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ADR Characteristics and Corporate Governance from the Greater China Region

Abstract

We examine the relationship between firm valuation and governance mechanisms, firm characteristics, and institutional factors of American Depository Receipts (ADRs) in the greater China region listed on the NYSE, AMEX and NASDAQ. We find that Chinese firms cross-list in the US have the highest market-to-book value followed by Hong Kong and Taiwan firms. It appears that Chinese firms with the poorest external governance environment stand to benefit the most by successfully listed under the ADR programs. Listing in the US that requires more stringent regulations and disclosure rules may strengthen the firms' governance practices and thereby enhance their firm value. Among the internal governance mechanisms, institutional ownership and insider ownership are important for firm value.

Keywords: External governance environments; Internal governance mechanisms; ADRs; Greater China region

1. Introduction

Good corporate governance mechanisms are value enhancing. Its importance on firm value has long been established since the pioneering work of Jensen and Meckling (1976) in a nexus of contracts among various stakeholders. Under the rubrics of principal-agent conflicts, Shleifer and Vishny (1997) emphasize that investor protection is crucial. La Porta et al. (1998, 2000, and 2002) who examine the importance of external governance around the world show that countries with common laws provide better shareholder protection than those with civil laws. They document that the difference in the legal regimes and law enforcement has led to higher valuation of corporate assets in common law regimes.

Recent research has focused on the combined determinants of corporate governance on firm performance. In particular, board structure (Yermack (1996), Boone, Field, Karpoff, and Raheja (2007), and Linck, Netter, and Yang (2008)), CEO characteristics (Hermalin and Weisbach (1998), Basu, Hwang, Mitsudome, and Weintrop (2007), and Brookman and Thistle (2009)) and ownership structure (Lemmons and Lins (2003), and Ali, Chen and Radhakrishnan (2007)) have been identified as key determinants of a firm's governance practices. Firms with more independent directors and higher managerial ownership are linked to stronger governance and better firm performance. Against the backdrops of these

findings, Gillan's (2006) provide a comprehensive review of internal and external governance systems, and their interactions,

In this study, we contribute to the literature as we examine firm performance across different external governance regimes under the American Depository Receipts (ADRs) programs. In particular, we examine firm performance from the greater China region, namely China, Hong Kong, and Taiwan, that cross-list in the US with stronger law enforcement and investor protection (see La Porta et al. (1998)). This is especially the case for ADRs under type II and III listings that are required to follow the same stringent requirements on governance, disclosure requirements, and accounting standards as those of the U.S. firms especially after the Sarbane-Oxley Act in 2002 (see Durnev and Kim (2005) and Doidge, Karolyi, and Stulz (2003)).[1] It could be argued that ADRs from the greater China region should benefit from higher market valuation.

Part of our interest in examining the impact of ADRs from the greater China region in relation to corporate governance on firm value is motivated by the contrasting external legal environment and the internal governance mechanisms (or the lack of it) among these markets. Although China's regulatory framework is evolving rapidly, its external and

[1] ADRs under Level 1 and 144A rules do not need to comply with the same U.S requirements.

internal governance remain the weakest in comparison to Hong Kong and Taiwan (see e.g. Sun and Tong (2003), Wei (2007), and Tian and Estrin (2008)).[2] According to La Porta et al. (1998), Taiwan which follows civil law regime and with weaker investor protection is related to poorer governance environment. Hong Kong with its historical ties to common law regime tends to enjoy stronger legal enforcement.

It follows that while firms within greater China region enjoy close business ties and trades, their difference in the governance environments should provide a fertile ground to examine the differential impact of ADR listings on firm value. One would therefore hypothesize that Chinese ADRs with the weakest governance mechanism may on average benefit the most in the form of higher firm valuation followed by those from Taiwan and Hong Kong.

Our results confirm that Chinese ADRs enjoy on average the highest market-to-book value after controlling for governance measures and firm characteristics. It suggests that Chinese firms, moving from the poorest external governance regime to the US, tend to benefit the most via the ADRs experience.

However, Hong Kong ADRs, which enjoy stronger governance at home, has the next

[2] The core regulatory framework consists of *The Company Law* since 1993, *the Securities Law* since 1998, and *the Code of Corporate Governance for Listed Companies in China* since 2002.

highest market-to-book equity after listing in the US. Taiwan ADRs which come from a weaker governance regime, on the other hand, appear to gain the least from the region in terms of market valuation. In our view, these results may be driven by firm effects that exist between the markets. More specifically, Hong Kong ADRs include both Hong Kong based firms in private sector and China's state owned enterprises listed in Hong Kong while all Taiwan ADRs consist of firms in high-tech industries. This contrast in firm type implies that Taiwan ADRs are likely to be in more competitive industries compared to Hong Kong ADRs. As Giroud and Mueller (2011) argue that product market competition is a good substitute of governance, Taiwan ADRs should therefore experience stronger governance. It follows that Hong Kong ADRs which tend to be in less competitive industries and weaker governance should benefit more than Taiwan ADRs from the ADR listings.

Among the governance measures, institutional investor ownership and insider ownership are important for firm value. The results are consistent with prior studies (e.g. McConnell and Servaes (1990), Hartzell and Starks (2003), and Cornett et al. (2007)), that higher insider ownership reduces potential agency conflicts between insiders and minority shareholders, and institutional ownership seems to play an effective monitoring role for ADR firms. Our results complement Sun and Tong (2003) who document that share issue

privatization in China is positively related to firm performance but state ownership is negatively related to firm performance.

The remainder of the paper is organized as follows. Section 2 provides an overview of the corporate governance environment in the greater China region. Section 3 and 4 discusses the sample and methodology respectively. Empirical results are reported in Section 5 and Section 6 concludes the paper.

2. Corporate Governance in the Greater China Region

2.1 China

China's legal regime can inherently be traced to German's civil-law which is on average weaker than English's common-law in terms of investor protection (La Porta et al. (1998)). Coupled with high proportion of state ownership and control for publicly listed firms, corporate governance environment in China is arguably the weakest of the three markets in the region (see Sun and Tong (2003), Wei (2007), and Tian and Estrin (2008)).[3]

Since 1990s, China adopts a two-tier board structure that comprises the board of directors and the supervisory board to improve governance. The aim is to impose a

[3]The majority of shares outstanding in Chinese firms are non-tradable shares owned by governments or their affiliated entities.

two-layer oversight on the duty and performance of senior management. That is, the supervisory board monitors and evaluates the performance of senior managers and the board of directors who in turn monitor senior managers. The governance of board structure has further been strengthened after *the Code of Corporate Governance for Listed Companies in China* was in introduced in 2002 that requires some independence of directors on the board, and qualifications and knowledge of members of supervisory boards.

However, Wei (2007) contends that although these governance measures are put in place, the board is still characterized by insider control and weak independence. Tam (2002), Lin (2004), and Wang (2007) also find that supervisory boards are ineffective in playing their roles of overseeing the performance of directors and managers.

The lack of independence of directors and supervisory members is perhaps not surprising as the predecessors of Chinese listed firms are mostly state-owned enterprises (SOEs). Managers of these former SOEs are likely to be appointed as directors. It follows that directors are rarely independent and managers tend to dominate the governance of the board. Similarly, most supervisory members are considered insiders because they tend to come from political office, labor unions, close friends, and allies of senior management (see

Dahya et al. (2003)). Furthermore, the supervisory board has limited access to firm information and has no power in removing directors and managers (see Lin (2004) and Wang (2007)).

Despite the partial privatization of SOEs, much of the ownership structure of Chinese firms remains in the hands of the state, with the majority of shares outstanding held by the state as non-tradable shares. Institutional ownership may therefore play a relatively more important role on firm performance especially in China. Consistent with this argument, Chen et al. (2006) examine the effect of outside directors on corporate fraud and document that Chinese firms with a higher percentage of outside directors such as those by institutional investors tend to reduce corporate fraud. Zhang et al. (2001) and Xu et al. (2005) also show that foreign ownership is positively related to the efficiency of Chinese industrial firms.

2.2 Hong Kong

Unlike China, Hong Kong follows the common-law regime, or the Anglo-Saxon legal and governance system. La Porta et al. (1998) show that common-law countries provide both shareholders and creditors the strongest legal protection compared to countries of

other types of legal regimes. Within the common-law countries, Hong Kong scores well above the average in efficiency of judicial system, rule of law, and the level of corruption. Cheung et al. (2007) suggest that stock market in Hong Kong shares similar characteristics and practices observed in developed economies. International rating agencies rank Hong Kong as one of the more advanced markets in the Asia-Pacific region.

However, firms in Hong Kong are characterized by less diffused ownership structure than firms in developed markets. They tend to be family owned and managed by family members as commonly found in the region. It is common that the chairman of the board is also the chief executive officer of the firm. Agency conflicts may therefore arise from this particular type of ownership structure between controlling families and minority shareholders.

Since 2005, each publicly listed firm in Hong Kong is required to have a minimum of three independent non-executive directors on its board. Such requirement may reduce agency costs of the firm as outsiders tend to play a more effective role in monitoring managers. In sum, corporate governance external environment and governance practices in Hong Kong are arguably the strongest in comparison to China and Taiwan.

2.3 Taiwan

Similar to China, Taiwan's legal origin comes from German civil law. La Porta et al. (1998) report that Taiwan's efficiency of judicial system and corruption are poorly ranked compared to those of other countries in German legal origin and weaker legal families. The overall poor investor protection in Taiwan due to poor investor protection suggests that internal governance may play a more critical role.

Following the German corporate governance structure, board members in a Taiwanese firm consist of both directors and supervisors. The role of supervisors is to monitor directors on their corporate decisions and to review and audit reports prepared for the shareholders. However, the supervisory board is not as independent as in the German's two-tier system. Its members can be elected from family members of current employees and directors.

Lee and Yeh (2004) emphasize that controlling families in Taiwan may also set up nominal investment firms to increase their controls by sending family members or their designated persons to the board after the investment firms are elected for the positions of directors and/or supervisors. With these governance practices by controlling families, Young et al. (2008) confirm that board independence is negatively related to managerial

ownership and family control. They find that 64% of firms in Taiwan do not appoint an independent director and another 21% of firms hire only one independent director despite the mandatory requirement of two independent directors for IPO firms in 2002.

