) are defined to represent H-Share, Red-Chip, S-Share, PRC benchmark, Hong Kong benchmark and Singapore benchmark firms. Table 3 provides detailed definitions of the dependent, independent and control variables.

Insert Table 3 about here

The following model is thus defined to test hypotheses:

[53] There is no uniform industry coding structure between the PRC, Hong Kong and Singapore. In principle, industrial and manufacturing industries generally overlap. Thus, rather than applying any research bias if attempting to reclassify firms, this study follows the SHSE, SZSE, HKEx and SGX classificationssuch that industrial and manufacturing is interpreted as being the same industry class. This study uses industry/manufacturing as the base industry type because industry and manufacturing are the majority industry sectors on the SHSE, SZSE, HKEx and SGX respectively.

$$CGS_{i,t} = \alpha_0 + \beta_1 HSh_{i,t} + \beta_2 RC_{i,t} + \beta_3 HKBch_{i,t} + \beta_4 SSh_{i,t} + \beta_5 SGBch_{i,t} + \gamma_1 FSize_{i,t} + \gamma_2 Ln(Age)_{i,t} + \gamma_3 Ind_{i,t} + \gamma_4 ROA_{i,t} + \gamma_5 Aud_{i,t} + \gamma_6 Lev_{i,t} + \gamma_7 Growth_{i,t} + \varepsilon_j \quad (1)$$

$$CGS_{i,t} = \alpha_0 + \beta_1 HSh_{i,t} + \beta_2 RC_{i,t} + \beta_3 PRCBch_{i,t} + \gamma_1 FSize_{i,t} + \gamma_2 Ln(Age)_{i,t} + \gamma_3 Ind_{i,t} + \gamma_4 ROA_{i,t} + \gamma_5 Aud_{i,t} + \gamma_6 Lev_{i,t} + \gamma_7 Growth_{i,t} + \varepsilon_j \quad (2)$$

$$CGS_{i,t} = \alpha_0 + \beta_1 SSh_{i,t} + \beta_2 PRCBch_{i,t} + \gamma_1 FSize_{i,t} + \gamma_2 Ln(Age)_{i,t} + \gamma_3 Ind_{i,t} + \gamma_4 ROA_{i,t} + \gamma_5 Aud_{i,t} + \gamma_6 Lev_{i,t} + \gamma_7 Growth_{i,t} + \varepsilon_j \quad (3)$$

Where *i* and *t* present firm and time vector respectively.

Equation 1 tests Hypotheses 1a to 1c. In Equation 1 there is no formally defined dummy variable for the PRC benchmark, which acts as the intercept factor for the comparison with the average corporate governance quality for the remaining firm types. If any of the coefficients on the dummy variables for each firm type (i.e. $HSh_{i,t}$, $RC_{i,t}$, $HKBch_{i,t}$, $SSh_{i,t}$, $SinBch_{i,t}$) is significant in Equation 1, it is concluded corporate governance quality of the corresponding firm type differs significantly from the intercept PRC benchmark. Equation 2 tests Hypotheses 2a and 2b whilst Equation 3 tests Hypothesis 1c. In Equations 2 and 3, there is no formally defined dummy variable for the Hong Kong and Singapore benchmark respectively, which acts as the intercept factors for the comparison with the average corporate governance quality of the respective market.

4. Statistical results

4.1 Descriptive Statistics

Table 4 reports descriptive statistics and $CGS_{i,t}$ individual dimension values for the the base sample and national benchmark firms.

Insert Table 4 about here

As indicated in Table 4 Panel A, the average $CGS_{i,t}$ of the PRC benchmark firms is 7.78. By contrast, the $CGS_{i,t}$ mean values for Hong Kong and Singapore benchmark firms are 11.44 and 12.75 respectively. Notably, as the maximum $CGS_{i,t}$ value is 24, the PRC benchmark's average $CGS_{i,t}$ is far below the mid-point of 12.00. For PRC firms with a *foreign primary listing*, the average $CGS_{i,t}$ of H-Share firms is 11.00, which is the lowest among three share types. The S-Share firms have the highest average $CGS_{i,t}$ value of 12.72., whilst the $CGS_{i,t}$ value of Red-Chip Share firms is in the middle (11.43).

Regarding control varaibles, H-Share and Red-Chip Share firms are considerably larger than all other firm types. For instance, the average total assets of H-Share firms are almost twelve times that of PRC benchmark firms. Given a number of PRC giant State Owned Enterprises such as PetroChina and China Mobile are listed on the HKEx, this is not unexpected. The average firm size of S-Share firms is the smallest, which is about half of the average size of PRC benchmark firms. Meanwhile, the average listing history of PRC, Hong Kong and Singapore benchmark firms are generally around 10 years. Red-Chip firms tend to have a relatively lengthier listing history (12.63 years) than other firm groups, whilst S-Share firms are the youngest (5.18 years).

