

EARNINGS QUALITY AND CORPORATE GOVERNANCE BONDING

Ling Mei Cong*

Abstract

The primary objective of this paper is to investigate whether corporate governance bonding is significantly associated with the earnings quality of PRC foreign primary listing firms. By analyzing a base sample of 245 PRC foreign primary listing firms listed on the Hong Kong Stock Exchange (HKEx) or Stock Exchange of Singapore (SGX) in 2010, we find a positive association for our full sample. Additional tests indicate the relationships are stronger for PRC foreign primary listing firms incorporated outside of the PRC. Our findings have implications for various interested parties. For example, our findings suggest international capital market regulators may need to implement policies to ensure closer streamlining of corporate governance standards of PRC foreign primary listing firms and national standards.

Keywords: Foreign Primary Listing; Earnings Quality; Bonding; Corporate Governance

* School of Accounting, Curtin University, GPO Box U1987, Perth, WA, Australia, 6845

Tel.: +61 8 9266 4841

Fax: +61 8 9266 7196

E-mail: l.cong@curtin.edu.au,

1 Introduction

The enduring (and growing) systematic undertaking by firms from the People's Republic of China (PRC) to establish a *primary listing* in a foreign jurisdiction rather than a domestic stock exchange³ is an interesting and worthy area of investigation. At present, little empirical research has examined this phenomenon (Sun et al. 2012). This study aims to bridge this gap in the literature. Specifically, the main objective of this study is to empirically examine the association between the level of corporate governance bonding and the level of earnings quality of PRC *foreign primary listing* firms. We analyze a sample of 245 PRC *foreign primary listing* firms listed on the Hong Kong Stock Exchange (HKEx) or Stock Exchange of Singapore (SGX). Consistent with expectation, we find a positive association between corporate governance bonding and earnings quality. This relationship is more prominent in PRC firms incorporated overseas.

Prior international listing literature (Durnev and Kim 2005; Doidge et al. 2007) shows that cross-

listing firms derive benefits from enhanced investor protection and reduced agency costs of controlling shareholders. An emerging theory, the bonding theory, argues that these benefits are gained because the firm bonds itself to the higher legal standards and enforcement powers of the foreign market, which consequently improves their corporate governance (Coffee 1999, 2002; Stulz 1999). Studies based on the U.S. stock exchanges provide ample evidence upholding the bonding theory (Lang et al., 2003, 2006; Benos and Weisbach, 2004; King and Segal, 2004; Hail and Leuz, 2006; Charitou et al., 2007). Recent Chinese studies also show evidence consistent with the bonding tenet. For example, Cong et al. (2010) find that the level of corporate governance of PRC *foreign primary listing* firms listed in Hong Kong and Singapore is closer to the foreign than domestic market norms. Hung et al. (2011) document overseas listed Chinese SOEs have more professional boards of directors, use greater accounting conservatism, and show higher investment efficiency than their domestically listed counterparts. In addition, Sun et al. (2012) report Chinese SOEs leverage on Hong Kong market to improve corporate governance through cross-listing.

Although prior studies show PRC *foreign primary listing* firms have higher levels of corporate governance and earnings quality than domestic peers, it is not clear whether it is the corporate governance bonding mechanism that leads to higher earnings quality, or it is because the *foreign primary listing* firms had higher earnings quality than domestic

³ For ease of expression and readability, PRC firms establishing a *primary listing* on a foreign exchange are termed PRC *foreign primary listing* firms. Counterparts establishing a *primary listing* on a PRC domestic exchange are termed PRC *primary domestic listing* firms. Currently only a small number of PRC *domestic primary (foreign primary) listed* firms have subsequently crossed-listed on a foreign (domestic) exchange to create a *foreign secondary (domestic secondary) listing*. For this study the focus is limited to PRC *foreign primary listing* firms.

counterparts before going overseas. Since *foreign primary listing* firms establish their first IPOs in the foreign market, it is not possible to compare their prior-IPO earnings quality with domestic peers. This study seeks to tackle the issue by an alternative way, that is, to test the association between corporate governance bonding and earnings quality of PRC *foreign primary listing* firms.

Another motivation of this study is the concerns associated with the earnings quality of PRC *foreign primary listing* firms in recent years. During the past decade, there was accelerating investors' interest in Chinese firms (Bloomberg 2012). Due to various restrictions, foreign investors can only invest directly in PRC firms listed overseas. Despite the frenzied enthusiasm surrounding the PRC *foreign primary listing* firms, financial analysts call for caution on the earnings quality of these firms. Moore (2009), for example, points out that though have tremendous financial investment potential, there are three main problems associated with PRC overseas listed firms including questionable earnings quality. Also, PRC-domiciled firms with a *foreign primary listing* on the SGX (commonly termed S-Shares⁴) have faced intense scrutiny since 2007 due to various financial accounting scandals involving S-Share entities (The Business Times 2009, 2011). Question marks about earnings quality associated with PRC overseas listed firms could hinder future foreign investment and reputation capital. To overcome investor inhibitions and derive benefits from bonding, a cross-listed firm need to demonstrate through 'substance' rather than 'form' that corporate governance bonding yields effective accounting outcomes (such as earnings quality). If bonding is incomplete, investors in the foreign capital market might be unwilling to hold equity in a cross-listed firm. Given the enormous interest surrounding PRC *foreign primary listing* firms, there are mounting calls to examine whether the corporate governance bonding does lead to an improvement in earnings quality.