Given the considerations of legal regimes and internal governance that vary across the Greater China Region, it could be argued that firms in Hong Kong on average tend to associate with the strongest governance mechanisms while those in China tend to exhibit the weakest governance practices.

3. Data and Variable Definitions

3.1 Sample

Sample ADRs from China, Hong Kong, and Taiwan listed on NYSE, AMEX, and NASDAQ and their financial data are obtained from Factset database. Our sample period begins from 2005 after these markets adopt governance measures similar to those in Sarbanes Oxley Act, and ends in 2010. After removing ADRs that contain missing financial and governance information and therefore do not meet our data requirement, we collect 48 Chinese ADRs, 18 Hong Kong ADRs, and 8 Taiwan ADRs for a total of 74 ADRs and 444 firm-year observations. Not surprisingly, China has the largest number of ADRs relative to

both Hong Kong and Taiwan. All of the ADRs in the sample belong to either type II or III listing which is required to adopt the US disclosure and governance rules.

A closer look at the sample reveals that the firm type of ADRs varies across these three markets. For example, Chinese ADRs are predominately related to state owned enterprises over a range of diverse industries. Hong Kong ADRs, on the other hand, consists of both firms in the private sector and China's state owned enterprises initially listed in Hong Kong across different industries. In contrast, all Taiwan ADRs come from high-tech sector. As a result, their listings are either on NYSE and NASDAQ rather than across all three exchanges.

3.2 Market-to-Book Ratio

Following Chen et al. (2006), Harford et al. (2008), Cheung et al. (2008), and Linck et al. (2008), we use market-to-book value ratio (M/B) for measuring firm performance. Demsetz and Villalonga (2001) suggest that market-based measures such as M/B are more preferable than accounting-based profit ratios (i.e. ROA and ROE) because the former are forward looking measures of corporate performance whereas the latter are backward looking constrained by accounting standards and practices. For example, accounting rules

may apply differently to valuing tangible and intangible capitals and taxation systems may vary with firms of different ownership structure. In contrast, M/B should fairly reflect future profitability of a firm by markets without the accounting constraints. Furthermore, M/B tends to capture markets' views on governance mechanisms as a means to reduce agency costs and enhance corporate performance.

For explanatory variables of M/B, we follow extant literature and categorize measures of governance mechanisms, firm characteristics, and institutional factors into 6 groups as follows: board structure, CEO characteristics, ownership structure, firm characteristics, country dummies, and stock exchange dummies. These measures are defined in Appendix I.

3.3 Board Structure

We include percentage of independent directors, CEO duality, and non-executive chairman when the chairman is not an executive member of the company for measures under board structure. Independent directors are non-executive or non-employee directors who may play a more effective role in monitoring management to meet shareholders' expectations. Borokhovich et al. (1996), Krivogorsky (2006), and Adams and Ferreira (2007) show that independent directors lower monitoring cost that in turn enhance firm

performance.

When the CEO is also the chairman of the board, Fama and Jensen (1983) contend that it may impede the effectiveness of board monitoring as the decision making and control is endowed within one individual. Rechner and Dalton (1991), and Bhagat and Bolton (2008) show that non-duality firms outperformed duality firms. Bai, Liu, Lu, Song, and Zhang (2004) also report a negative relationship between CEO duality and market value for Chinese firms.

3.4 CEO characteristics

CEO characteristics refer to the number of years that a CEO has held the position. Hermalin and Weisbach (1991) suggest that CEO tenure does not seem to affect firm profitability for shorter CEO tenures but firm profitability declines when CEO tenure is more than 15 years. In a follow-up study, Hermalin and Weisbach (1998) conclude that board independence will generally decline with CEO tenure. When a CEO has worked for the company for a longer period of time, they tend to have more influence on the directors of the board, which is detrimental to board independence and the effectiveness of monitoring.

On the other hand, CEO tenure may proxy for board leadership and measures the extent of CEO experience that may help companies to tackle difficulties and increase profits. This argument is supported by Linck et al. (2008) and Brookman and Thistle (2009) who show that CEO tenure has a positive effect on firm performance.

3.5 Ownership Structure

Insiders include employees, directors, and managers who enjoy information advantage about the firm over the market. McConnell and Servaes (1990) suggest that insider ownership may also perform a monitoring role for the firm. Therefore, as the share ownership of insider ownership increases and that their interests are more aligned with those of shareholders, the cost of monitoring tends to be lowered.

Conversely, firms whose managers have high levels of control rights (relative to cash flow rights) experience lower stock returns. Lemmon and Lins (2003) show that ownership structure of firms in eight East Asian countries plays an influential role in wealth expropriation of insiders from minority shareholders. In examining the relation between ownership and market value among Chinese firms, Bai et al. (2004) report that high concentration of ownership is positively related to market value.

Based on the findings, we include percentage of institutional ownership and insider ownership as proxies for ownership structure. However, McConnell and Servaes (1990) suggest that when the percentage of insider ownership reaches a threshold, an increase in insider ownership may decrease firm value. Hence, we also include a squared term of insider ownership as a measurement of the potential non-linear relationship between percentage of insider ownership percentage and firm profitability.

3.6 Firm Characteristics and Institutional Factors

We further include firm-specific and institutional control variables to isolate the effect of governance measures on firm performance. They include debt-to-equity ratio, trading volume, company age, and firm size (natural log). Country dummies (CHINA, HONGKONG, and TAIWAN) as discussed in Section 2, and stock exchanges dummies (NYSE, AMEX, and NASDAQ) are used to control for the fixed effects of the countries and stock exchanges.

4. Empirical Results

4.1 Summary Statistics

We first present the summary statistics of the sample ADRs in Table 1. Panel A reports the aggregate statistics for the whole sample, and Panel B, C, and D report for individual market of China, Hong Kong, and Taiwan respectively.

We find that the average market-to-book value (M/B) ratio is 2.79 for the whole sample, a high market valuation relative to book value. It implies that the sample ADRs with high market valuation are perhaps seeking external funding and/or increasing investor base beyond their local markets by listing in the U.S. stock exchanges. Among them, those from China enjoy the highest market-to-book ratio of 3.17, followed by those from Taiwan of 1.99 and Hong Kong of 1.96. Firms from the weakest external governance regime (i.e. China) appear to enjoy the highest market valuation relative to those from stronger governance regime.

Consistent with the literature that CEO duality is more common in the region than in the US or UK, thirty-one percent of the sample ADRs appoint their CEOs as the chairman of the board (CEO_DUALITY) and only four percent with non-executive chairman (NONEXE_CHAIR). As discussed in Section 2, firms in Hong Kong and Taiwan are more likely to be family-controlled such that CEOs who tend to be a family member also serve as chairman of the board. Although CEO duality is lower in ADRs from China relative to

those in Hong Kong and Taiwan, it remains high by western standards.

The average age of sample ADRs is more than 18 years across which Hong Kong ADRs are on average more mature (20.77 years) than their counterparts (18.05 and 17.75 years for China and Taiwan respectively). Compared to the average ADR age, the average CEO tenure is only 4.47 years that range from 4.09 years of Chinese ADRs to 6.17 years of Taiwan ADRs, implying frequent CEO turnovers.

Since regulations in all three markets require mandatory independent directors, the average percentage of independent directors is relatively high at 24 percent. However, the variability across these three markets appears to be small, with the highest percentage of independent directors of 26 percent found among Taiwan ADRs.

Insider ownership on average nears 50 percent, driven largely by high insider ownership of China and Hong Kong ADRs that are above 50 percent. In contrast, Taiwan ADRs are skewed towards computer-related firms characterized by more diffused ownership. Its average insider ownership is a relatively low of 20 percent.

Finally, institutional investors seem to actively invest in ADRs. They hold an average of 18.68 percent of total shares outstanding. Most noticeably, China and Taiwan ADRs attract about 20 percent of institutional investment compared to around 13 percent in Hong

Kong ADRs. It appears that institutional investors in recent years have shown more interest in Chinese firms. Taiwan ADRs which tend to be computer-related firms also appear to draw a similar level of interest.

4.2 Univariate Results

Table 2 reports the results of differences in means of M/B, governance measures, and firm characteristics among Chinese, Hong Kong, and Taiwan ADRs reported in Table 1. The first row for each variable shows the statistical difference, if any, between Chinese and Hong Kong ADRs. The second row reports the difference between Hong Kong and Taiwan ADRs while the third row reports the difference between Taiwan and Chinese ADRs.

Among the ADRs from the three markets, Chinese ADRs exhibit higher market valuations than Hong Kong and Taiwan ADRs. There appears however little difference in M/B between Hong Kong and Taiwan ADRs. We find that very few firm characteristics or internal governance measures shown in Table 2 are consistent with the differences in M/B. The country of domicile where external governance environment differs significantly between China and the other two markets remains the primary candidate to explain the extent of the firm valuation differences.

Before we estimate multivariate regression analysis on the effect of governance measures on firm performance, we calculate the correlations between governance measures to examine potential multicollinearity problems. Table 3 presents the correlations using both Pearson (in upper diagonal) and Spearman rank (in lower diagonal) estimates.

The cross correlations between the six governance variables are generally low with the exception between institutional and insider ownership (0.54 or 0.56). These two measures are however expected to contrast each other because a higher proportional of insider ownership implies a lower institutional ownership. Institutional investors also become less important in monitoring managers as agency costs tend to be lower when insiders hold a higher proportion of share ownership. To ensure regression results are robust to the potential multicollinearity problem, we run several regression estimates with various combinations of controlled variables.

4.3 Regression Results

Sequel to the preliminary results, we estimate the following regressions to examine the effect of governance measures on firm valuation,

$$M/B_i = \alpha + \beta_1 BS + \beta_2 CEO + \beta_3 OS + \beta_4 CC + \beta_5 CD + \beta_6 SD + \varepsilon_i \quad (1)$$

where M/B_i is market-to-book value ratio for firm i; BS, CEO, OS, and CC are vectors of board structure variables, CEO characteristics, ownership structure, and company characteristics respectively; CD and SD are dummy variables for countries and stock exchanges respectively; ε_i is the error term.