In contrast to other firm types, less than a majority of Hong Kong and Singapore benchmark firms and Red-Chip firms are from the manufacturing industry. The past financial performance of the Hong Kong benchmark and Red-Chip firms is the worst with the average ROA of -2.42% and 0.88% respectively. Whilst almost all Red-Chip firms are engaged with a Big-4 auditor, the appointment rate for PRC benchmark firms is only 5%. The Big-4 presence for the remaining firm types is about 70%. All firm types have a leverage ratio of 40% to 60%. Finally, S-Share firms have the highest growth rate of total assets (38%) whilst Singapore benchmark firms have the lowest growth ratio (8%).

4.2 Corporate Governance Individual Dimension Comparison

Table 4 Panel B reports the mean scores by breaking the $CGS_{i,t}$ down into six dimensions. For board characteristics, surprisingly the PRC benchmark firms have the highest average score of 3.75 out of 6.00. Specifically, the PRC benchmark firms score well in separating the CEO and chairperson role (CGS 2), holding regular meetings (CGS 4) and a reasonable board size (CGS 6). This echoes findings of prior studies such as Ke *et al.* (2008), which notes that the corporate governance structure of PRC domestically listed firms resembles that of the West in recent years, although the overall effectiveness of the board is still questionable. Meanwhile, Hong Kong benchmark firms score the second highest (3.73) for board characteristics, which is moderately higher than H-Share and Red-Chip Share firms (3.59 and 3.51 respectively). In addition, S-Share firms have a slightly lower mean value than Singapore benchmark firms (3.39 to 3.43).

In respective of board disclosures, the average disclosure levels of both base sample firms and national benchmark firms are low. Singapore benchmark firms are the best. Nonetheless, it is a

low 1.36 out of 6.00. Hong Kong benchmark firms, however, rank lowest among all firm types, especially for the integrated risk management policy (CGS 8) and formal continuous disclosure policy (CGS 10). H-Share and Red-Chip Share firms have slightly higher disclosure levels (0.74 and 0.71) than the Hong Kong benchmark (0.48), whilst the disclosures by S-Share firms and the Singapore benchmark are comparable (1.22 to 1.36).

With regard to board committees, PRC benchmark firms score much worse than other groups in terms of all three committees. Aside from the PRC benchmark firms, 100% of the other firms have an audit committee with an independent director appointed as a chair. PRC benchmark firms also rank poorly on audit committee independence (CGS 14 and 15) and diligence (CGS18). Meanwhile, no firms have set up a formal charter for the audit committee (CGS 17) except one H-Share firm. 99% of Singapore benchmark firms and 96% of S-Share firms have established a nomination committee. The proportion of PRC benchmark firms with a nomination committee (CGS 19) is the lowest (20%) whilst H-Share and Red-Chip firms have slightly higher proportions (40% and 37%) than Hong Kong benchmark firms (29%). Notably, Singapore benchmark and S-Share firms are more likely to have a nomination policy (CGS 20). In addition, the majority of PRC *foreign primary listing* firms, Hong Kong and Singapore benchmark firms have established a remuneration committee (CGS 21), whilst only 36% of PRC benchmark firms have one. The remuneration committee disclosure levels (CGS 22 and 23) are generally comparable across Red-Chip, S-Share, Hong Kong benchmark and Singapore benchmark firms with H-Share firms moderately lower.

Finally, for the ownership structure, the PRC benchmark firms have lower ownership concentration than other firms, with 60% of firms score one [1] for CGS 24 (i.e. the controlling shareholder has less than 40% ownership). This might due to the share split reform of PRC firms in recent years. The ownership concentration level of H-Share firms is comparable to that of the Hong Kong benchmark (36% and 32% of firms score one [1] for CGS 24) whilst Red-Chip firms have the highest ownership concentration. This is not surprising given large PRC State Owned Enterprises (SOEs) with high share concentration mainly established primary listings in Hong Kong. Furthermore, the ownership concentration level of Singapore benchmark firms is on a par with S-Share firms (51% of firms score one [1] for CGS 24).

Overall, the analysis of the individual dimensions of the corporate governance score suggests that in general the corporate governance quality of PRC *foreign primary listing* firms are closer to the foreign than domestic market benchmark. However, the comparability of PRC *foreign primary listing* firms relative to benchmarks varies across different dimensions of the corporate governance score.

4.3 Tests of means

This section reports the parametric tests-of-means to determine if the average $CGS_{i,t}$ of PRC firms with a *foreign primary listing* differ significantly from national benchmarks.