Whilst able to list shares in a variety of overseas capital markets including New York, London, Australia, and Canada, the majority of PRC *foreign primary listing* firms elect to list on either the HKEx or SGX.⁵ As the number of PRC *foreign primary*

listing firms in other capital markets is low, we focus on the HKEx and SGX in order to collect a representative sample for analytical purposes. We also focus on Hong Kong and Singapore because the legal, governance and accounting standards are rated on a par with major economies like the United States and United Kingdom (The Fraster Institute, 2008). Hong Kong and Singapore, therefore, are excellent markets for PRC firms seeking to develop a 'bonding-advantage' on domestically listed PRC firms. PRC *foreign primary listing* firms listed on the HKEx are termed *H-Share*, *Red-Chip* or *A-H Share*⁶ based on underlying place-of-incorporation and any subsequent cross-listing on a PRC domestic exchange. In respect to the SGX, PRC *foreign primary listing* firms listed on this exchange are commonly termed *S-Share* firms. We measure earnings quality via absolute discretionary accruals. The level of bonding is then determined as the differential in corporate governance score for a firm relative to a national benchmark score.

Our study provides a number of important contributions to the literature with findings of relevance to various parties including investors, corporate management and regulators. Our study not only broadens previous research on the PRC *foreign primary listing* phenomenon but conducts an examination in a more comprehensive and focused manner than previously. Overall, direct research of *foreign primary listing* issues is miniscule with the prior limited research (e.g., Gul and Fung 2004; Hung et al. 2011; Sun et al., 2012) using only HKEx (mainly *H-Share*) data. By including *Red-Chip* and *S-Share* firms, our study presents an alternative setting and broader picture of accounting and governance practices of PRC *foreign primary listing* firms. Our study assists in enriching the understanding of bonding to alternative markets and issues. The majority of prior research (e.g., Lang et al., 2003, 2006; Doidge et al., 2004; Hail and Leuz, 2006) testing the bonding hypothesis has relied on data from the United States. Focusing on different capital markets can enrich insights into the bonding process. Previous bonding theory associated research (e.g. Cong et al., 2010; Sun et al. 2012) has not considered the relevance to earnings quality; thus, the findings help enhance the relevance of bonding theory to a wider scope of issues than previously. Findings from the study can help investors develop better investment strategies to reduce potential negative wealth transfers. Findings from this research also have important implications for the development strategy of international stock exchange authorities. Whilst international stock market regulators are enthusiastic for listing PRC firms, time needs to be given to

⁴ The term 'S-Chip' is also commonly used to describe PRC-domiciled firms listed on the SGX. To minimize confusion, the term 'S-Share' is used consistently and exclusively throughout the paper.

⁵ An active modern capital market (i.e., post-establishment of Communist rule) did not exist in the PRC till early 1992 when the SHSE and SZSE were established. PRC firms were also prevented from listing on foreign capital markets till 1992. Though New York was the initial preferred location for PRC firms to establish a foreign listing, Hong Kong became the location of choice during the 1990s. Before 1997 only one [1] PRC firm was listed on the SGX. Numbers listed on both the HKEx and SGX dramatically converged particularly since 2000. By the end of 2010 numbers of PRC firms listed on the SGX nearly surpassed those on the HKEx. Relative to other major exchanges (i.e., New York, London, Toronto) the

number of PRC firms listed on both the HKEx and SGX is tenfold (Zero2IPO 2011).

⁶ *H-Shares* are issued by firms incorporated in the PRC whilst *Red-Chip* Shares are issued by firms incorporated outside the PRC. *A-H share* firms are those *H-Share* firms with a domestic secondary listing in the PRC.

developing appropriate selection criteria for listing these firms to protect investors from ‘buying lemons’ with poor earnings quality.

The remaining of this paper is organized as follows. Section II provides a literature review of the link between earnings quality and bonding of corporate governance concluding with the development of the underlying hypothesis of the study. The research method is outlined in Section III that is then followed in Section IV by the presentation of results and discussion of sensitivity analysis. Finally, discussion and concluding remarks are provided in Section V.

2 Literature Review

2.1 Regulatory Environments in the PRC, Hong Kong and Singapore

The distinct international ranking received by the PRC, Hong Kong and Singapore provides the contrasting environmental conditions for the bonding of PRC firms. In the World Bank’s Doing Business 2013 Report (World Bank, 2013), Singapore tops the global ranking on the ease of doing business for the seventh consecutive year followed by Hong Kong, while the PRC is ranked 91st out of 185 countries for its regulatory environment. Other reports (e.g. The Fraser Institute, 2008) also points out that though the PRC is a civil law country it has contradictory internal backdoor guidelines and exceptions in its legal and regulatory infrastructure. Specifically, the PRC lacks a transparent business regulatory regime, and enforcement of existing laws is not consistent.

Compared to the PRC, Hong Kong and Singapore have more established and stringent listing rules, and company acts, governance codes and disclosure requirements that more rigorously enforced. Accounting standards in Hong Kong and Singapore are almost IFRS identical (aside from a few local deviations), thereby, enhancing corporate transparency (SGX, 2008). PRC firms listing in Hong Kong and Singapore are also likely to face stricter scrutiny from sophisticated market intermediaries than in the PRC (Sun et al. 2012; Khan 2003). Thus, Hong Kong and Singapore offer themselves as capital markets of higher quality and reputation relative to the PRC domestic market.

2.2 Hypothesis Development

Prior cross-listing literature (e.g., Errunza and Losq, 1985; Alexander et al., 1988; Biddle and Saudagaran, 1991; Karolyi, 2003) has identified a number of incentives for why a firm may elect to list in a foreign capital market, for example, financial gains, increased liquidity and greater shareholder base. An emerging incentive for cross-listing gaining traction in the past decade relates to the notion a firm will seek to ‘rent’ or ‘piggyback’ on the higher legal, governance and

accounting standards in another nation to gain a competitive and reputational advantage over domestic counterparts. This concept of cross listing is encapsulated in the tenets of bonding theory⁷ (Coffee, 1999, 2002; Stulz, 1999).