One common problem in examining the relationship between corporate governance and firm performance is the potential endogeneity effect of governance measures documented in Himmelberg et al. (1999), Cho (1998), and Bhagat and Bolton (2008). An increase in firm value may lead to better governance practices rather than what is being investigated here. To address such effect, we use firm size, debt-to-equity ratios, and return on equity as instrument variables for institutional ownership. We then use the predicted institutional ownership in the regression analysis. Furthermore, we consider lagged market-to-book ratio, lagged leverage, and lagged board structure. Results using these instruments are robust to those reported in this section. We also follow Black, et al. (2006) and Petersen (2008) by applying adjusted standard errors due to the correlations between the same companies in different years.

Table 4 reports the regression results based on Eq. (1). Column 1 first shows the effect of board structure along with firm characteristics, country dummies, and exchange dummies on market-to-book value ratio (M/B). Among the measures for board structure, only percentage of independent directors (INDEP-PCT) is marginally but negatively significant at the 10 percent level. The negative relation therefore contradicts the standard agency theory which posits that an increase in the proportion of independent directors reduces principal-agent conflicts. Including other governance measures however shows that it is not an important consideration for market valuation (see column 4 in Table 4).

Similar to board structure measures, the duration of CEO tenure as shown in columns 2 and 4 carries little consequence on ADR performance. Given that the average time period is 4.47 years (see Table 1), the short CEO tenure and its lack of variability across ADRs may explain why it fails to account for firm performance.

For the effect of ownership structure, we include the percentage of institutional and insider ownership. Since the effect of insider ownership may potentially be curvilinear, we also include a square term. Columns 3 and 4 of Table 4 show that these two governance mechanisms are positively related to M/B ratio. While these results are consistent with the standard finance theory that higher insider and institutional ownership lower agency

conflict between management and minority shareholders, their relationships do not appear to be economically significant. An increase of one standard deviation in insider ownership and institutional ownership corresponds with 2.1 percent and 2 percent in M/B respectively. It suggests that their impacts on market valuation are limited.

In contrast to the limited effects of governance measures and firm characteristics, we find that country of domicile explains greater variations in the M/B ratio. Reported in Table 4, Chinese ADRs experience significantly higher M/B than both Hong Kong and Taiwan ADRs. In fact, switching from Chinese ADRs to either Hong Kong or Taiwan ADRs on average lowers market equity relative to book equity by more than a factor of 1. As China has the weakest governance environment in the greater China region, Chinese firms under the ADR programs have the most to benefit from listing in the US.

However, Hong Kong ADRs enjoy higher market valuation than Taiwan ADRs after listing in the US. This result appears to contradict the hypothesis that ADRs from a weaker governance regime should benefit more from the ADR programs. However, when we investigate firm types between Hong Kong and Taiwan ADRs, we find that Hong Kong ADRs are made up of both Hong Kong based firms in the private sector and China's state owned enterprises listed in Hong Kong. On the other hand, all Taiwan ADRs consist of

firms in high-tech industries. The apparent firm effects suggest that Taiwan ADRs are likely to be in more competitive industries compared to Hong Kong ADRs. As Giroud and Mueller (2011) argue that product market competition is a good substitute of governance, Taiwan ADRs should on average experience stronger governance. Consequently, Hong Kong ADRs with weaker governance on average tend to gain more from ADR listings.

5. Conclusion

In their seminal papers on corporate governance, La Porta et al. (1998, 2000, and 2002) show that external governance regime is an important determinant for firm performance. Stronger governance that provides better investor protection leads to higher firm value. We extend their studies by comparing the performance of firms from the greater China region that cross-list in the US under the ADR programs. In particular, we compare firm valuation between ADRs from China, Hong Kong , and Taiwan, which although share close business and trade ties differ significantly in their external governance backgrounds.

Consistent with the extant literature, we find that Chinese firms with the weakest governance environment tend to gain the most under the ADR programs after subject to the stringent regulations and disclosure rules in the US. In comparison, ADRs from Hong Kong

and Taiwan experience relatively lower market valuation due to their stronger external governance environments at home.

Despite the importance of some firm characteristics and internal governance mechanisms on firm value, our results suggest that the impact of external governance backgrounds far outweighs those within the firms. They imply that policy efforts should be directed more at the macro level than at the firm level as the former appears to be more influential in lowering principal-agent conflicts.

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Table 1. Summary Statistics of the Sample Firms

This table presents the summary statistics of ADRs in the greater China region during 2005-2010. M/B is the stock price per share divided by book value per share. CEO_DUALITY is a dummy variable that equals one when the CEO is also the chairman of the board, and zero otherwise. NONEXE_CHAIR is a dummy variable that equals one when the chairman of the board is not an executive member, and zero otherwise. INDEP_PCT is the percentage of independent directors on the board. CEO_TENURE is the number of years the CEO has held his/her title. INST_PCT is the number of shares held by institutional investors as a percentage of the current total shares outstanding. INSIDER_PCT is the number of shares held by insiders as a percentage of the current total shares outstanding. DEBT_EQUITY is the long-term debt-to-equity ratio; SIZE is the natural log of market capitalization, where the firm's market value is measured in millions of dollars. AGE is the number of years since the company starts (up to 2010). VOLUME is the 52-week average of the volume of shares traded.

Variables	Mean	P25	P50	P75	SD
Panel A: Whole Sample					
M/B	2.79.	0.97	1.76	3.30	3.28
CEO_DUALITY	0.31	0.00	0.00	1.00	0.47
NONEXE_CHAIR	0.04	0.00	0.00	0.00	0.20
INDEP_PCT	0.24	0.00	0.27	0.42	0.24
CEO_TENURE	4.47	2.00	4.00	6.00	3.77
INST_PCT	18.68	4.19	11.12	25.48	20.79
INSIDER_PCT	47.69	21.32	43.73	74.29	28.47
DEBT_EQUITY	24.54	0.00	1.44	21.03	72.99
AGE	18.67	9.00	13.00	23.00	15.11
VOLUME	1.06	0.12	0.32	1.17	1.81
SIZE	6.62	4.93	6.12	8.35	2.50
Panel B: China ADRs					
M/B	3.17	1.08	1.87	3.64	3.75
CEO_DUALITY	0.27	0.00	0.00	1.00	0.45
NONEXE_CHAIR	0.01	0.00	0.00	0.00	0.12
INDEP_PCT	0.25	0.00	0.27	0.54	0.26
CEO_TENURE	4.09	2.00	4.00	6.00	3.20
INST_PCT	20.35	2.90	9.76	27.42	24.16
INSIDER_PCT	51.12	21.58	47.69	77.57	29.39

DEBT_EQUITY	25.79	0.00	0.50	18.42	85.43
AGE	18.05	9.00	12.00	20.00	16.09
VOLUME	1.12	0.10	0.31	1.27	1.84
SIZE	6.41	4.95	5.91	7.82	2.30
			Panel C: Hong Kong ADRs		
M/B	1.96	0.61	1.46	2.61	1.83
CEO_DUALITY	0.36	0.00	0.00	1.00	0.48
NONEXE_CHAIR	0.13	0.00	0.00	0.00	0.34
INDEP_PCT	0.21	0.00	0.21	0.40	0.20
CEO_TENURE	4.68	2.00	4.00	6.00	4.55
INST_PCT	13.41	3.03	8.98	22.26	12.51
INSIDER_PCT	52.19	27.03	64.41	70.19	23.48
DEBT_EQUITY	18.89	0.00	4.53	22.49	33.30
AGE	20.77	10.00	15.00	31.00	14.84
VOLUME	0.47	0.05	0.19	0.51	0.70
SIZE	6.37	4.18	5.64	8.90	2.99
			Panel D: Taiwan ADRs		
M/B	1.99	1.29	1.88	2.62	1.18
CEO_DUALITY	0.47	0.00	0.00	1.00	0.51
NONEXE_CHAIR	0.00	0.00	0.00	0.00	0.00
INDEP_PCT	0.26	0.00	0.33	0.38	0.20
CEO_TENURE	6.17	3.00	5.00	7.50	4.32
INST_PCT	19.26	12.49	18.32	25.48	8.17
INSIDER_PCT	20.00	7.72	18.94	36.28	12.17
DEBT_EQUITY	26.95	0.08	4.38	49.84	38.23
AGE	17.75	11.00	17.00	24.50	7.60
VOLUME	1.81	0.54	0.95	1.89	2.58
SIZE	8.28	7.06	8.81	9.56	1.97

Table 2. Sample Comparison among Chinese, Hong Kong, and Taiwan ADRs

This table provides sample mean comparisons and t-test values for Chinese, Hong Kong and Taiwan ADRs listed during 2005-2010. *** and ** denote significance levels of 1% and 5% respectively. [a] reports difference in means in the following order: between Chinese ADRs and Hong Kong ADRs, between Hong Kong ADRs and Taiwan ADRs, and between Chinese ADRs and Taiwan ADRs.

Variable	Country	Mean	SE	Difference[a]	N
M/B	Chinese ADRs	3.17	0.23	1.21***	269
	Hong Kong ADRs	1.96	0.20	-0.03	81
	Taiwan ADRs	1.99	0.18	-1.18**	45
CEO_DUALITY	Chinese ADRs	0.27	0.03	-0.09	224
	Hong Kong ADRs	0.36	0.05	-0.11	83
	Taiwan ADRs	0.47	0.08	0.20***	36
NONEXEC_CHAIR	Chinese ADRs	0.01	0.01	-0.12***	221
	Hong Kong ADRs	0.13	0.04	0.13**	83
	Taiwan ADRs	0.00	0.00	-0.01**	36
INDEP_PCT	Chinese ADRs	0.25	0.02	0.04	251
	Hong Kong ADRs	0.21	0.02	-0.04	84
	Taiwan ADRs	0.26	0.03	0.01	43
CEO_TENURE	Chinese ADRs	4.09	0.22	-0.58	213
	Hong Kong ADRs	4.68	0.48	-1.49**	90
	Taiwan ADRs	6.17	0.72	2.07***	36
INST_PCT	Chinese ADRs	20.35	1.62	6.94***	222
	Hong Kong ADRs	13.41	1.44	-5.85***	75
	Taiwan ADRs	19.27	1.26	-1.08	42
INSIDER_PCT	Chinese ADRs	51.12	1.87	-1.08	246
	Hong Kong ADRs	52.19	2.57	32.19***	83
	Taiwan ADRs	20.00	1.83	-31.11***	44
DEBT_EQUITY	Chinese ADRs	25.79	5.26	6.90	264
	Hong Kong ADRs	18.89	3.75	-8.05	79
	Taiwan ADRs	26.95	5.52	1.15	48
AGE	Chinese ADRs	18.05	0.95	-2.72	285
	Hong Kong ADRs	20.77	1.45	3.02	105
	Taiwan ADRs	17.75	1.10	-0.30	48
VOLUME	Chinese ADRs	1.12	0.11	0.65***	280
	Hong Kong ADRs	0.47	0.07	-1.34***	88
	Taiwan ADRs	1.81	0.37	0.69**	48
SIZE	Chinese ADRs	6.41	0.14	0.04	272
	Hong Kong ADRs	6.37	0.32	-1.91***	86
	Taiwan ADRs	8.28	0.28	1.87***	48

Table 3. Cross Correlations of Governance Measures

This table presents the correlation coefficients between the governance measures. The Pearson correlation coefficients are above the diagonal and the Spearman rank correlation coefficients are below the diagonal. ***, **, *, denote significance levels of 1%, 5%, and 10%, respectively.