Insert Table 5 about here

Table 5 Panel A reports the independent t-tests for $CGS_{i,t}$ national benchmarks. T-statistics indicate that the $CGS_{i,t}$ mean difference between Hong Kong and PRC benchmark firms is statistically significant (p<0.01). Meanwhile, there is a statistically significant difference (p<0.01) between the average $CGS_{i,t}$ of Singapore and PRC benchmark firms. In addition, the t-test result suggests the difference between average $CGS_{i,t}$ values of Hong Kong and Singapore benchmark firms is insignificant. The results are consistent with prior studies such as IMD (2004) and CLSA (2007) noting the corporate governance ranking of the PRC is much lower than Hong Kong and Singapore. Therefore, Hong Kong and Singapore can possibly be 'rented' as platforms for the corporate governance bonding by PRC *foreign primary listing* firms.

The comparison of the mean $CGS_{i,t}$ values of HKEx listed PRC share types (H-Share and Red-Chip Share) relative to Hong Kong and PRC benchmarks is reported in Table 5, Panel B. Findings suggest the mean $CGS_{i,t}$ values of both H-Share and Red-Chip Share firms are significantly different from the PRC benchmark (p<0.01). However, the average $CGS_{i,t}$ of Hong Kong benchmark firms is not superior to either H-Share or Red-Chip Share firms. Table 5 Panel C presents the independent t-test results comparing the average $CGS_{i,t}$ of S-Shares relative to Singapore and PRC benchmarks. The $CGS_{i,t}$ of S-Share firms is significantly different from the PRC benchmark (p<0.01). In contrast, the difference between $CGS_{i,t}$ values of S-Share and the Singapore benchmark is insignificant.

4.4 Pearson Correlations

Table 6 presents the Pearson correlations for Equation 1[54]. As indicated in Table 6, the highest

[54] The correlation analysis is conducted for all three equations. For brevity, only the correlations for Equation 1 are reported in this paper. Results for Equations 2 and 3 also reveal that multicollinearity is not a serious concern in the cross-sectional regression analysis.

correlation is between the leverage and ROA (-0.34, p<0.05), which is below the deemed critical level for multicollinearity (i.e., 0.8, see Hair *et al.*, 1995; Field, 2009). Therefore, multicollinearity is not considered a serious concern in the cross-sectional regression analysis. The additional check of Variance Inflation Factor (VIF) scores reveals that the highest VIF does not exceed the critical level either, which further indicates no serious multicollinearity problems.

Insert Table 6 about here

4.5 Multiple Regression Results

The multiple regression results are reported in Table 7. Equation 1 includes all firm types in the regression. Equation 2 only includes H-Share, Red-Chip Share, Hong Kong benchmark and PRC benchmark firms. Equation 3 only includes S-Share, PRC benchmark and Singapore benchmark firms.

Insert Table 7 about here

As reflected in Table 7 Panel A, Equation 1 is overall useful with the F-statistic highly significant (F<0.01). The adjusted R-Square value is high of 53%. The coefficients on the $HSh_{i,t}$, $RC_{i,t}$ and $SSh_{i,t}$ are positively significant at the 1% confidence level. This indicates that consistent with the t-test results, the average $CGS_{i,t}$ values of H-Share, Red-Chip and S-Share firms are all significantly higher than the PRC benchmark. Therefore, H1a, H1b and H1c are supported. Meanwhile, the coefficients on the $HKBch_{i,t}$ and $SGBch_{i,t}$ are also positively significant (p<0.01), which is in line with the t-test results that the corporate governance quality of Hong Kong and Singapore benchmarks is significantly higher than the PRC benchmarks. As for control variables, firm size and auditor type are positively associated with the $CGS_{i,t}$ at the 10% confidence level. It seems larger firms and firms with a Big-4 auditor in the sample tend to have better corporate governance quality.

Table 7 Panels B and C highlight whether corporate governance quality of PRC firms with a *foreign primary listing* differs significantly from the foreign market benchmarks. Equation 2 tests whether the corporate governance quality of H-Share and Red-Chip Share firms differs from Hong Kong benchmark as predicted by H2a and H2b. As indicated in Table 7 Panel B, Equation 2 has pronounced goodness-of-fit (F<0.01) and the explanatory power is high of 50%. The coefficients on $HSh_{i,t}$, $RC_{i,t}$ are insignificant. This is consistent with the expectation that corporate governance quality of H-Share and Red-Chip Share firms does not differ significantly from Hong Kong benchmark firms. Therefore, H2a and H2b are both supported. Meanwhile, in line with the t-test result, the coefficient on the $PRCBch_{i,t}$ is negatively significant.