Coffee (2002) describes bonding as costs (or liabilities) an agent or entrepreneur incurs to assure investors they will perform as promised. The bonding process works in two mechanisms: (1) legal bonding⁸; and (2) reputational bonding⁹ mechanism (Coffee, 1999, 2002; Stulz, 1999). The central argument of bonding theory is quality firms from a nation with poor legal and governance standards migrate to a foreign market with stricter standards to compensate for weak protection of minority investors under their domestic jurisdiction’s laws. Such a cross listing effectively bonds these firms to the higher corporate governance standards and hence assists in enhancing their credibility and prestige among investors. Various empirical papers (e.g. Reese and Weisbach, 2002; Doidge et al., 2004; Dyck and Zingales, 2004; Hung et al. 2011; Sun et al. 2012) have presented evidence supporting the bonding theory.

Past literature (e.g., Klapper and Love, 2004; Doidge et al., 2007; Sun et al., 2012) suggests corporate governance bonding involves a process of converging to higher corporate governance norms in the foreign market. A credible promise of bonding upon higher corporate governance and less expropriation of minority interests should produce a positive influence on the cross-listing firm’s earnings quality. Prior studies find strong corporate governance mechanisms can reduce incentives and opportunities for earnings management and increase earnings persistence (Schipper and Vincent, 2003). For example, Xie et al. (2003) indicate that independent directors may significantly reduce agency costs, and add value to firms. Meanwhile, Beekes et al. (2004) report firms with a higher proportion of outside board members are more likely to recognize bad news in earnings on a timely basis. Lee et al. (2003) and Hutchinson and Gul (2004) support this view showing that higher levels of non-executive directors on the board weaken the negative relationship between the firm’s investment opportunities and performance. Vafeas (2000) suggests that earnings of firms with the

⁷ An alternative explanation for the PRC foreign primary listing is the “market order” (Sun et al., 2012) argument. This argument arises because PRC government imposed a quota system to maintain the domestic market order. Since the demand to get listed was much larger than the quota that was given, many firms had to wait in the queue for years. As a shortcut, firms may have chosen to list overseas even at a large price discount.

⁸ The legal bonding mechanism operates through the enforcement of regulatory requirements such as courts and stock exchange listing rules.

⁹ Reputational bonding operates through the reputational capital of reputable intermediaries (such as underwriters, auditors, debt-rating agencies, securities analysts as well as the exchanges themselves) in the foreign nation that provide higher quality scrutiny or monitoring that is unavailable in the home market.

smallest boards are perceived as being more informative by market participants. In addition, Chtourou et al. (2001) and Vafeas (2005) provide evidence that effective boards and audit committees constrain earnings management activities. In line with their findings, Bryan et al. (2004) suggest that audit committees that meet regularly improve the transparency of reported earnings and therefore enhance earnings quality. Moreover, Abbott et al. (2000) document a negative association between occurrence of earnings restatement and audit committee consisting of only independent directors.

Given the linkage between corporate governance and earnings quality, it is reasonable to expect that the earnings quality of the *foreign primary listing* firms can be driven by the bonding mechanism. Specifically, to gain the full benefits of the cross listing, a foreign firm must convince investors that shareholders' rights will be protected which in turn could bring positive benefits (such as earnings quality) to the firm (King and Segal 2004). Therefore, we propose the following hypothesis:

H1: *There is a significant association between the earnings quality and corporate governance bonding of PRC foreign primary listing firms.*

3. Data and Methodology

3.1 Sample Selection

The data examined in this study include a comprehensive sample of PRC *foreign primary listing* firms. All PRC domiciled firms with a *foreign primary listing* on the HKEx and SGX IPOs as at 31 December 2010 were included in our initial population. We acquired a list of PRC firms with a *foreign primary listing* from the HKEx and SGX (Unlike the HKEx that has a lengthy history of formally identifying PRC firms listed on the exchange the SGX has only recently developed such an index. Thus, to ensure consistency and completeness, we cross referenced the SGX list against the ShareInvestor China Index, see www.shareinvestor.com.sg). PRC firms with a *foreign primary listing* on the HKEx can be designated an *H-Share*, *Red-Chip* or *A-H Share* firm. The focus of our current study is only to examine Chinese firms without a reverse cross listing on a China domestic

market. Hence, we excluded all *A-H Share* firms from the analysis. In comparison to the HKEx listed PRC firms, there is no clear label of PRC firms listed on the SGX though these firms are commonly referred to as *S-Shares*. Consequently, we used the recently developed SGX PRC index and cross-referenced it against the Shareinvestor China index. Finally, 147 firms are identified as *S-Share* firms. Our initial sample comprised 92 *H-Share*, 89 *Red-Chip*, and 147 *S-Share* firms. Firms excluded from the initial sample were any firms: (a) listing during the 2010 calendar year; (b) delisted and reinstated during the 2010 calendar year; (c) in the financial industry; (d) with any annual reports not available; and (e) outliers. Consequently, our final base sample totals 245 firms consisting of 69 *H-Share*, 79 *Red-Chip*, and 97 *S-Share* firms.