	CEO_DUALITY	NONEXE_CHAIR	INDEP_PCT	CEO_TENURE	INST_PCT	INSIDER_PCT
CEO_DUALITY		-0.14***	0.18***	0.27***	-0.06	0.12**
NONEXE_CHAIR	-0.15**		0.17***	-0.06	-0.14**	0.02*
INDEP_PCT	0.26***	0.20***		-0.15**	-0.03	0.05
CEO_TENURE	0.28***	-0.08	-0.17**		0.01	-0.19***
INST_PCT	-0.08	-0.22***	-0.05	0.05		-0.54***
INSIDER_PCT	0.15**	0.01	0.12*	-0.11*	-0.56***	

Table 4. Regressions of Firm Performance on Governance Measures

This Table presents the regressions results of firm performance as proxy by Market-to-Book ratio on governance measures. CEO_DUALITY is a dummy variable that equals one when the CEO is also the chairman of the board, and zero otherwise. NONEXE_CHAIR is a dummy variable that equals one when the chairman of the board is not an executive member, and zero otherwise. INDEP_PCT is the percentage of independent directors on the board; CEO_TENURE is the number of years the CEO has held his/her title. INST_PCT is the number of shares held by institutional investors as a percentage of the current total shares outstanding. INSIDER_PCT is the number of shares held by insiders as a percentage of the current total shares outstanding. $INSIDER\_PCT^2$ is the square of the insider ownership percentage. DEBT_EQUITY is the long-term debt-to-equity ratio; SIZE is the natural log of market capitalization in millions of dollars. AGE is the number of years the company has been in existence (up to 2010); VOLUME is the 52-week average of the volume of shares traded; Country dummies are dummy variables to indicate the country of domicile for the firm. Exchange dummies are stock exchange dummy variables where the stock is traded. ***, **, *, denote significance levels of 1%, 5%, and 10%, respectively. *P*-values are presented in the parentheses.

	(1)	(2)	(3)	(4)
INTERCEPT	-2.49 (0.16)	-1.64 (0.36)	-4.77*** (0.00)	-4.03* (0.06)
Board Structure				
CEO_DUALITY	0.63 (0.30)			1.99** (0.03)
NONEXE_CHAIR	0.71 (0.39)			0.08 (0.91)
INDEP_PCT	-2.22* (0.07)			-1.79 (0.24)
CEO Characteristics				
CEO_TENURE		0.06 (0.58)		0.03 (0.85)
Ownership Structure				
INST_PCT			0.07** (0.03)	0.10** (0.04)
INSIDER_PCT			0.08*** (0.00)	0.08** (0.04)
$INSIDER\_PCT^2$			-0.08*** (0.00)	-0.08* (0.06)
Company Characteristics				
DEBT_EQUITY	0.01** (0.01)	0.00** (0.02)	0.01*** (0.00)	0.01*** (0.00)
SIZE	0.61*** (0.00)	0.46*** (0.00)	0.50*** (0.00)	0.35** (0.01)
AGE	-0.00 (0.97)	-0.00 (0.55)	0.00 (0.76)	-0.01 (0.37)
VOLUME	0.04 (0.68)	-0.02 (0.80)	-0.13 (0.18)	-0.15 (0.25)
Country Dummies				

Hong Kong	-1.10** (0.03)	-1.17* (0.05)	-0.67 (0.21)	-1.13* (0.09)
Taiwan	-1.53** (0.01)	-1.27* (0.06)	-1.53** (0.01)	-2.15* (0.05)
Exchange Dummies				
NASDAQ	3.31*** (0.00)	3.00*** (0.00)	2.92*** (0.00)	2.82*** (0.00)
AMEX	2.38** (0.04)	1.66* (0.09)	1.96*** (0.00)	1.64 (0.12)
Year Dummies	Yes	Yes	Yes	Yes
N	296	293	286	184
Adj. R^2	0.22	0.20	0.24	0.24

Appendix 1

Variables are classified into seven categories: performance measures, board structure, CEO characteristics, ownership structure, company characteristics, country dummies, and stock exchange dummies.

Variable	Definition
Performance Measure	
M/B	Price per share of common stock divided by book value per share of common stock, measured in percentage
Board Structure	
CEO_DUALITY	Dummy variable equals one when the CEO is also the chairman of the board, and zero otherwise
NONEXE_CHAIR	Dummy variable equals one when the chairman of the board is not an executive member, and zero otherwise
INDEP_PCT	The percentage of independent directors in the board
CEO Characteristics	
CEO_TENURE	The number of years the CEO has held his/her title
Ownership Structure	
INST_PCT	The number of shares held by institutional investors as a percentage of the current total shares outstanding
INSIDER_PCT	The number of shares held by insiders as a percentage of the current total shares outstanding
Company Characteristics	
DEBT_EQUITY	Debt to equity ratios, which is long term debt divided by total equity measured in percentage
SIZE	The natural log of market cap, where the market cap is measured in millions of U.S. dollars
AGE	The number of years the company has been in existence (up to 2010)
VOLUME	The 52-week average of the volume of shares traded, which is measured in millions of shares
Country Dummies	
CHINA	Dummy variable to indicate which country a firm is from, one is China and zero otherwise

HONGKONG	Dummy variable to indicate which country a firm is from, one is Hong Kong and zero otherwise
TAIWAN	Dummy variable to indicate which country a firm is from, one is Taiwan and zero otherwise
Stock Exchange Dummies	
NYSE	Dummy variable which equals one if a firm's stock is listed on NYSE, and zero otherwise
AMEX	Dummy variable which equals one if a firm's stock is listed on AMEX, and zero otherwise
NASDAQ	Dummy variable which equals one if a firm's stock is listed on NASDAQ, and zero otherwise

Nanyang Technological University

Singapore July 17-20, 2011

Travel Report

Nangyang Technological University is one of the top 10 technological universities in the Asia Pacific region and one of the top schools throughout the world. Prof. Qu invited me to visit the department of economics at Nangyang Technological University for scholarly exchange. I visited the campus and found that Nangyang Technological University has not only the modern buildings and facilities but also the efficient management and leadership. What impressed me is that scholars from all over the world are frequently invited not only to present papers but also to work on research projects with colleagues at Nangyang Technological University.

The department provided me with a research office during my visit. During my stay, I exchanged research ideas, searched database, and explored possible research topics with professors Qu and Hu. We discuss how to efficiently use the modules of WRDS, one of the major databases used in business areas on the research projects. In addition to research, we share experience in teaching and supervising students.

I would like to take this chance to thank NSC for providing me with this grant. Through scholarly exchange, the scope of my research, teaching, and helping students is broadened. I benefited a lot from this experience.

Global Finance Conference

Bangkok, Thailand April 3-5, 2011

Travel Report

Global Finance Conference is sponsored annual by the Global Finance Association (GFA), a non-profit organization providing a platform for finance and accounting professionals to debate, learn and exchange ideas for academic and practical application. The conference has held 18th annual meeting throughout the world. During the conference, I attended several sessions, met some reputable editors, and exchanged ideas with many professional researchers. When I presented the paper, I received lots of good comments, which helped me sharpen my ideas and refine the article substantially. I would like to take this chance to thank NSC for giving me the grant support to attend this conference.

Each year, the best papers presented at the conference are "conditionally" accepted for publication in Global Finance Journal. I was fortunate to receive the "Best Paper Award" from the Global Finance Conference dated April 3-5, 2011 at Bangkok Thailand. Below are the letter of evidence and certificate of best paper award from the founder, editor, and executive director of Global Finance Journal. The paper that was conditionally accepted is attached as well.

<Evidence 1>

論文已正式被Global Finance Journal(國科會B+等級期刊論文)條件式接受之證明

---------- 原文 ----------

主旨: Re: Submission to GFJ
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Dear Lee-Hsien

Congratulations. We are also pleased to have scholars like you attend the GF Conference in Bangkok. As you know the top papers presented at the Conference are "conditionally" accepted for publication of a special issue of the GFJ. Dr. KC Chen, a dear friend and colleague, serves on the editorial board of the GFJ. He is also editor of the International Journal of Finance.

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<Evidence 2>
論文獲得 Global Finance Conference 最佳論文獎（Best Paper Award）之證明

Corporate Governance and Firm Performance: A Comparative Analysis of Chinese ADRs and US Firms

Abstract

We examine the relationship between firm performance and board structure, CEO characteristics, and ownership structure of Chinese ADRs in the greater China region listed on the NYSE, AMEX and NASDAQ. Among the governance mechanisms, CEO duality, institutional ownership, and insider ownership are positively related to firm performance. While we find that the extent to which governance mechanisms affect firm performance between Chinese ADRs and U.S. matched firms are mostly similar, the positive impact of insider ownership appears to be stronger for Chinese ADRs. Overall, cross-listings in the U.S. stock markets appear to be beneficial for Chinese firms in improving their governance mechanisms.

Keywords: Corporate governance; Chinese ADRs; CEO duality; Institutional ownership; Insider ownership.

