CORPORATE GOVERNANCE AND FIRM PERFORMANCE IN HONG KONG

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ABSTRACT

Hong Kong has adopted updated corporate governance (CG) rules and code of best practices in year 2005. This study aims to review and analyze if CG practices of a firm in Hong Kong have any influence on its performance as a result of these updated adoptions. This study re-examines the issue by first developing a conceptual framework and then by calculating comprehensive corporate governance index (CGI) based on the updated CG rules. The main findings are CGI, three CGI sub-indexes (namely Rights of shareholders, Disclosure and transparency, and Board responsibilities and composition), and transparent disclosure have a significantly positive relationship with firm performance. The findings suggest that companies should spend more resources to improve those three specific CGI sub-indexes, so that the public can rely on the disclosed information to make better decisions. Besides, international investors and regulators can make reference to the results of this study. This study shows that these sample firms that also listed as American Depositary Receipts in the U.S. have significant and positive relationship with rights of shareholders.

Keywords*: Corporate governance; Firm performance; Corporate Governance Index*

JEL Classification Code: *G10, G30, G34*

I. INTRODUCTION

The downfall of several giant corporations around the world in the last twenty years has resulted in corporate governance becoming a very widely discussed topic. The focus is on better comprehension of the relationship between corporate governance and firm performance as well as identification of ways to ensure effective running of a corporation. It is a common belief or an expectation of the public that good corporate governance can lead to better firm performance. Good corporate governance is not only necessary for achieving satisfactory operating performance of firms to fulfill investors' expectation, but also protecting the interests of minority shareholders. More importantly, the impact can also be very huge when a company fails as a result of lack of good corporate governance.

The collapse of Enron Corporation led to questions about the need for reexamination of the existing corporate governance practices to avoid for another Enron-style mess in the future. One of the key reasons for the happening or quickening of effects of the 1997 Asian financial crisis is related to the inadequacy or improper functioning of many firms' corporate governance process, where many of them heavily rely on banks for financing and have a high level of their shares owned by family members and corporate groups (Suto, 2003).

Hong Kong is a special place which had elements of both developed and developing economies. On the developed side, Hong Kong has a well-developed legal system and financial market infrastructure. For legal aspect, Hong Kong has the heritage of an independent and effective judicial system. Lemmon and Lins (2003) found that Hong Kong had a high rule of law score in East Asia. Klapper and Love (2004) found that Hong Kong had very high legal and judicial efficiency levels among 14 emerging markets. For financial markets, Hong Kong is one of the advanced markets in Asia with frequent and large international capital raising and initial public offering (IPO) activities, examples being United Company RUSAL Limited and China Construction Bank Corporation (CCB). Industrial and Commercial Bank of China (ICBC) was listed on both the Hong Kong Stock Exchange (HKEX) and Shanghai Stock Exchange in the year 2006 with the largest IPO in the world history at that time. ICBC became the largest bank in the world from year 2011 (Banksdaily, 2011; Forbes, 2013). Also, Hong Kong accounting rules are harmonized with international standards. Moreover, some Chinese firms listed in Hong Kong also have shares listed and traded in other countries with different legal systems, such as H shares, Red-chip shares and American depositary receipts (ADRs). The H share firms are incorporated in mainland China and listed on HKEX. Red-chip share firms are incorporated and listed in Hong Kong. Both H shares and Red-chip shares are controlled by the state, provincial, or municipal owned organisations in mainland China. Mainland China and Hong Kong are subject to different legal systems. Moreover, the ADRs are traded, outside of Hong Kong, on the United States (U.S.) stock exchanges.

According to the World Bank (2015), Mainland China has become the second largest economy in the world in recent years with over 1.3 billion population. It is playing an increasingly significant role and has growing impact on the world's economy. However, Mainland China is still relatively smaller compared to advanced

countries in terms of per capita income. Mainland China is at the stage of a developing country and yet to complete its market reforms. Hong Kong continues to act as a major financial gateway/platform for Mainland China. H shares and Red-chip shares which are listed on the HKEX have adopted listing rules of Hong Kong. Many very large firms are listed in Hong Kong since early 2000. Later, ICBC and CCB have contributed very large market capitalization IPOs in Hong Kong. These firms' sales revenue and profits are reflected in their respective stock prices. If international investors, businessmen, and scholars want to understand the business, stock market and corporate governance of Mainland China, it is obviously beneficial to them to understand those in Hong Kong first. Lee and Rui (2000) found that the U.S. and Hong Kong are the two crucial international trading partners of Mainland China. Besides, the U.S. and Hong Kong are the top two direct investors in Mainland China. The HKEX has been an important channel to attract foreign funds to firms in Mainland China.