3.2 Regression Model

Although the term 'earnings quality' is frequently used in accounting academic journals and cited in the financial press, analyst reports and regulatory documents, there is no agreed upon definition of it (Schipper and Vincent, 2003; Dechow et al. 2010). A large proportion of prior studies (e.g., Balsam et al., 2003; Ecker et al., 2006; Chen et al., 2008) define earnings quality within the concept of earnings management. Consistent with this stream of literature, we view earnings are of high quality when earnings management is low. Prior literature (e.g. Jones, 1991; Dechow et al., 1995; Kothari, 2005) has used discretionary accruals to capture earnings management. Among various discretionary accruals models, the modified Jones (1991) model is regarded as a powerful model for cross-sectional data (Guay et al. 1996; Bartov et al., 2000; Thomas and Zhang 2000). We thus use the modified Jones (1991) model for the main analysis. Total accruals are regressed on the change in sales and the level of property, plant, and equipment for each firm using firms from the same industry. Based on the HKEx and SGX industry classifications, the sample is divided into four industries to conduct regressions: consolidated, manufacturing, utilities, and other industries. The model is as follows:

$$(TAcc_{j,t}/TA_{j,t-1}) = a_0(1/TA_{j,t-1}) + a_1(\Delta Rev_{j,t} - \Delta Rec_{j,t})/TA_{j,t-1} + a_2(PPE_{j,t}/TA_{j,t-1}) + \varepsilon_{j,t}$$

Where:

$TAcc_{j,t}$ = Total accruals (the difference between net income and cash flow from operations) of firm j in the industry estimation portfolio for time period t ;

$TA_{j,t-1}$ = Total assets of firm j in the industry estimation portfolio at the end of time period $t-1$;

$\Delta Rev_{j,t}$ = Change in net revenue of firm j in the industry estimation portfolio for time period t ;

$\Delta Rec_{j,t}$ = Change in accounts receivable of firm j in the industry estimation portfolio for time period t ;

$PPE_{j,t}$ = Gross book value of the property, plant and equipment of firm j in the industry estimation portfolio at the end of time period t ;

$\varepsilon_{j,t}$ = Error term [assuming cross-sectional uncorrelation and normally distributed with zero means]; and

a_0, a_1, a_2 = Estimated coefficients.

The discretionary accruals (scaled by total assets) are the residuals from the above model, estimated for each industry-year with minimum 20 firms in the industry. Following prior studies (e.g. Lang et al. 2003; Myers et al. 2003), we use the absolute value of discretionary accruals to measure earnings quality.

In line with Cong et al. (2010), we use a 24-item corporate governance index (see Appendix 1 for the index table) based on CLSA (2006) and Black et al., (2006) to gauge the corporate governance level. The final $CGS_{i,t}$ for each firm is a sum of 24 items that has a scale of zero [0] to twenty-four [24]. The $CGS_{i,t}$ is calculated for each firm and mean value of the respective 100 benchmark sample firms forms the national average $CGS_{i,t}$. Since the bonding is a latent and unobservable effect, researchers must try to identify either an instrument or a proxy variable that can be used to capture this effect (Karolyi, 2006). One way to capture the bonding effect is to measure the level of convergence of firm's corporate governance

upon the foreign market norms (Licht, 2003). In line with the study of Denis and McConnell (2003) and Udayasankar and Das (2005), we measure the bonding effect of corporate governance (denoted $BCGS_{i,t}$) as the absolute distance of the firms' corporate governance relative to the national average corporate governance score (To form the benchmark sample for corporate governance bonding calculation, 100 local firms (firms that are incorporate in Hong Kong or Singapore) listed on the HKEx and SGX are also randomly selected from the respective population). That is $BCGS_{i,t} = |\text{Firm } CGS_{i,t} - \text{National Average } CGS_{i,t}|$.

Regression analysis provides the backbone for testing the association between the level of bonding of PRC *foreign primary listings* in Hong Kong or Singapore and the extent of earnings quality. The regression analysis is performed using the pooled sample and various subsamples (i.e., *All-HKEx Listed*, *H-Share*, *Red-Chip* and *S-Share*). The following models define the baseline regression model used:

$$|DAcc_{i,t}| = \alpha + \beta_1 BCGS_{i,t} + \gamma_1 FSize_{i,t} + \gamma_2 ROA_{i,t} + \gamma_3 Big-4_{i,t} + \gamma_4 Age_{i,t} + \gamma_5 Delay_{i,t} + \gamma_6 Lev_{i,t} + \gamma_7 Ind_{i,t} + \gamma_8 ShType_{i,t} + \varepsilon \quad (1)$$

To control for cross-sectional variations in our regression analysis, we include control variables determined by a review of prior related literature (Dechow, 1994, Dechow and Dichev, 2002, Hribar and Nichols, 2007; Liu and Wysocki, 2009). The

control variables included are firm size, return on assets, auditor type, firm age, delay in releasing annual reports, leverage, industry type, and share type. All variables and proxy measures are defined in Table I.