Table 7 Panel C reports regression results testing H2c using Equation 3. Whilst the overall goodness-of-fit of Equation 3 is consistently high, the explanatory power of the model is the highest among all models (adjusted R-Square 64%). The coefficient on the $SSh_{i,t}$ is negative, but statistically insignificant. This suggests that after controlling for firm characteristics, the corporate governance quality of S-Share firms does not vary significantly from the Singapore benchmark. H2c, thus, is also accepted. In addition, the coefficient on the $PRCBch_{i,t}$ is negatively significant which is consistent with the t-test results.

Regarding control variables, the coefficients on the firm age and auditor type are marginally significant in Equation 2 (p<0.1). Moreover, firm size and auditor type are significant in Equation 3, which have positive associations with the corporate governance quality at 1% and 5% confidence levels respectively.

5. Conclusion

The enduring systematic undertaking by firms from the People's Republic of China to establish a primary listing in a foreign rather than domestic jurisdiction is an interesting and worthy area of investigation. Empirical research associated with this phenomenon is very rare. Bonding theory (Coffee, 1999, 2002; Stulz, 1999) claims that firms from a nation with poor investor protection seek listing on a foreign exchange to bond with the higher standards and distinguish themselves from the domestic peers. The PRC authorities have always claimed that one of the main purposes of the overseas listing is to lift up the corporate governance quality of PRC firms. It is thus imperative to have an understanding of the corporate governance practice of PRC *foreign primary listing* firms.

This paper examines whether a *foreign primary listing* is associated with corporate governance bonding of PRC firms listed in Hong Kong and Singapore. Results suggest that in line with bonding theory (Coffee, 1999, 2002; Stulz, 1999), the average corporate governance quality of PRC firms with a *foreign primary listing* in Hong Kong (*H-Share*, *Red-Chip Share firms*) and Singapore (*S-Share* firms) is significantly higher relative to the PRC benchmark firms. In contrast, there is no significant difference between the corporate governance quality of *H-Share* and *Red-Chip* firms and the Hong Kong benchmark. Similarly, the corporate governance quality of *S-Share* firms does not vary significantly from the Singapore

benchmark. Individual dimension analysis reveals the corporate govenance quality of PRC *foreign primary listing* firms mainly converges with the foreign market norms not only in terms of board characteristics but also in respect of board committee structure and mechanisms. Meanwhile, compared with PRC *foreign primary listing* firms, PRC benchmark firms mainly lag behind with regard to board committee structure and functioning.

Results from this paper support bonding theory and suggest that the tenet applies not only to cross listing but also to *foreign primary listing*. Findings from this research also indicate that Hong Kong and Singapore, as main platforms for PRC firms to gain international exposure, do play important roles in enhancing the corporate governance quality of PRC *foreign primary listing* firms. A possible explanation is the quality gap between the regulatory environments in Hong Kong, Singapore and the PRC is similar to the credibility gap between U.S. and other stock markets. Hong Kong and Singapore markets, therefore, can also provide legal and reputational bonding mechanisms to overseas listed PRC firms. Our findings have important implications for various interested parties. For instance, results from this study help international policy makers to understand the role of legal and governance mechanisms in converging firms' corporate governance practice to international standards. Meanwhile, conclusions from this paper also assist international investors in determining their investment strategies by evaluating the corporate governance of PRC firms listed in different markets.

It is acknowledged that cautions need to be executed when intepreting results from this paper. For example, the corporate governance score only considers items that are accessible from annual reports. PRC firms have long been criticised for the 'form over substance' approach to rules and regulations. Future research, therefore, could seek to explore further if the board effectiveness of PRC firms with a *foreign primary listing* is in line with foreign market norms by incorporating measures such as insider trading. Meanwhile, due to data constraints[55], this paper does not provide time series evidence on the post *foreign primary listing* corporate governance change compared to the prior period. However, despite any caveats, this paper is the first that provides a comprehensive analysis of the corporate governance practice of a large sample of PRC *foreign primary listing* firms. Meanwhile, different from previous bonding studies based on capital market evidence, this study provides direct evidence on the corporate governance bonding associated with PRC *foreign primary listings*.

[55] As PRC firms with a *foreign primary listing* were not publicly traded in the PRC before listing overseas, it is not possible to obtain corporate governance data prior to the *foreign primary listings*.

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Table 1. Sample Selection Process

Panel A: Base Sample Selection							
			Reason for Exclusion				
	Share Type	Initial Sample	2006 IPOs	Delisted	Finance Industry	Annual Reports Missing	Final Sample
HKEx	H-Share	137	19	1	6	12	99
	Red-Chip	89	2	-	8	-	79
SGX	S-Share	147	30	-	4	16	97

Panel B: PRC, Hong Kong and Singapore Benchmark Samples Selection					
Stock Exchange	Share Type	Total Listed Firms as of 31/12/2006	Local Firm Population	Benchmark Sample	% of Pop.
PRC	A-Share	1164	1164	100*	8.59
HKEx		1271	1031	100*	9.70
SGX		784	580	100*	17.24

Legend:

* 100 firms are randomly selected from the A-Share, HKEx and SGX local firm populations respectively. The local firm populations have excluded the 2006 new listings, de-listed firms and financial industry firms.