1. Introduction

The importance of corporate governance on firm value has long been recognized since the pioneering work of Jensen and Meckling (1976) in a nexus of contracts among various stakeholders. Under the rubrics of principal-agent conflicts, Shleifer and Vishny (1997) emphasize that investor protection is crucial. La Porta et al. (1998, 2000, and 2002) who examine the importance of external governance around the world show that countries with common laws provide better shareholder protection than those with civil laws. They document that the difference in the legal regimes and law enforcement has led to higher valuation of corporate assets in common law regimes. In a more recent work, Gillan (2006) provides a comprehensive review on different aspects of internal and external governance systems. He suggests that the next wave of governance research will broaden the scope of what constitutes corporate governance, and address multiple governance mechanisms and their interactions.

In line with Gillan's (2006) prediction, recent research has focused on the determinants of corporate governance on firm performance. In particular, board structure (Yermack (1996), Boone, Field, Karpoff, and Raheja (2007), and Linck, Netter, and Yang (2008)), CEO characteristics (Hermalin and Weisbach (1998), Basu, Hwang, Mitsudome,

and Weintrop (2007), and Brookman and Thistle (2009)) and ownership structure (Lemmons and Lins (2003), and Ali, Chen and Radhakrishnan (2007)) have been identified as key components for a firm's governance practices. Firms with more independent directors, less executive compensation, and higher managerial ownership are linked to stronger governance and better firm performance.

In this study, we contribute to the literature as we examine the effect of the governance practices on cross-listing firms in greater China Region (i.e. China, Hong Kong, and Taiwan) under the American Depository Receipts (ADRs) programs. A firm that cross-lists via an ADR is subject to more stringent governance and disclosure requirements (see Durnev and Kim (2005) and Doidge, Karolyi, and Stulz (2003)) especially after the Sarbane-Oxley Act in 2002. Coupled with the common law regime and stronger law enforcement in the U.S. (see La Porta et al. (1998)), Chinese firms under the ADR programs should arguably improve a range of governance measures as a result of the cross-listings.

Part of our interest in examining Chinese ADRs in relation to their governance is motivated by the poor environment and the ineffectiveness of governance mechanisms in

China despite its rapidly evolving regulatory framework.[1] Evidence suggests that Chinese firms tend to be characterized by ineffective supervisory boards and weak independence of board directors (Tam (2002), Dahya, Karbhari, Xiao and Yang (2003), Lin (2004), and Wang (2007)), high proportion of state share ownership (Sun and Tong (2003), Wei, Xie, and Zhang (2005), Wei (2007), and Tian and Estrin (2008)), and common CEO duality roles (Zhong (2002)).

As Chinese ADRs cross-list in the U.S., they face similar governance environment - both internal and external as their U.S counterparts. As a result, the same governance mechanisms may presumably have similar impact on firm performance. Alternatively, firm characteristics related to the country of domicile may continue to play an important role in the effectiveness of a firm's governance practices. Comparing the extent to which governance affects firm performance between Chinese ADRs and U.S. matched firms may shed light on the differential importance of governance determinants.

Examining the impact of cross-listings of Chinese ADRs is also important because the sustaining growth in China may require Chinese firms to raise external capitals in international markets such as those in the U.S. Foreign direct investment (FDI) and

[1] The core regulatory framework consists of *The Company Law* since 1993, *the Securities Law* since 1998, and *the Code of Corporate Governance for Listed Companies in China* since 2002.

cross-border mergers and acquisitions continue to accelerate especially in commodity and resource sectors as the need for energy keeps growing.[2] In 2010, China has replaced Japan as the second largest economy in the world. Therefore, understanding the effects of corporate governance on Chinese ADRs performance should be of particular interest to markets and investors.

Our analysis yields several interesting findings on the impact of board structure, CEO characteristics, and ownership composition on the firm performance of Chinese ADRs. First, CEO duality has a positive effect on firms' market-to-book ratio. It suggests that CEOs of Chinese ADRs are perhaps more motivated and have superior ability to lead the company albeit reducing the monitoring role of the boards. It may also reflect why these Chinese firms are successfully listed on the U.S. stock exchanges. Comparing the effect of CEO duality between Chinese ADRs and their matched U.S. firms also reveals that the duality factor is marginally more important for the former. The behaviors of Chinese ADRs may therefore not apply to Rechner and Dalton (1991), and Bhagat and Bolton (2008) who generally find that non-duality firms outperform duality firms.

Second, there appears to be little relation between CEO tenure and firm performance.

[2] Athreye and Kapur (2009) report that the total foreign investment of Chinese firms amounts to 22.5 billion dollars in 2007.

This result is perhaps not surprising since the average CEO tenure is only three years and the top quartile group is four years. Given that firm performance may take a longer time to improve than during the short CEO tenure years, it is a lesser important governance measure than others for Chinese ADRs.

Third, insider and institutional ownership are positively related to firm performance. Consistent with prior studies (e.g. McConnell and Servaes (1990), Hartzell and Starks (2003), and Cornett, Marcus, Saunders, and Tehranian, (2007)), higher insider and institutional ownership improves firm performance. It suggests that an increase in insider ownership helps to lower potential conflicts of interest between managers and shareholders and thereby increases firm value. Similarly, institutional ownership seems to play an effective monitoring role for Chinese firms. Our results complement Sun and Tong (2003) who document that share issue privatization in China is positively related while state ownership is negatively related to firm performance.

Fourth, when we compare the governance effects between Chinese ADRs and U.S. matched firms, there is little difference between them except for insider ownership where the effect is relatively more pronounced on Chinese ADRs. It appears that while firm performance of Chinese ADRs is influenced to the same extent by the same governance

measures as those of the U.S. firms, a few local institutional factors such as insider ownership (versus state ownership) remain just as influential.

The remainder of the paper is organized as follows. Section 2 provides an overview of the effect of corporate governance on firm performance and develops testable hypotheses. Section 3 and 4 discusses the sample and methodology respectively. Empirical results are reported in Section 5 and Section 6 concludes the paper.

2. Literature Review and Hypotheses Development

2.1 The Trends in Corporate Governance Framework

Due to globalization and increasing competition among firms, there has been an ongoing argument on the convergence of corporate governance across countries. For example, Hermalin (2005) show in his model that greater board diligence, more external candidates of CEOs, shorter tenures for CEOs, less perquisite consumption by CEOs, and more compensation for CEOs are the trends in a firm's governance mechanisms. Similarly, Khanna, Kogan, and Palepu (2006) report in a cross-country analysis that economically interdependent countries have similar corporate governance rules as a result of globalization. Along similar lines, Gillan (2006) develops a comprehensive corporate

governance framework that explicitly incorporates internal governance such as the board of directors and management, and external governance such as laws and capital markets. He contends that the focus on the broader perspective of corporate governance is likely to be the future trend.

However, other studies espouse that while some agreements on the best corporate governance system may be reached, there remains a divergence on corporate governance as firms in different countries/economies would choose what constitutes the best corporate governance for themselves (see Aoki, 1994; Bebchuk and Roe, 1999; Hansmann and Kraakman, 2001; and Gillan and Starks, 2003).

In the follow sub-sections, we discuss the well accepted corporate governance determinants in the literature that may affect firm behavior and performance. They can be classified into board structure, CEO characteristics, and ownership structure.

2.2 Board Structure

The impact of board structure on firm performance can be subdivided into board size, board independence, board composition and board activities. In earlier studies, Yermack (1996) and Eisenberg, Sundgren, and Wells (1998) examine the relation between board size

and firm performance and show that smaller boards are generally more effective in monitoring and advising top management. Vafeas (1999) complement these findings as he documents that board meeting frequency is negatively related to firm value.

Recent findings however indicate that board size may not be strictly and negatively related to firm performance. Linck et al. (2008) question whether smaller boards are necessarily better than bigger boards. They find that the board size of large firms fell in the 1990s, but the board size of small firms remained relatively flat. Raheja (2005) suggests that optimal board size is a function of the firm's characteristics and its directors. In line with this argument, Boone et al. (2007) report that board size and independence increase when companies grow and mature over time. Coles, Daniel, and Naveen (2008) find that the relation is perhaps U-shape in which Tobin's Q increases in board size for complex firms but decreases for simple firms. What is more important they suggest is the number of inside vs. outside directors. Complex firms which have higher proportion of inside directors are related to higher Tobin's Q because insiders possess firm-specific knowledge that is particularly important to these firms.

Independent directors are non-executive or non-employee directors, who may arguably play a more effective role in monitoring management to meet shareholders' expectations.

Consistent with the standard theory, Brickley, Coles, and Terry (1994), Borokhovich, Parrino and Trapani (1996), Krivogorsky (2006), and Adams and Ferreira (2007) provide some evidence that independent directors improve monitoring or lower its cost that in turn enhance firm performance.

However, Wei (2007) argues that boards of directors in Chinese firms suffer from weak independence, insider control, and CEO duality. In response to dubious party-related transactions between directors and their firms, China imposes a two-tier board system to promote better governance. A supervisory board of each firm is charged with the responsibility and the oversight of the performance of directors and top management. However, Schipani and Liu (2001), Tam (2002), and Wang (2007) report that supervisory boards in Chinese firms are also ineffective in their governance roles undermined by their weak composition and by a poorly defined monitoring role. In essence, creating a two-tier board system has not removed the weak independence of directors and insider controls within the boards. This leads to our first hypothesis as to whether independent directors in Chinese ADRs play a more effective role under the U.S. regulatory environment.

H_1: The proportion of independent directors is positively related to performance of

Chinese ADRs.

When the CEO is also the chairman of the board, Fama and Jensen (1983) contend that it may impede the effectiveness of board monitoring as the decision making and control is endowed within one individual. Rechner and Dalton (1991), and Bhagat and Bolton (2008) show that non-duality firms outperformed duality firms. Bai, Liu, Lu, Song, and Zhang (2004) also report a negative relationship between CEO duality and market value for Chinese firms. This leads to the second hypothesis:

H_2: *CEO duality is negatively related to performance of Chinese ADRs.*

2.3 CEO Tenure

CEO tenure and its impact on firm profitability have often been discussed in the governance literature. Hermalin and Weisbach (1991) suggest that CEO tenure does not seem to affect firm profitability for shorter CEO tenures but firm profitability declines when CEO tenure is more than 15 years. In a follow-up study, Hermalin and Weisbach (1998) conclude that board independence will generally decline with CEO tenure. When a

CEO has worked for the company for a longer period of time, they tend to have more influence on the directors of the board, which is detrimental to board independence and the effectiveness of monitoring.