Table 1. Summary of Variables and Proxy Measurements

$ DAcc_{i,t} $	The absolute value of discretionary accruals (scaled by total assets) of <i>firm i</i> for time period <i>t</i> calculated using modified Jones model.
$CGS_{i,t}$	<i>Corporate Governance Score</i> of <i>firm i</i> for time period <i>t</i> based on the total sum of scores awarded per item of the twenty-four [24] point <i>Corporate Governance Index</i> .
$BCGS_{i,t}$	The absolute value of $CGS_{i,t}$ less the <i>National Corporate Governance Score Benchmark</i> average for the nation in which <i>firm i</i> has its primary listing.
$PCGS_{i,t}$	Ratio of $CGS_{i,t}$ of <i>firm i</i> divided by the <i>National Corporate Governance Score Benchmark</i> for the nation in which <i>firm i</i> has its primary listing.
$FSize_{i,t}$	Natural logarithm of the average total assets of <i>firm i</i> for time periods <i>t</i> , <i>t-1</i> and <i>t-2</i> ;
$ROA_{i,t}$	Average ratio of net profit after income tax and interest to total assets of <i>firm i</i> for time periods <i>t</i> , <i>t-1</i> and <i>t-2</i> .
$Big-4_{i,t}$	Indicator variable with <i>firm i</i> is scored one [1] if the external auditor of financial accounts in time period <i>t</i> is a <i>Big-4</i> audit firm (i.e., PriceWaterhouse Coopers; KMPG; Deloitte or Ernst and Young); otherwise <i>firm i</i> in time period <i>t</i> is scored zero [0].
$Age_{i,t}$	Number of years from the date of listing of <i>firm i</i> on its <i>primary listing</i> exchange to the end of financial year date for the financial accounts of <i>firm i</i> for period <i>t</i> .
$Delay_{i,t}$	Natural logarithm of number days between end financial year date of <i>firm i</i> for time period <i>t</i> and date financial accounts of <i>firm i</i> for financial period time <i>t</i> signed off by directors and the auditor.
$Lev_{i,t}$	The average ratio of total liabilities to total assets of <i>firm i</i> for time periods <i>t</i> , <i>t-1</i> and <i>t-2</i> .
$Ind_{i,t}$	A set of four indicator variables with <i>firm i</i> in time period <i>t</i> scored one [1] if classified in the industry (consolidated, manufacturing, utilities, and other industries); otherwise <i>firm i</i> in time period <i>t</i> is scored zero [0].
$ShType_{i,t}$	A set of three indicator variables with <i>firm i</i> in time period <i>t</i> scored one [1] if it belongs to a certain share type (<i>H-Share</i> , <i>Red-Chip</i> or <i>S-Share</i>); otherwise <i>firm i</i> in time period <i>t</i> is scored zero [0].

4 Empirical Results

4.1 Descriptive Statistics

Table II Panel A reports the descriptive statistics of the dependent variable, independent variable and control variables for the pooled-sample. The mean value of the absolute discretionary accruals is 14.2% of total assets or with a median value of 7.4% of total assets. Meanwhile, the mean of $CGS_{i,t}$ of the full sample is 11.665 (out of 24), which is slightly below the median. The average distance of the corporate governance level of PRC *foreign primary listing* firms to the foreign market norms (The national average

$CGS_{i,t}$ values of the HKEx and SGX local firms are 11.840 and 12.760 respectively) is 1.492 out of 24. On average, PRC *foreign primary listing* firms achieved an ROA of 4.9% during 2010. For the full sample, over three-quarters of these firms (78.2%) engaged a Big-4 auditor to audit their financial statements. Firms in the full sample have generally been listed on either HKEx or SGX for about 11 years. Annual reports for the 2010 fiscal year were usually provided within three months (or 89.193 days) of the end of the financial year. The average leverage ratio seemed to be at a reasonable level (mean 44.6% and median 43.8%).

Table 2. Descriptive Statistics and Correlation Results

Panel A: Descriptive Results									
Metric\Variable	$ DAcc_{i,t} $	$CGS_{i,t}$	$BCGS_{i,t}$	$FSize_{i,t}$	$ROA_{i,t}$	$Big-4_{i,t}$	$Age_{i,t}$	$Delay_{i,t}$	$Lev_{i,t}$
Mean	0.142	11.665	1.492	19.355	0.049	0.782	11.371	89.193	0.446
Median	0.074	12.000	1.160	18.991	0.061	-	8.855	88.000	0.438
Std Deviation	0.205	2.046	1.140	1.938	0.163	-	7.002	18.343	0.262
Minimum	0.001	7	0.160	13.329	-1.754	0	5.033	39	0.014
Maximum	1.430	18	5.750	25.277	0.461	1	38.288	176	1.482
N	245	245	245	245	245	245	245	245	245
Panel B: Correlation Results									
Variables	$ DAcc_{i,t} $	$CGS_{i,t}$	$BCGS_{i,t}$	$FSize_{i,t}$	$ROA_{i,t}$	$Big-4_{i,t}$	$Age_{i,t}$	$Delay_{i,t}$	$Lev_{i,t}$
$ DAcc_{i,t} $	1.000								
$CGS_{i,t}$	-0.376	1.000							
$BCGS_{i,t}$	-0.380	0.159	1.000						
$FSize_{i,t}$	-0.138	-0.188	-0.121	1.000					
$ROA_{i,t}$	-0.156	0.128	0.128	0.130	1.000				
$Big-4_{i,t}$	-0.109	-0.104	-0.063	0.412	0.058	1.000			
$Age_{i,t}$	-0.043	-0.112	0.091	0.246	-0.182	0.201	1.000		
$Delay_{i,t}$	0.021	-0.406	-0.122	0.221	-0.217	0.074	0.294	1.000	
$Lev_{i,t}$	0.077	-0.062	0.039	0.032	-0.348	0.038	-0.060	0.045	1.000

Legend: See Table I for definitions.

A correlation matrix reported in Table II Panel B assists in identifying any potential multicollinearity problems. The highest correlation is between $FSize_{i,t}$ and $Big4_{i,t}$ with a value of 0.412. Since none of the correlation values are more than 0.8, there is no serious multicollinearity concern for the equation (Field 2006). The additional check of Variance Inflation Factor (VIF) scores further indicates no serious multicollinearity problems.¹⁰

4.2 Main Regression Analysis

Our main regression results exploring the association between earnings quality and corporate governance bonding of PRC firms with *foreign primary listings*

are reported in Table III. Tests involving the full sample are presented in Table III Panel A with regressions for HKEx and SGX listed PRC firms pooled-sample reported in Table III Panels B, and C. Since there are two share types listed on the HKEx, Panels B1 and B2 show the regression results for respective subsamples.

¹⁰ VIF values in excess of ten are suggested to be evidence of serious multicollinearity (Field 2006, p.748). Thus, standard interpretations of the regression coefficients presented in the tables can be made. Other diagnostics (eigenvalues and condition values) further support this view.