Table 2. Corporate Governance Score ($CGS_{i,t}$) Index

Section	$CGS_{i,t}$ Item	Decision Criteria
Board Characteristics	*CGS1*	If the chairman of the board of $firm_i$ in time period t is an independent director, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS2	If the chairman and the CEO of $firm_i$ in time period t are different people, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS3	If the proportion of independent directors on the board of $firm_i$ in time period t is greater than 50%, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS4	If the board of directors of $firm_i$ held four or more regular meetings during time period t, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS5	If the independent directors on the board of $firm_i$ each personally attend at least 75% of all board meetings during time period t, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS6	If the number of members of the board of directors of $firm_i$ is between 6 and 12 in time period t, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
Board Disclosures	*CGS7*	If the board of directors of $firm_i$ adopts (or have adopted) during (applicable) time period t a formal code of conduct that deals with personal behavior of directors and key executives relating to insider trading, confidentiality, conflicts of interests and making use of corporate opportunities (property, information, position), then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS8	If the board of directors of $firm_i$ adopts (or have adopted) during (applicable) time period t a formal integrated risk management policy that deals with risk oversight and management and internal control, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS9	If the CEO/CFO of $firm_i$ states in the fiscal year report for time period t that the firm's risk management, internal compliance and control systems are operating effectively and efficiently then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS10	If $firm_i$ states in the fiscal year report for time period t that it (i.e., $firm_i$) has a formal written continuous disclosure policy, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS11	If $firm_i$ publishes its annual report for time period t within 90 days of the end of fiscal year end for $firm_i$ then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS12	If $firm_i$ states in the annual report for time period t the existence of a finance committee, charter or policy, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
Audit Committee	*CGS13*	If $firm_i$ establishes or has an established audit committee during time period t, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS14	If the audit committee of $firm_i$ is chaired by independent director in time period t, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS15	If all of members of the audit committee of $firm_i$ are independent directors during time period t, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS16	If the audit committee of $firm_i$ has at least one serving independent member during period t identified as a financial accounting expert (i.e., possessing necessary educational qualifications and professional credentials in the field of accounting), then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS17	If $firm_i$ states in the fiscal year report for time period t that the audit committee has a charter, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS18	If the audit committee of $firm_i$ held four or more regular meetings during the time period t, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
Nomination Committee	*CGS19*	If $firm_i$ establishes or has an established nominating committee during time period t, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS20	If the nomination committee of $firm_i$ states in the annual report for time period t it (i.e., the nomination committee) has a policy for the appointment of directors, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
Remuneration Committee	*CGS21*	If $firm_i$ establishes or has an established remuneration (also termed compensation) committee during time period t, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS22	If $firm_i$ states in the annual report for time period t the existence of a formal plan, policy or procedures with respect to equity (shares and options) based remuneration paid to directors and key executives, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
	CGS23	If $firm_i$ states in the annual report for time period t the existence of a remuneration policy that outlines the link between remuneration paid to directors and key executives and corporate performance, then a score of one [1] is given; otherwise a score of zero [0] is assigned.
Ownership Structure	*CGS24*	If the controlling shareholder group in time period t owns less than 40% of $firm_i$, then a score of one [1] is given; otherwise a score of zero [0] is assigned.