On the other hand, CEO tenure may proxy for board leadership and measures the extent of CEO experience that may help companies to tackle difficulties and increase profits. This argument is supported by Linck et al. (2008) and Brookman and Thistle (2009) who show that CEO tenure has a positive effect on firm performance. Given these considerations, the third hypothesis can be expressed as follows:

H_3: CEO tenure is positively or negatively related to performance of Chinese ADRs.

2.4 Ownership Structure

Insiders refer to employees, directors, and managers who enjoy information advantage about the firm over the market. McConnell and Servaes (1990) suggest that insider ownership may also perform a monitoring role for the firm. It follows that as the share ownership of insiders increases and that their interests are more aligned with those of shareholders, the cost of monitoring tends to be lowered.

Conversely, firms whose managers have high levels of control rights (relative to cash flow rights) experience lower stock returns. Lemmon and Lins (2003) show that ownership structure of firms in eight East Asian countries play

s an influential role in wealth expropriation of insiders from minority shareholders. Similarly, Joh (2003) documents that Korean firms are characterized by low profitability when the separation of control rights and ownership rights is large. Examining the relation between ownership and market value among Chinese firms, Bai et al. (2004) find high concentration of ownership is positively related to market value. Accordingly, we follow our fourth hypothesis:

H_4: *Greater insider ownership percentage has a positive effect on the performance of Chinese ADRs.*

Finally, institutional investors in general are viewed to exert more influence on managers' behavior because they own a significant share ownership of the firm. A larger proportion of share ownership may allow for a more effective monitoring role than individual share ownership. As such, Guercio and Hawkins (1999), Hartzell and Starks

(2003), Krivogorsky (2006), and Cornett et al. (2007) find that a higher proportion of institutional ownership is related to higher firm value.

Chen, Firth, Gao, and Rui (2006) provides another reason as to why ownership structure may also affect firm value. They examine the effect of outside directors on corporate fraud and document that Chinese firms with a higher percentage of outside directors such as those by institutional investors tend to reduce corporate fraud. Their findings also indicate that a larger number of board meetings or a longer tenure of the chairman tends to deter corporate fraud. The fifth hypothesis is therefore as follows:

H_5: *Greater institutional ownership percentage has a positive effect on the performance of Chinese ADRs.*

3. Data and Variable Definitions

Sample ADRs from China, Hong Kong, and Taiwan listed on NYSE, AMEX, and NASDAQ and their financial data are obtained from Factset database. After removing some observations due to missing financial information, the final sample includes 296 firm-year observations from 2005 to 2008. U.S. matched firms based on firm size and industry are

collected from Compustat.

Following Chen et al. (2006), Harford, Mansi, and Maxwell (2008), Cheung, Jiang, Limpaphayom and Lu (2008), and Linck et al. (2008), we use market-to-book value ratio (M/B) for measuring firm performance. Demsetz and Villalonga (2001) suggest that market-based measures such as M/B are more preferable than accounting-based profit ratios (i.e. ROA and ROE) because the former are forward looking measures of corporate performance whereas the latter are backward looking constrained by accounting standards and practices. For example, accounting rules may apply differently to valuing tangible and intangible capitals and taxation systems may vary with firms of different ownership structure. In contrast, M/B should fairly reflect future profitability of a firm by markets without the accounting constraints. Furthermore, M/B tends to capture markets' views on governance mechanisms as a means to reduce agency costs and enhance corporate performance.

Explanatory variables for governance mechanisms can be classified into six categories: board structure, CEO characteristics, ownership structure, firm characteristics, country dummies, and stock exchange dummies. These governance measures and firm characteristic are defined in Appendix I.

Based on the discussions in Section 2, board structure includes percentage of independent directors, CEO duality, and non-executive chairman when the chairman is not an executive member of the company. CEO characteristics refer to the number of years the CEO has held the position. Ownership structure includes percentage of institutional ownership and insider ownership. However, McConnell and Servaes (1990) suggest that when the percentage of insider ownership reaches a threshold, an increase in insider ownership may decrease firm value. We therefore include a squared term of insider ownership as a measurement of the potential non-linear relationship between percentage of insider ownership percentage and firm profitability.

We also include firm-specific control variables to isolate the effect of governance measures on firm performance. They include debt-to-equity ratio, trading volume, company age, and firm size (natural log). Country dummies (CHINA, HONGKONG, and TAIWAN) and stock exchanges dummies (NYSE, AMEX, and NASDAQ) are added to control for the fixed effects of the countries and stock exchanges.

We first present the summary statistics of the sample ADRs in Table 1. The average market-to-book value ratio of 3.60 indicates that the ADRs have high market valuation relative to their book value. It suggests that they are high growth firms which are perhaps

seeking external funding or increasing investor base beyond their local markets by listing in the U.S. stock exchanges. Twenty eight percent of the sample firms designate their CEOs as the chairman of the board (CEO_DUALITY) and only four percent have non-executive chairman (NONEXE_CHAIR). The average CEO tenure of less than three years is surprisingly short, suggesting that these Chinese ADRs may have new CEOs when they cross border for listings.

Since China Securities Regulatory Commission (CSRC) requires at least one-third of board directors to be independent since 2003, we find that the average percentage of independent directors in the sample firms is relatively high at 20 percent. Furthermore, the average insider ownership exceeds 50 percent of the total share ownership, reflecting the fact that the majority of share ownership is held by the government. Given that the development of market-based economy and financial markets in China begins 30 years ago, the average age is only 17 years and the proportion of institutional investors stands at a relatively low of 18.5 percent. Overall, the descriptive statistics appear to be consistent with the institutional background of Chinese corporate environment.

Table 2 reports the comparisons of M/B, governance measures, and firm characteristics between Chinese ADRs and U.S. matched firms. Chinese ADRs appear to have lower

average market-to-book value than their U.S. counterparts but the difference is not significant. It may reflect the fact that these Chinese ADRs tend to be large and successful in order for them to be listed under the ADR programs. However, they are relatively younger with smaller trading volume and are related to lower debt-to-equity ratios.

Among the governance measures, Chinese ADRs tend to associate with higher proportion of independent directors and insider ownership, but lower institutional ownership. As discussed earlier, these differences can be traced back to the unique institutional background in China where Chinese listed firms are characterized by the presence of high ownership concentration, especially that of the state. And at least one-third of the board of directors is required to be independent. It highlights how local regulations may cause particular governance practices to be different from their foreign counterparts. For institutional ownership, it is not surprising that Chinese ADRs have relatively lower institutional ownership than the U.S. matched firms as there are far and few institutional investors in China compared to the U.S.

Before we conduct regression analysis on the effect of governance measures on firm performance, we investigate the correlations between governance measures. Table 3 presents the correlations using both Pearson (in upper diagonal) and Spearman rank (in

lower diagonal) estimates for robust checks.

The cross correlations between the six correlations are generally low with the exception between institutional and insider ownership. These two measures are however expected to complement each other because a higher proportional of insider ownership implies a lower outsider ownership including institutional ownership. Institutional investors also become less important in monitoring managers if insiders hold a higher proportion of share ownership. It is also interesting to note that nonexecutive chairman (NONEXE_CHAIR) is more likely to associate with higher percentage of independent directors (INDEP_PCT). This positive correlation is consistent with the overall independence of the board of directors. To ensure our empirical results are robust to the potential multicollinearity problems in regressions, we also apply principal component analysis to create a reduced number of independent and non-correlated factors.

4. Methodology

We run the following regressions to examine the effect of governance measures on firm performance,

$$M/B_i = \alpha + \beta_1 BS + \beta_2 CEO + \beta_3 OS + \beta_4 CC + \beta_5 CD + \beta_6 SD + \varepsilon_i \quad (1)$$

where M/B_i is market-to-book value ratio for firm i; BS, CEO, OS, and CC are vectors of board structure variables, CEO characteristics, ownership structure, and company characteristics respectively; CD and SD are dummy variables for countries and stock exchanges respectively; ε_i is the error term.

To address the potential endogeneity effects of governance measures documented in Himmelberg, Hubbard, and Palita (1999), Cho (1998), and Bhagat and Bolton (2008), we use firm size, debt-to-equity ratios, and return on equity as instrument variables for institutional ownership. We then use the predicted institutional ownership in the regression analysis. Furthermore, we consider lagged market-to-book ratio, lagged leverage, and lagged board structure. Results using these instruments are robust to those reported in section 5 and are therefore not tabulated. We also follow Black, Love, and Rachinsky (2006) and Petersen (2008) by applying adjusted standard errors due to the correlations between the same companies in different years.

Finally, we compare the effects of corporate governance on firm performance between Chinese and matched U.S. firms using the Chow test,

$$M/B_i = \alpha + \beta_1(BS + \gamma_1 BS * Group) + \beta_2(CEO + \gamma_2 CEO * Group) + \beta_3(OS + \gamma_3 OS * Group) + \beta_4(CC + \gamma_4 CC * Group) + \beta_5(CD + \gamma_5 CD * Group) + \beta_6(SD + \gamma_6 SD * Group) + \varepsilon_i \quad (2)$$

where *Group* is a dummy variable that equals to one for Chinese firms and zero otherwise.

5. Empirical Results

5.1 Regression Analysis

We begin the empirical analysis on the relationship between governance measures and firm performance according to equation 1. Column 1 of Table 4 reports the preliminary individual effect of board structure on market-to-book value ratio (M/B). Surprisingly, the percentage of independent directors (INDEP_PCT) among the three measures of board structure is significantly but negatively related to firm performance. It contradicts the standard agency theory which posits that an increase in the proportion of independent directors reduces principal-agent conflicts. Subsequent test (i.e. column 4 in Table 1) however reveals that the importance of independent director is absorbed by other governance measures.

Column 2 of Table 4 also shows that there appears to be little impact of CEO tenure on

Chinese ADR performance. As reported earlier in Table 1, the number of years of CEO tenure ranges from one to four years between the lowest and highest quartile with an average of less than three years. This observed short CEO tenure and its lack of variability may explain why the governance measure fails to capture variations in firm performance. Our results therefore do not support H_3 which posits that CEO tenure may be related to firm performance.