Table 3. Main Multiple Regressions: $|DAcc_{i,t}|$ and $BCGS_{i,t}$

		HKEx PRC Firms			SGX PRC Firms
	Panel A <i>Full sample</i>	Panel B <i>All-HKEx</i>	Panel B1 <i>H-Shares</i>	Panel B2 <i>Red-Chip</i>	Panel C <i>S-Shares</i>
Variable	Coefficients (t-statistic)	Coefficients (t-statistic)	Coefficients (t-statistic)	Coefficients (t-statistic)	Coefficients (t-statistic)
Intercept	0.621 (2.897)***	0.441 (1.295)	0.582 (0.721)	0.807 (0.635)	0.487 (1.908)**
$BCGS_{i,t}$	-0.098 (-2.913)***	-0.019 (-1.957)**	-0.092 (-1.828)**	-0.102 (-2.346)***	-0.231 (-2.435)***
$FSize_{i,t}$	-0.102 (-1.056)	-0.106 (-1.892)**	-0.021 (-1.765)**	-0.099 (-0.059)	-0.091 (-0.088)
$ROA_{i,t}$	-0.035 (-1.975)**	-0.111 (-1.980)**	-0.445 (-1.876)**	-0.022 (-1.993)**	-0.151 (-1.755)**
$Big-4_{i,t}$	-0.081 (-0.181)	-0.068 (-0.551)	-0.001 (-0.777)	-0.038 (-0.496)	-0.165 (-0.770)
$Age_{i,t}$	-0.061 (-0.225)	0.012 (0.824)	-0.196 (1.602)	-0.032 (-0.965)	0.141 (0.895)
$Delay_{i,t}$	0.112 (2.642)***	0.050 (3.286)***	0.075 (2.352)***	0.057 (1.870)**	0.215 (2.718)***
$Lev_{i,t}$	0.078 (1.617)	0.068 (1.292)	0.019 (0.559)	0.037 (1.521)	0.151 (0.895)
$Ind_{i,t}$	Controlled	Controlled	Controlled	Controlled	Controlled
$ShType_{i,t}$	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	245	148	69	79	97
Adjusted R^2	0.114	0.109	0.108	0.130	0.112
F-Statistic	3.810***	1.923**	1.836*	1.932**	1.929**

Legend: See Table I for definitions. ***, ** and * - Significant at the 1%, 5% and 10% confidence intervals, two-tailed. All t-statistics based on White's (1980) heteroscedasticity-consistent covariance matrix.

$$|DAcc_{i,t}| = \alpha + \beta_1 BCGS_{i,t} + \gamma_1 FSize_{i,t} + \gamma_2 ROA_{i,t} + \gamma_3 Big-4_{i,t} + \gamma_4 Age_{i,t} + \gamma_5 Delay_{i,t} + \gamma_6 Lev_{i,t} + \gamma_7 Ind_{i,t} + \gamma_8 ShType_{i,t} + \varepsilon$$

Results in Table III, Panel A suggest that for the full sample the model is highly useful. For the subsamples, the overall goodness-of-fit of the regression models are also sound. The F-Statistic is significant at 5% confidence level for *All-HKEx* and SGX listed PRC firms (Table III Panels B and C). When the HKEx listed PRC firms are split into different share types, the goodness-of-fit of the regression models is reduced to 10% for *H-Share* (Table III Panel B1) while the *Red-Chip* firms (Table III Panel B2) remains at 5% confidence level. The explanatory power of the five regression models is generally moderate with a high of 0.130 for the *Red-Chip* (Table III Panel B2) and a low of 0.108 for the *H-Share* firms (Table III Panel B1).

Consistent with the hypothesis, the coefficients on the $BCGS_{i,t}$ are negative and statistically significant in all five multiple regressions in Table III. Specifically, the coefficients are significant at the 1% confidence level in (a) the full sample (Table III Panel A); (b) *Red-Chip* subsample (Table III Panel B2) and (c) *S-Share* subsample (Table III Panel C). Meanwhile, the coefficients are significant at the 5% confidence level for (a) HKEx PRC firms pooled-sample (Table III Panel B); and (b) *H-Share* subsample (Table III Panel B1).

Apart from the independent variable, several of the control variables are significant explanatory factors of the variation in absolute discretionary accruals. Consistent with the expectation, the coefficients on the $ROA_{i,t}$ are negative and significant at 5% confidence level in all five models. For the full sample, the coefficient on the $Delay_{i,t}$ is highly significant ($p < 0.01$, two-tailed significance) and positively associated with the $|DAcc_{i,t}|$. This significant relationship also exists in the subsamples ($p < 0.01$ for *All-HKEx*, *H-share*, and *S-Share*; $p < 0.05$ for *Red-Chip*; two-tailed significance). In addition, the coefficients on the $FSize_{i,t}$ are negative and significant ($p < 0.05$ respectively, two-tailed significance) in the *All-HKEx* and *H-share* subsamples. The directional signs on the $Lev_{i,t}$ are as predicted in the five regressions though not significant at the conventional level.

Overall, Table III indicates:

- The corporate governance bonding is negatively associated with the absolute value of discretionary accruals (i.e. positively associated with the earnings quality) of PRC foreign primary listing firms. This association is more pronounced in the *Red-Chip* and *S-Share* subsamples.

- PRC foreign primary listing firms with a longer delay releasing their financial reports tend to have worse earnings quality.
- There is evidence that the ROA is significantly associated with the earnings quality.
- Firm size is a significant explanatory factor of earnings quality in some specific samples.

4.3 Sensitivity Analysis

To test the robustness of the results reported, we conduct a range of sensitivity analysis tests. This includes replacing the $BCGS_{i,t}$ with the alternative measure of $PCGS_{i,t}$. This alternative measure is the ratio of $CGS_{i,t}$ of firm i divided by the *National Corporate Governance Score Benchmark* for the

nation in which firm i has its primary listing. Regression results using $PCGS_{i,t}$ are reported in Table IV.