Table 3. Summary of Variables and Proxy Measures

Variable Title	Variable Description
$CGS_{i,t}$	The total *Corporate Governance Score* of $firm_i$ for time period *t* based on the total sum of scores awarded per item of the twenty-four [24] point *Corporate Governance Index*. Scores for $firm_i$ can range between zero [0] and twenty-four [24].
$HSh_{i,t}$	Indicator variable where $firm_i$ is scored one [1] if it is classified as an H-Share firm; otherwise $firm_i$ is scored zero [0].
$RC_{i,t}$	Indicator variable where $firm_i$ is scored one [1] if it is classified as a Red-Chip firm; otherwise $firm_i$ is scored zero [0].
$SSh_{i,t}$	Indicator variable where $firm_i$ is scored one [1] if it is classified as an S-Share firm; otherwise $firm_i$ is scored zero [0].
$HKBch_{i,t}$	Indicator variable where $firm_i$ is scored one [1] if it is classified as a Hong Kong benchmark firm; otherwise $firm_i$ is scored zero [0].
$SGBch_{i,t}$	Indicator variable where $firm_i$ is scored one [1] if it is classified as a Singapore benchmark firm; otherwise $firm_i$ is scored zero [0].
$PRCBch_{i,t}$	Indicator variable where $firm_i$ is scored one [1] if it is classified a PRC benchmark firm; otherwise $firm_i$ is scored zero [0].
$TA_{i,t}$	Average total assets of $firm_i$ as of the end of time periods *t, t-1* and *t-2*.
$FSize_{i,t}$	Natural logarithm of the average total assets of $firm_i$ as of the end of time periods *t, t-1* and *t-2*.
$Age_{i,t}$	Number of days from the date of listing of $firm_i$ on its primary listing exchange to the end of financial year date of $firm_i$ for period *t*.
Ln$Age_{i,t}$	Natural logarithm of the number of days from the date of listing of $firm_i$ on its primary listing exchange to the end of financial year date for the financial accounts of $firm_i$ for period *t*.
$Ind_{i,t}$	Indicator variable where $firm_i$ is scored one [1] if from the manufacturing industry as determined by SGX specifications for *S-Share* entities or industrial as determined by HKEx specifications for *H-Share* and *Red-Chip* entities at the end of time period *t*; other $firm_i$ scored zero [0].
$ROA_{i,t}$	Average ratio of net profit after income tax and interest to total assets of $firm_i$ for time periods *t, t-1* and *t-2*.
$Aud_{i,t}$	Indicator variable where $firm_i$ is scored one [1] if it engages a *Big-4* audit firm as the auditor at financial year *t*; otherwise scored zero [0].
$Lev_{i,t}$	The average ratio of total liabilities to total assets of $firm_i$ for time periods *t, t-1* and *t-2*.
$Growth_{i,t}$	The average ratio of total assets growth from period *t-2* to period *t-1* and period *t-1* to period *t*.

Table 4. Descriptive Statistics and $CGS_{i,t}$ Individual Dimensions

Panel A: Descriptive Statistics ((Mean (Median) for continuous variables and Percentage (Count) for dichotomous variables))

		N	$CGS_{i,t}$	$TA_{i,t}$ (US$'000)	$Age_{i,t}$ (years)	$Ind_{i,t}$ (%)	$ROA_{i,t}$ (%)	$Aud_{i,t}$ (%)	$Lev_{i,t}$	$Growth_{i,t}$
PRC benchmark	Mean	100	7.78	317,972	8.65	0.66	3.13	0.05	0.55	0.13
	(Median)		(7.50)	(188,352)	(9.07)	(-)	(2.61)	(-)	(0.48)	(0.07)
HK Benchmark	Mean	100	11.44	466,424	8.74	0.47	-2.42	0.64	0.41	0.14
	(Median)		(12.00)	(114,396)	(6.88)	(-)	(3.07)	(-)	(0.33)	(0.08)
SG benchmark	Mean	100	12.75	336,721	10.18	0.47	1.16	0.76	0.62	0.08
	(Median)		(13.00)	(63,788)	(8.02)	(-)	(4.52)	(-)	(0.45)	(0.09)
H-Share	Mean	99	11.00	3,803,771	6.17	0.66	5.11	0.72	0.49	0.21
	(Median)		(11.00)	(663,878)	(4.54)	(-)	(4.29)	(-)	(0.46)	(0.16)
Red-Chip	Mean	79	11.43	2,404,327	12.63	0.44	0.88	0.96	0.52	0.33
	(Median)		(12.00)	(477,006)	(10.59)	(-)	(5.71)	(-)	(0.44)	(0.13)
S-Share	Mean	97	12.72	163,889	5.18	0.67	8.07	0.70	0.41	0.38
	(Median)		(13.00)	(82848)	(3.29)	(-)	(8.42)	(-)	(0.40)	(0.24)

Panel B: $CGS_{i,t}$ Individual Dimension Mean Values

		Board Characteristics							Board Disclosures						
	Total	CGS1	CGS2	CGS3	CGS4	CGS5	CGS6	Total	CGS7	CGS8	CGS9	CGS10	CGS11	CGS12
PRC benchmark	3.75	0.00	0.91	0.04	0.98	0.91	0.91	0.88	0.00	0.28	0.00	0.20	0.40	0.00
HK Benchmark	3.73	0.00	0.68	0.21	0.98	1.00	0.86	0.48	0.00	0.02	0.01	0.01	0.43	0.01
SG benchmark	3.43	0.07	0.64	0.39	0.63	1.00	0.70	1.36	0.01	0.36	0.00	0.12	0.87	0.00
H-Share	3.59	0.00	0.81	0.06	0.98	0.91	0.83	0.74	0.00	0.07	0.00	0.10	0.56	0.01
Red-Chip	3.51	0.00	0.91	0.01	0.95	0.82	0.81	0.71	0.00	0.09	0.00	0.27	0.35	0.00
S-Share	3.39	0.08	0.63	0.30	0.75	0.94	0.69	1.22	0.00	0.24	0.00	0.12	0.86	0.00