For ownership structure, we include the percentage of institutional ownership and insider ownership. Since the effect of insider ownership may be curvilinear, we also include a square term. Column 3 shows that both governance mechanisms are positively related to M/B. Furthermore, insider ownership exhibits a positive non-linear relationship. We find that when the proportion of insider ownership is less than 50%, an increase in insider ownership improves firm performance. However, when it is more than 50%, an increase in insider ownership has an opposing effect on firm value. Thus far, our results highlight that ownership structures appear to be the most important governance measures for Chinese ADRs and support hypotheses H_4 and H_5.

Next, we regress firm performance on all the governance measures along with the control variables. Column 4 of Table 4 shows that CEO_DULITY is positively related to

M/B. Our results therefore contradict Bai et al. (2004) and Bhagat and Bolton (2008) who report non-duality firms tend to outperform duality firms. We suspect that such findings may not apply to Chinese ADRs as CEOs of these firms are perhaps well motivated and have superior ability to lead the company as evidenced by their successful cross-border listings. It follows that serving in the capacity of both the CEO and the chairman may be beneficial to firm performance and shareholders. Our results tend to support H_2.

For independent directors (INDEP_PCT), we find that it is no longer influential in the multivariate tests as it was in the earlier analysis, suggesting that other governance measures are relatively more important in determining firm performance. The overall findings are therefore not consistent with H_1.

Following earlier results, institutional and insider ownership remain important in explaining firm performance. The relatively high proportion of institutional ownership (median = 18.34%) and insider ownership (median = 51.22%) for the ADRs suggests that their large presence may improve the effectiveness in monitoring managers and reduce the separation of corporate ownership and control respectively. The results are therefore consistent with Cornett et al. (2007) and McConnell and Servaes (1990) who report similar findings on U.S. firms.

5.2 Principal Component Analysis

For robustness checks, we further analyze the governance measures in a reduced number of independent and non-correlated factors based on principal component analysis. As shown in Table 5, we extract four factors which explain for 83% of the total variance. Factor 1 which accounts for most variance is strongly correlated with INST_PCT and INSIDER_PCT. Consistent with the regression results, it confirms that institutional ownership and insider ownership percentage are the two most important governance determinants for firm performance. Furthermore, the opposite signs in the loadings of INSIDER_PCT and INST_PCT reveal the separate effects of internal and external governance mechanisms respectively. Table 5 also reports that the other three factors in NONEXE_CHAIR, CEO_DUALITY, INDEP_PCT, and CEO_TENURE play an important role in a firm's governance practices. However, only CEO_DUALITY is significant in the regression analysis.

5.3 A Comparison between Chinese ADRs and U.S. Matched Firms

Finally, we examine the difference in the effect of governance mechanisms between

Chinese ADRs and US matched firms, if any. *A priori* would suggest that after complying with the listing and disclosure rules in the U.S., the governance measures which would have affected U.S. matched firms should also apply to Chinese ADRs. To this end, we conduct a Chow test according to equation 2.

As expected, Table 6 shows that there is little difference in the governance effects across different measures between Chinese ADRs and their U.S. counterparts. One exception is the stronger effect of insider ownership on Chinese ADRs than that on the U.S. matched firms. This difference may reflect the institutional background in the Chinese firms where the largest shareholder is the government. As a result, a similar increase in insider ownership for Chinese ADRs tends to have a greater impact on firm performance. Overall, it seems that firms from poorer internal and external governance as in the case of Chinese ADRs may inherit and benefit from the stronger governance environment by cross-listing in the U.S.

6. Conclusion

This paper examines the relationship between corporate governance and firm performance for ADRs from the Greater China region. In particular, we examine the

relationship between firm performance and board structure, CEO characteristics, ownership structure for firms from China, Hong Kong, and Taiwan are listed on the NYSE, AMEX, and NASDAQ. Our investigation yields several specific findings.

First, CEO duality is positively associated with firm performance in the case of Chinese ADRs. While this may not necessarily apply to a typical firm, the CEOs of Chinese ADRs that have been successful in cross listing their shares in the U.S. are likely to be motivated with superior ability. Serving as the chairman may therefore be beneficial to the firm. Second, institutional ownership tends to be the most influential governance factor on the values of Chinese ADRs. Our results suggest that an increase in institutional ownership is likely to improve the monitoring role of the institutional investors. Third, insider ownership appears to be non-linearly related to corporate performance. An increase in insider ownership has a positive impact if the ownership is less than 50% but declines when it is over 50%. Fourth, the effect of insider ownership on firm performance is more pronounced for Chinese ADRs as opposed to their U.S. counterparts. An increase in insider ownership is especially value enhancing for Chinese firms as it tends to correspond with a decline in state ownership.

Our results also suggest that listings under the ADR programs are likely to benefit from

the strengthening in foreign firms' governance as they are subject to stringent regulations and disclosure rules in the U.S. Therefore, besides the benefit of raising external capital, foreign firms may also enhance its corporate reputation through stronger governance by participating in the ADR programs. A caveat however is in order. Governance of ADRs in relation to the regulatory environment at home remains an important feature for firm performance. For Chinese ADRs, insider ownership plays a more influential role in firm performance due to the heavy presence of share ownership by the state.

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Table 1. Summary Statistics of the Sample Firms

This Table presents the summary statistics of Chinese ADRs in the greater China region during 2005-2008. M/B is the stock price per share divided by book value per share. CEO_DUALITY is a dummy variable that equals one when the CEO is also the chairman of the board, and zero otherwise. NONEXE_CHAIR is a dummy variable that equals one when the chairman of the board is not an executive member, and zero otherwise. INDEP_PCT is the percentage of independent directors on the board. CEO_TENURE is the number of years the CEO has held his/her title. INST_PCT is the number of shares held by institutional investors as a percentage of the current total shares outstanding. INSIDER_PCT is the number of shares held by insiders as a percentage of the current total shares outstanding. DEBT_EQUITY is the long-term debt-to-equity ratio; SIZE is the natural log of market capitalization, where the firm's market value is measured in millions of dollars. AGE is the number of years since the company starts (up to 2008). VOLUME is the 52-week average of the volume of shares traded.

Variables	Mean	P25	P50	P75	SD
M/B	3.60	1.42	2.38	4.15	3.85
CEO_DUALITY	0.28	0.00	0.00	1.00	0.45
NONEXE_CHAIR	0.04	0.00	0.00	0.00	0.20
INDEP_PCT	0.20	0.00	0.00	0.38	0.24
CEO_TENURE	2.96	1.00	2.00	4.00	3.28
INST_PCT	18.55	13.97	18.34	23.62	7.96
INSIDER_PCT	50.17	21.58	51.22	74.31	27.76
DEBT_EQUITY	27.29	0.00	2.20	24.45	87.40
AGE	17.04	8.00	11.00	21.00	14.99
VOLUME	0.64	0.05	0.21	0.71	1.42
SIZE	6.61	4.89	6.26	8.22	2.46

Table 2. Sample Comparison between Chinese and U.S. Matched Firms

This table provides sample mean comparisons and t-test values for Chinese ADRs and their matched U.S. firms listed during 2005-2008. ***, **, and * denote significance levels of 1%, 5%, and 10%, respectively.

Variable	Country	Mean	SD	N
M/B	Chinese Firms	3.6	0.27	202
	U.S. Firms	4.3	0.83	222
	Combined	4.0	0.45	424
	Difference	-0.70	0.87	
CEO_DUALITY	Chinese Firms	0.28	0.03	222
	U.S. Firms	0.23	0.03	222
	Combined	0.26	0.02	444
	Difference	0.05*	0.04	
NONEXEC_CHAIR	Chinese Firms	0.04	0.01	222
	U.S. Firms	0.07	0.02	222
	Combined	0.05	0.01	444
	Difference	-0.03*	0.02	
INDEP_PCT	Chinese Firms	0.20	0.02	222
	U.S. Firms	0.04	0.01	222
	Combined	0.12	0.01	444
	Difference	0.15***	0.02	
CEO_TENURE	Chinese Firms	2.96	0.25	177
	U.S. Firms	3.43	0.34	219
	Combined	3.22	0.22	396
	Difference	-0.47*	0.42	
INST_PCT	Chinese Firms	18.55	0.59	183
	U.S. Firms	63.59	1.58	218
	Combined	43.04	1.44	401
	Difference	-45.05***	1.68	
INSIDER_PCT	Chinese Firms	50.17	1.96	201
	U.S. Firms	17.67	1.35	219
	Combined	33.22	1.41	420
	Difference	32.50***	2.38	
DEBT_EQUITY	Chinese Firms	27.29	6.21	198
	U.S. Firms	61.07	12.35	222
	Combined	45.15	7.20	420
	Difference	-33.78***	13.83	
AGE	Chinese Firms	17.04	1.01	222
	U.S. Firms	34.08	1.87	220
	Combined	25.52	1.13	442
	Difference	-17.04***	2.12	
VOLUME	Chinese Firms	0.64	0.10	222
	U.S. Firms	2.85	0.44	222
	Combined	1.74	0.23	444
	Difference	-2.21***	0.45	

Table 3. Cross Correlations of Governance Measures

This table presents the correlation coefficients between the governance measures. The Pearson correlation coefficients are above the diagonal and the Spearman rank correlation coefficients are below the diagonal. ***, **, *, denote significance levels of 1%, 5%, and 10%, respectively.