Similar to the main regression analysis, we conduct the tests on the full sample and subsamples. Of all the five regressions tested, the F-Statistics are still significant ($p < 0.05$, for full sample, *Red-Chip* and *S-Share*; $p < 0.10$ for *All-HKEx* and *H-Share*; two-tailed significance). The directional signs of the coefficients on the $PCGS_{i,t}$ are negative as expected. The coefficients on the independent variable are statistically significant. However, the level of significance has slightly reduced. For example, the coefficient on the $PCGS_{i,t}$ for the *H-Share* subsample is only significant at 10% confidence level.

Table 4. Sensitivity Analysis: $|DAcc_{i,t}|$ and $PCGS_{i,t}$

		HKEx PRC Firms			SGX PRC Firms
	Panel A <i>Full sample</i>	Panel B <i>All-HKEx</i>	Panel B1 <i>H-Shares</i>	Panel B2 <i>Red-Chip</i>	Panel C <i>S-Shares</i>
Variable	Coefficients (t-statistic)	Coefficients (t-statistic)	Coefficients (t-statistic)	Coefficients (t-statistic)	Coefficients (t-statistic)
Intercept	0.516 (2.650)***	0.414 (1.980)**	0.770 (1.779)*	0.438 (0.984)	0.728 (2.306)**
$PCGS_{i,t}$	-0.036 (-2.218)***	-0.063 (-2.035)**	-0.087 (-1.757)*	-0.076 (-2.012)**	-0.012 (-1.985)**
$FSize_{i,t}$	-0.077 (-1.051)	-0.108 (-1.791)**	-0.022 (-1.890)**	-0.140 (-0.073)	-0.135 (-0.218)
$ROA_{i,t}$	-0.205 (-1.982)**	-0.068 (-2.018)**	-0.438 (-1.801)**	-0.026 (-1.978)**	-0.085 (-1.793)**
$Big-4_{i,t}$	-0.063 (-0.255)	-0.003 (-0.497)	-0.020 (-0.772)	-0.005 (-0.463)	-0.202 (-0.741)
$Age_{i,t}$	-0.001 (-0.268)	-0.074 (-0.941)	-0.186 (-1.552)	-0.069 (-0.968)	0.166 (0.947)
$Delay_{i,t}$	0.015 (2.026)**	0.002 (3.266)***	0.123 (1.756)*	0.041 (1.873)**	0.217 (1.929)**
$Lev_{i,t}$	0.585 (1.598)	0.108 (1.431)	0.003 (0.532)	0.151 (1.778)**	0.150 (0.842)
$Ind_{i,t}$	Controlled	Controlled	Controlled	Controlled	Controlled
$ShType_{i,t}$	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	245	148	69	79	97
Adjusted R ²	0.099	0.089	0.065	0.101	0.098
F-Statistic	2.017**	1.756*	1.735*	1.826**	1.901**

Legend: See Table I for definitions. ***, ** and * - Significant at the 1%, 5% and 10% confidence intervals, two-tailed. All t-statistics based on White's (1980) heteroscedasticity-consistent covariance matrix.

$$|DAcc_{i,t}| = \alpha + \beta_1 PCGS_{i,t} + \gamma_1 FSize_{i,t} + \gamma_2 ROA_{i,t} + \gamma_3 Big-4_{i,t} + \gamma_4 Age_{i,t} + \gamma_5 Delay_{i,t} + \gamma_6 Lev_{i,t} + \gamma_7 Ind_{i,t} + \gamma_8 ShType_{i,t} + \varepsilon$$

With regard to the control variables, those factors that have significant explanatory power of absolute discretionary accruals are in line with the main analysis. Similar to the main analysis, the coefficients on the $ROA_{i,t}$ are significant in all five models. Again, the directional signs on the $Delay_{i,t}$ are

positive and statistically significant in all five regressions ($p < 0.01$ for *All-HKEx* listed pooled-sample; $p < 0.05$, for the full sample, *Red-Chip Share*, and *S-Share*; $p < 0.1$ for *H-Share*, two-tailed significance). Consistent with expectation, the significant association between firm size and earnings

quality is supported for HKEx listed PRC firms pooled-sample and *H-Share* subsample ($p < 0.05$, two-tailed significance). Different to the main analysis, the coefficient on the $Lev_{i,t}$ is statistically significant in the regression for the *Red-Chip* subsample.

We also use alternative discretionary accruals models including Kothari et al. (2005) to test the robustness of the results. The results are qualitatively similar to those reported in the main findings. In conclusion, the sensitivity analysis results are largely consistent with the main analysis.

5 Conclusions

With the global economic slowdown since 2008, international investors' interest in the PRC starts to surge (Bloomberg 2012). Meanwhile, the demand for foreign capital investment also remains high amongst PRC firms. Accessing the PRC market or foreign capital investment is difficult for both PRC firms and global investors alike due to various restrictions. To overcome these obstacles, a growing band of PRC firms have opted to establish their *primary listings* in a foreign jurisdiction. Whilst prior literature (Hung et al. 2011; Sun et al. 2012) shows the PRC overseas listed firms bond with the foreign market to lift their corporate governance. Several recent surveys (e.g. Moore 2009) suggest the earnings quality of major PRC firms listing in foreign capital markets is highly doubtful. Nonetheless, global investors continue to show interest. This raises concerns about whether PRC *foreign primary listing* firms really yield accounting outcomes by bonding with the foreign market.

To date very little (if any) empirical research has sought to tackle pivotal PRC *foreign primary listing* issues despite the implications. Our study attempts to shed light on this interesting topic by examining the association between earnings quality and level of corporate governance bonding of PRC *foreign primary listing* firms. Findings from this study are both timely and topical given the significant concern raised about the earnings quality and corporate governance of these firms.