	Audit Committee							Nomination Committee			Remuneration Committee				OwnStr
	Total	CGS13	CGS14	CGS15	CGS16	CGS17	CGS18	Total	CGS19	CGS20	Total	CGS21	CGS22	CGS23	CGS24
PRC benchmark	1.22	0.28	0.03	0.01	0.89	0.00	0.00	0.21	0.20	0.01	1.12	0.36	0.07	0.69	0.60
HK Benchmark	4.15	1.00	1.00	0.77	0.94	0.00	0.44	0.31	0.29	0.02	2.45	0.98	0.89	0.58	0.32
SG benchmark	3.81	1.00	1.00	0.54	0.78	0.00	0.49	1.10	0.99	0.11	2.54	0.99	0.72	0.83	0.51
H-Share	4.08	1.00	1.00	0.63	0.94	0.01	0.51	0.49	0.40	0.09	1.74	0.95	0.24	0.55	0.36
Red-Chip	4.08	1.00	1.00	0.81	0.87	0.00	0.39	0.42	0.37	0.05	2.52	0.97	0.84	0.71	0.20
S-Share	4.00	1.00	1.00	0.54	0.79	0.00	0.67	1.29	0.96	0.33	2.32	0.99	0.59	0.74	0.51

Legend: see Table 3 for definitions of all variables.

Table 5. $CGS_{i,t}$ Descriptive Statistics and Tests-of-means

Panel A: $CGS_{i,t}$ benchmark independent t-test		
	HK Benchmark	Singapore Benchmark
PRC Benchmark	0.00***	0.00***
HK Benchmark		0.59
Panel B: $CGS_{i,t}$ independent t-test - HK listed share types to Hong Kong and PRC benchmarks		
	HK Benchmark	H-Shares	Red-Chip Shares
PRC Benchmark	0.00***	0.00***	0.00***
HK Benchmark		0.98	1.00
H-Shares			0.97
Panel C: $CGS_{i,t}$ independent t-test - S-Share to Singapore and PRC benchmarks		
	Singapore Benchmark	S-Shares
PRC Benchmark	0.00***	0.00***
Singapore Benchmark		0.78

Legend:

*, **, *** = Significant at the 10%, 5% and 1% confidence levels respectively (two-tailed).

Table 6. Pearson Correlations

	$CGS_{i,t}$	$HSh_{i,t}$	$RC_{i,t}$	$SSh_{i,t}$	$HKBch_{i,t}$	$SGBch_{i,t}$	$FSize_{i,t}$	$Ln(Age)_{i,t}$	$Ind_{i,t}$	$ROA_{i,t}$	$Aud_{i,t}$	$Lev_{i,t}$	$Growth_{i,t}$
$CGS_{i,t}$	1.00												
$HSh_{i,t}$	0.06	1.00											
$RC_{i,t}$	0.11**	-0.15**	1.00										
$SSh_{i,t}$	0.31**	-0.17**	-0.15**	1.00									
$HKBch_{i,t}$	0.12**	-0.17**	-0.15**	-0.17**	1.00								
$SGBch_{i,t}$	0.32**	-0.17**	-0.15**	-0.17**	-0.17**	1.00							
$FSize_{i,t}$	0.11**	0.24**	0.17**	-0.18**	-0.15**	-0.21**	1.00						
$Ln(Age)_{i,t}$	-0.20**	-0.18**	0.15**	-0.32**	0.01	0.00	0.18**	1.00					
$Ind_{i,t}$	-0.07	0.06	-0.11**	0.07	-0.10**	-0.10**	0.01	-0.01	1.00				
$ROA_{i,t}$	0.04	0.04	-0.02	0.09*	-0.08*	-0.02	0. 23**	-0.04	0.02	1.00			
$Aud_{i,t}$	0.38**	0.12**	0.29**	0.11**	0.06	0.16**	0.30**	-0.02	-0.11**	0.17**	1.00		
$Lev_{i,t}$	-0.05	-0.01	0.00	-0.02	-0.02	0.02	-0.05	-0.01	-0.02	-0.34**	-0.09*	1.00	
$Growth_{i,t}$	0.09*	0.01	0.10*	0.15**	-0.04	-0.10*	0.09*	-0.07	-0.01	0.18**	0.10*	-0.06	1.00

Legend:

See Table 3 for definitions of all variables.

*, **, *** = Significant at the 10%, 5% and 1% confidence levels respectively (two-tailed).