	CEO_DUALITY	NONEXE_CHAIR	INDEP_PCT	CEO_TENURE	INST_PCT	INSIDER_PCT
CEO_DUALITY		-0.20***	0.02	0.12*	-0.09	0.15**
NONEXE_CHAIR	-0.23***		0.33***	-0.06	0.00	-0.14*
INDEP_PCT	0.06*	0.35***		-0.09	0.06	-0.02
CEO_TENURE	0.11*	0.02	-0.14		0.05	-0.22***
INST_PCT	-0.14**	0.11	0.08	0.08		-0.57***
INSIDER_PCT	0.13*	-0.20**	-0.06	-0.13*	-0.59***	

Table 4. Regressions of Firm Performance on Governance Measures

This Table presents the regressions results of firm performance as proxy by Market-to-Book ratio on governance measures. CEO_DUALITY is a dummy variable that equals one when the CEO is also the chairman of the board, and zero otherwise. NONEXE_CHAIR is a dummy variable that equals one when the chairman of the board is not an executive member, and zero otherwise. INDEP_PCT is the percentage of independent directors on the board; CEO_TENURE is the number of years the CEO has held his/her title. INST_PCT is the number of shares held by institutional investors as a percentage of the current total shares outstanding. INSIDER_PCT is the number of shares held by insiders as a percentage of the current total shares outstanding. $INSIDER\_PCT^2$ is the square of the insider ownership percentage. DEBT_EQUITY is the long-term debt-to-equity ratio; SIZE is the natural log of market capitalization in millions of dollars. AGE is the number of years the company has been in existence (up to 2008); VOLUME is the 52-week average of the volume of shares traded; Country dummies are dummy variables to indicate the country of domicile for the firm. Exchange dummies are stock exchange dummy variables where the stock is traded. ***, **, *, denote significance levels of 1%, 5%, and 10%, respectively. *P*-values are presented in the parentheses.

	(1)	(2)	(3)	(4)
INTERCEPT	-1.76 (0.45)	-0.79 (0.75)	-5.77 (0.01)	-3.54 (0.12)
Board Structure				
CEO_DUALITY	1.06 (0.22)			2.56** (0.02)
NONEXE_CHAIR	1.14 (0.24)			0.37 (0.67)
INDEP_PCT	-2.88* (0.08)			-1.84 (0.34)
CEO Characteristics				
CEO_TENURE		0.05 (0.79)		0.05 (0.80)
Ownership Structure				
INST_PCT			0.08** (0.05)	0.11** (0.04)
INSIDER_PCT			0.11*** (0.01)	0.08* (0.09)
$INSIDER\_PCT^2$			-0.11*** (0.01)	-0.07 (0.11)
Company Characteristics				
DEBT_EQUITY	0.00*** (0.00)	0.01* (0.07)	0.01*** (0.00)	0.01*** (0.00)
SIZE	0.58 (0.16)	0.46* (0.06)	0.60*** (0.00)	0.32* (0.06)
AGE	0.00 (0.92)	-0.02 (0.47)	0.01 (0.46)	-0.01 (0.68)
VOLUME	0.10 (0.56)	0.05 (0.77)	-0.22 (0.23)	-0.19 (0.19)
Country Dummies	Yes	Yes	Yes	Yes

Exchange Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
N	189	154	163	132
Adj. R^2	0.15	0.12	0.18	0.21

Table 5. Factorization of Corporate Governance Variables

This Table presents principal component analysis to factorize governance variables into a reduced number of independent, non-correlated factors. Extraction criterion: eigenvalue > 1. Strong correlations (> 0.6 in absolute value) are reported in bold characters.

Extracted Factors	1	2	3	4
EigenValue	1.69	1.30	1.19	0.80
Variance explained (%)	0.28	0.22	0.20	0.13
Correlation of Initial variables				
CEO_DUALITY	0.21	-0.40	**0.66**	-0.13
NONEXE_CHAIR	-0.03	**0.68**	0.19	0.58
INDEP_PCT	0.23	0.42	**0.61**	-0.30
CEO_TENURE	-0.36	-0.40	0.36	**0.64**
INST_PCT	**-0.62**	0.17	0.10	-0.26
INSIDER_PCT	**0.62**	-0.05	-0.14	0.29

Table 6. Comparison of Corporate Governance Effects on Firm Performance between Chinese and Matched U.S. Firms

This Table presents the Chow test results on the difference in the governance effects between Chinese ADRs and U.S. matched firms. GROUP is a dummy variable that equals to one for Chinese firms and zero otherwise. CEO_DUALITY is a dummy variable that equals one when the CEO is also the chairman of the board, and zero otherwise. NONEXE_CHAIR is a dummy variable that equals one when the chairman of the board is not an executive member, and zero otherwise. INDEP_PCT is the percentage of independent directors on the board; CEO_TENURE is the number of years the CEO has held his/her title. INST_PCT is the number of shares held by institutional investors as a percentage of the current total shares outstanding. INSIDER_PCT is the number of shares held by insiders as a percentage of the current total shares outstanding; $INSIDER\_PCT^2$ is the square of the insider ownership percentage. DEBT_EQUITY is the long-term debt-to-equity ratio; SIZE is the natural log of market capitalization in millions of dollars. AGE is the number of years the company has been in existence (up to 2008); VOLUME is the 52-week average of the volume of shares traded; Exchange dummies are stock exchange dummy variables where the stock is traded. **, *, denote significance levels of 5%, and 10%, respectively. *P*-values are presented in the parentheses.

Variables	Coefficients	P-value
INTERCEPT	2.47	(0.44)
GROUP	-7.25*	(0.06)
Board Structure		
CEO_DUALITY	-0.24	(0.85)
CEO_DUALITY_GROUP	2.78*	(0.10)
NONEXE_CHAIR	-0.05	(0.98)
NONEXE_CHAIR_GROUP	0.36	(0.86)
INDEP_PCT	-2.55	(0.55)
INDEP_PCT_GROUP	1.02	(0.83)
CEO Characteristics		
CEO_TENURE	-0.22	(0.31)
CEO_TENURE_GROUP	0.23	(0.40)
Ownership Structure		
INST_PCT	0.08	(0.92)
INST_PCT_GROUP	0.02	(0.98)
INSIDER_PCT	-0.15	(0.14)
INSIDER_PCT_GROUP	0.21**	(0.05)
$INSIDER\_PCT^2$	0.35*	(0.10)
$INSIDER_PCT^2$_GROUP	-0.40*	(0.06)
Company Characteristics		
DEBT_EQUITY	0.01	(0.50)

DEBT_EQUITY_GROUP	-0.00	(0.97)
SIZE	-0.85	(0.92)
SIZE_GROUP	1.11	(0.90)
AGE	-0.01	(0.51)
AGE_GROUP	0.01	(0.71)
VOLUME	0.20	(0.88)
VOLUME_GROUP	-0.45	(0.72)
Exchange Dummies	Yes	-
Year Dummies	Yes	-
Prob > F	0.14	
N	348	
Adj. R^2	0.06	

Appendix 1

Variables are classified into seven categories: performance measures, board structure, CEO characteristics, ownership structure, company characteristics, country dummies, and stock exchange dummies.

Variable	Definition
Performance Measure	
MARKET-TO-BOOK Value	Price per share of common stock divided by book value per share of common stock, measured in percentage
Board Structure	
CEO_CHAIR_DUALITY	Dummy variable equals one when the CEO is also the chairman of the board, and zero otherwise
NON_EXE_CHAIR	Dummy variable equals one when the chairman of the board is not an executive member, and zero otherwise
INDEP_PCT	The percentage of independent directors in the board
CEO Characteristics	
CEO_TENURE	The number of years the CEO has held his/her title
Ownership Structure	
INST_PCT	The number of shares held by institutional investors as a percentage of the current total shares outstanding
INSIDER_PCT	The number of shares held by insiders as a percentage of the current total shares outstanding
Company Characteristics	
DEBT_EQUITY	Debt to equity ratios, which is long term debt divided by total equity measured in percentage
LN_MKTCAP	The natural log of market cap, where the market cap is measured in millions of U.S. dollars
CO_AGE	The number of years the company has been in existence (up to 2008)
VOLUME	The 52-week average of the volume of shares traded, which is measured in millions of shares
Country Dummies	
CHINA	Dummy variable to indicate which country a firm is from, one is China and zero otherwise

HONGKONG	Dummy variable to indicate which country a firm is from, one is Hong Kong and zero otherwise
TAIWAN	Dummy variable to indicate which country a firm is from, one is Taiwan and zero otherwise
Stock Exchange Dummies	
NYSE	Dummy variable which equals one if a firm's stock is listed on NYSE, and zero otherwise
AMEX	Dummy variable which equals one if a firm's stock is listed on AMEX, and zero otherwise
NASDAQ	Dummy variable which equals one if a firm's stock is listed on NASDAQ, and zero otherwise

國科會補助計畫衍生研發成果推廣資料表

日期:2011/10/30

國科會補助計畫	計畫名稱: 體制差異與體制移轉對公司治理與公司表現的影響
	計畫主持人: 潘李賢
	計畫編號: 99-2410-H-009-024- 學門領域: 財務

無研發成果推廣資料

99 年度專題研究計畫研究成果彙整表

計畫主持人：潘李賢	計畫編號：99-2410-H-009-024-
計畫名稱：體制差異與體制移轉對公司治理與公司表現的影響	

成果項目			量化			單位	備註（質化說明：如數個計畫共同成果、成果列為該期刊之封面故事...等）
			實際已達成數（被接受或已發表）	預期總達成數(含實際已達成數)	本計畫實際貢獻百分比		
國內	論文著作	期刊論文	0	0	100%	篇	
		研究報告/技術報告	0	0	100%		
		研討會論文	0	0	100%		
		專書	0	0	100%		
	專利	申請中件數	0	0	100%	件	
		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力（本國籍）	碩士生	0	0	100%	人次	
		博士生	0	0	100%		
		博士後研究員	0	0	100%		
		專任助理	0	0	100%		
國外	論文著作	期刊論文	0	0	100%	篇	
		研究報告/技術報告	0	0	100%		
		研討會論文	2	2	100%		
		專書	0	0	100%	章/本	
	專利	申請中件數	0	0	100%	件	
		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力（外國籍）	碩士生	0	0	100%	人次	
		博士生	0	0	100%		
		博士後研究員	0	0	100%		
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	成果項目	量化	名稱或內容性質簡述
科教處計畫加填項目	測驗工具(含質性與量性)	0	
	課程/模組	0	
	電腦及網路系統或工具	0	
	教材	0	
	舉辦之活動/競賽	0	
	研討會/工作坊	0	
	電子報、網站	0	
	計畫成果推廣之參與（閱聽）人數	0	

國科會補助專題研究計畫成果報告自評表

請就研究內容與原計畫相符程度、達成預期目標情況、研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）、是否適合在學術期刊發表或申請專利、主要發現或其他有關價值等，作一綜合評估。

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說明：

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ADR Characteristics and Corporate Governance from the Greater China Region

1）發表於 2011/07 Pacific Basin Finance Economics Accounting and Management Conference

2）發表於 2011/06 INFINITI Conference on International Finance

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