Our study analyzes 245 PRC *foreign primary listing* firms listed on the HKEx and SGX (i.e., 69 *H-Share*, 79 *Red-Chip* and 97 *S-Share* firms). Regression results suggest a positive association between the level of corporate governance bonding and earnings quality of PRC *foreign primary listing* firms. The association is more prominent for *Red-Chip* and *S-Share* firms. We also find PRC *foreign primary listing* firms with a delay in releasing annual reports tend to have lower earnings quality. Our findings have implications for various interested parties. For example, our findings suggest that corporate governance bonding of PRC firms does help to improve the earnings quality of PRC *foreign primary listing* firms though investors still need to be cautious about the earnings quality of these firms.

International capital market regulators may need to implement policies to ensure closer streamlining of corporate governance standards of PRC *foreign primary listing* firms and national standards. This can aid in improving earnings quality and ensure global investors are not buying a 'lemon'. With respect to global investors, our findings suggest that in some markets greater attention needs to be given to assessing corporate governance standards of PRC *foreign primary listing* firms so as to better safeguard any investments.

Our study is not without some limitations. For example, we only consider the association between corporate governance bonding and earnings quality of PRC firms with a *foreign primary listing*. Future research could further extend to analyse whether corporate governance bonding affects stock performance of PRC overseas listed firms. Meanwhile, this research only reports the significant association between corporate governance bonding and earnings quality using data from annual reports. Future studies could use the interview or survey to understand how the corporate governance bonding really works to improve earnings quality. Despite any caveat, our study is a significant contribution to the literature being the first to provide a broad based analysis of key accounting and governance issues concerning a unique puzzle related to PRC firms; that is, the *foreign primary listing* phenomenon.

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Appendix 1. Corporate Governance Score (CGS) Index

CGS Item	Decision Criteria
CGS1	If board chairperson of <i>firm i</i> in time period <i>t</i> is an independent director then a score of one [1]; otherwise zero [0].
CGS2	If board chairperson and the CEO of <i>firm i</i> in time period <i>t</i> are different people then a score of one [1]; otherwise zero [0].
CGS3	If proportion of independent directors on board of <i>firm i</i> in time period <i>t</i> is greater than 50% a score of one [1]; otherwise zero [0].
CGS4	If the board of directors of <i>firm i</i> held four or more regular meetings during time period <i>t</i> then a score of one [1]; otherwise zero [0].
CGS5	If the independent directors on the board of <i>firm i</i> each personally attend at least 75% of all board meetings during time period <i>t</i> then a score of one [1]; otherwise zero [0].
CGS6	If the number of board members of <i>firm i</i> is between 6 and 12 in time period <i>t</i> then a score of one [1]; otherwise zero [0].
CGS7	If the board of directors of <i>firm i</i> adopts (or have adopted) during (applicable) time period <i>t</i> 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]; otherwise zero [0].
CGS8	If the board of directors of <i>firm i</i> adopts (or have adopted) during (applicable) time period <i>t</i> a formal integrated risk management policy that deals with risk oversight and management and internal control, <i>firm i</i> given a score of one [1]; otherwise zero [0].
CGS9	If the CEO/CFO of <i>firm i</i> states in the fiscal year report for time period <i>t</i> that the firm's risk management, internal compliance and control systems are operating effectively and efficiently then a score of one [1]; otherwise zero [0].
CGS10	If <i>firm i</i> states in the fiscal year report for time period <i>t</i> that it (i.e., <i>firm i</i>) has a formal written continuous disclosure policy then a score of one [1]; otherwise zero [0].
CGS11	If <i>firm i</i> publishes its annual report for time period <i>t</i> within 90 days of the end of fiscal year end for <i>firm_i</i> then a score of one [1]; otherwise zero [0].
CGS12	If <i>firm i</i> states in the annual report for time period <i>t</i> the existence of a finance committee, charter or policy then a score of one [1]; otherwise zero [0].
CGS13	If <i>firm i</i> establishes or has an established audit committee during time period <i>t</i> given a score of one [1]; otherwise zero [0].
CGS14	If audit committee chaired by independent director then <i>firm i</i> scored one [1]; otherwise zero [0].
CGS15	If all of members of audit committee of <i>firm i</i> are independent directors then a score of one [1]; otherwise zero [0].
CGS16	If the audit committee of <i>firm i</i> has at least one serving independent member during period <i>t</i> 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]; otherwise zero [0].
CGS17	If <i>firm i</i> states in the fiscal year report for time period <i>t</i> that the audit committee has a charter then a score of one [1]; otherwise zero [0].
CGS18	If the audit committee of <i>firm i</i> held four or more regular meetings during the time period <i>t</i> then a score of one [1]; otherwise zero [0].
CGS19	If <i>firm i</i> establishes (or has an established) a nominating committee during time period <i>t</i> given a score of one [1]; otherwise zero [0].
CGS20	If the nomination committee of <i>firm i</i> states in the annual report for time period <i>t</i> it (i.e., the nomination committee) has a policy for the appointment of directors then a score of one [1]; otherwise zero [0].
CGS21	If <i>firm i</i> establishes (or has an established) a remuneration (also termed compensation) committee during time period <i>t</i> given a score of one [1]; otherwise zero [0].
CGS22	If <i>firm i</i> states in the annual report for time period <i>t</i> 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]; otherwise zero [0].
CGS23	If <i>firm i</i> states in the annual report for time period <i>t</i> 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]; otherwise zero [0].
CGS24	If the controlling shareholder group in time period <i>t</i> owns less than 40% of <i>firm i</i> then a score of one [1]; otherwise zero [0].