Table 7. Multivariate Regression Analysis

	Panel A: Equation 1		Panel B: Equation 2		Panel C: Equation 3	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Intercept	5.02	0.00***	9.87	0.00***	1.80	0.07*
IV						
$HSh_{i,t}$	0.41	0.00***	-0.08	0.11		
$RC_{i,t}$	0.43	0.00***	-0.01	0.90		
$SSh_{i,t}$	0.64	0.00***			-0.02	0.65
$HKBch_{i,t}$	0.49	0.00***				
$SinBch_{i,t}$	0.66	0.00***				
$PRCBch_{i,t}$			-0.75	0.00***	-0.85	0.00***
CV						
$FSize_{i,t}$	0.06	0.09*	-0.04	0.32	0.20	0.00***
$Ln(Age)_{i,t}$	-0.01	0.89	-0.03	0.07*	0.03	0.40
$Ind_{i,t}$	0.01	0.62	0.05	0.13	0.03	0.37
$ROA_{i,t}$	0.01	0.79	-0.01	0.82	0.03	0.38
$Aud_{i,t}$	0.01	0.10*	0.01	0.06*	0.04	0.04**
$Lev_{i,t}$	-0.02	0.39	-0.01	0.66	0.01	0.83
$Growth_{i,t}$	0.03	0.33	0.02	0.62	0.04	0.16
Model Summary						
R-Square	0.54		0.52		0.64	
Adj. R-Square	0.53		0.50		0.64	
F-Stat	63.80		49.74		79.07	
Sig. F	0.00***		0.00***		0.00***	
N	575		378		297	

Legend:

$$\textit{Equation 1: } CGS_{i,t} = \alpha_0 + \beta_1 HSh_{i,t} + \beta_2 RC_{i,t} + \beta_3 HKBch_{i,t} + \beta_4 SSh_{i,t} + \beta_5 SGBch_{i,t} + \gamma_1 FSize_{i,t} + \gamma_2 Ln(Age)_{i,t} + \gamma_3 Ind_{i,t} + \gamma_4 ROA_{i,t} + \gamma_5 Aud_{i,t} + \gamma_6 Lev_{i,t} + \gamma_7 Growth_{i,t} + \varepsilon_j \quad (1)$$

$$\textit{Equation 2: } CGS_{i,t} = \alpha_0 + \beta_1 HSh_{i,t} + \beta_2 RC_{i,t} + \beta_3 PRCBch_{i,t} + \gamma_1 FSize_{i,t} + \gamma_2 Ln(Age)_{i,t} + \gamma_3 Ind_{i,t} + \gamma_4 ROA_{i,t} + \gamma_5 Aud_{i,t} + \gamma_6 Lev_{i,t} + \gamma_7 Growth_{i,t} + \varepsilon_j \quad (2)$$

$$\textit{Equation 3: } CGS_{i,t} = \alpha_0 + \beta_1 SSh_{i,t} + \beta_2 PRCBch_{i,t} + \gamma_1 FSize_{i,t} + \gamma_2 Ln(Age)_{i,t} + \gamma_3 Ind_{i,t} + \gamma_4 ROA_{i,t} + \gamma_5 Aud_{i,t} + \gamma_6 Lev_{i,t} + \gamma_7 Growth_{i,t} + \varepsilon_j \quad (3)$$

*, **, *** = Significant at the 10%, 5% and 1% confidence levels respectively (two-tailed).

In *Equation 1*, there is no formally defined dummy variable for the PRC benchmark, which acts as the intercept factor for the comparison with the average corporate governance quality for the remaining firm types. If any of the coefficients on the dummy variables for each firm type (i.e. $HSh_{i,t,}$ $RC_{i,t,,}$ $HKBch_{i,t,}$ $SSh_{i,t,}$ $SinBch_{i,t}$) is significant in *Equation 1*, it is concluded corporate governance quality of the corresponding firm type differs significantly from the intercept PRC benchmark.

In *Equations 2 and 3*, there is no formally defined dummy variable for the Hong Kong or Singapore benchmark, which acts as the intercept factors for the comparison with the average corporate governance quality for the remaining firm types. If any of the coefficients on the dummy variables for each firm type (i.e. $HSh_{i,t,}$ $RC_{i,t,,}$ $PRCBch_{i,t,}$) is significant in *Equation 2*, it is concluded corporate governance quality of the corresponding firm type differs significantly from the intercept Hong Kong benchmark. If any of the coefficients on the dummy variables for each firm type (i.e. $SSh_{i,t,}$ $PRCBch_{i,t}$) is significant in *Equation 3*, it is concluded corporate governance quality of the corresponding firm type differs significantly from the intercept Singapore benchmark.