On the developing side, most Hong Kong listed firms are family controlled, such as property firms. Also, the chief executive officer (CEO) and chairman is the same person in many Hong Kong listed firms. The inside directors or management have substantial control of the firms. They may expropriate the interests of minority shareholders. Therefore, Hong Kong is a place worth studying. HKEX has also updated Hong Kong's corporate governance rules and code of best practices in year 2005. Good corporate governance can help a firm's management to improve efficiency and effectiveness. Therefore, it can be a key element to have positive impacts on performance.

The objectives of this study are to find out: 1) whether corporate governance practices have a positive correlation with firm performance (Tobin's Q (TQ) and return on equity); and 2) whether any corporate governance elements have significant correlation with firm performance. A positive relationship between corporate governance and firm performance will support good corporate governance can help a company's management to improve efficiency and effectiveness. In this study, 154 largest listed firms with higher market capitalization in Hong Kong are examined. They account for 98% (i.e. HK$5,948,986 million) of the total value of constituent stocks of Hang Seng Hong Kong Composite Index (HSHKCI), almost 80% of the Hong Kong stock market turnover, and over 70% of total net sales and total assets.

This paper is organized as follows. Section 2 provides the literature review of relevant concepts and variables. Section 3 provides the research questions, describes the research method, measures, data collection and data analysis techniques. Section 4 presents and discusses the research findings and analysis. Section 5 concludes the paper.

II. LITERATURE REVIEW

Shareholders expected managements to run the firm in a way that maximized the value for them, but managements might wish to grow the firm in a way that maximized their personal power and wealth which was

not in the best interests of shareholders (Jensen and Meckling 1976). Elgar (2007) found that owner managers benefited not only from the salary but as a shareholders, they were also rewarded for good performance through capital appreciation or dividend payments. Ho (2005) selected five dimensions on the basis of Organisation for Economic Co-operation and Development (OECD) Principles of Corporate Governance to evaluate good corporate governance. He found the higher conformance is to good corporate governance practices, the stronger is the firm's competitiveness.

Essential elements of good corporate governance cover board structure, ownership structure, audit quality, and disclosure. Characteristics of the board include the degree of independence, size, and CEO duality. The boards play an important monitoring role. John (1998) stated that the board's degree of independence was commonly regarded as closely connected with the board composition. Staikouras, Staikouras and Agoraki (2007) stated that the board composition (based on proportion of non-executive directors on the board) was positively and significantly related to European banks' performance when measuring by Tobin's Q while insignificant when using return on equity (ROE). Moreover, Khan and Awan (2012) concluded that a firm with an **independent board composition** showed greater firm performance of 91 listed Pakistani firms based on Tobin's Q, ROE and return on assets (ROA). Garg (2007) suggested that the natural logarithm of board size and firm performance had a negative relationship. Pathan, Skully and Wickramanayake (2007) found that a significant negative correlation between the **natural logarithm of board size** of Thai banks and their ROE performance. CEO duality is the situation where a CEO also takes up the position of chairman of a firm and has the authority to affect the decision of the board of the firm. Faleye (2007) found a significant positive correlation in the U.S. between **CEO duality** and firm performance (Tobin's Q). The model of Belkhir (2009) for bank holding firms and savings-and-loan holding firms illustrated positive but insignificant association between CEO-chairman duality and firm performance (Tobin's Q and ROA).

Rehman and Mangla (2012) found that **ownership concentration**, defined as percentage of shares held by the top five shareholders, had negative and insignificant correlation with financial performance of Pakistani banks, based on ROE and ROA. Claessens, Djankov and Lang (2000) found that a few families concentrated the wealth for most developing East Asian countries. Wealth concentration had negative effects on the development of other institutional and legal framework for corporate governance. Starting from Jensen and Meckling (1976), researchers began emphasizing the influence of **managerial ownership** on corporate performance. Chiang (2005) illustrated that the proportion of shareholdings of the board of directors had a significantly positive relationship with ROE, indicating that the conflict between management and the goals of the firm was decreased by increasing management shareholdings. Bhagat and Black (2002) found that outside directors' ownership was insignificantly and positively associated with market-adjusted returns for large United States public firms.

Brown and Caylor (2009) identified some governance rules related to boards and auditors that were positively and significantly associated with firm performance (ROA and ROE). Besides the existence of an audit committee, recent studies also emphasized audit quality, which was a new concept used in some recent studies

and defined as audit fee over sales. According to Hutchinson and Zain (2009), firms with higher internal **audit quality** had higher growth opportunities in terms of ROA and ROE. Rahmat, Iskandar and Saleh (2009) reported that audit quality of a firm had significant correlation with financial distress of firms. Klein (1998) found that an increase in the proportion of outside directors on the board might not benefit the firm, and it might be worth reconsidering **nomination** procedures for board members' selection and the composition of board committees. Cotter and Silvester (2003) claimed that committees were established in firms as a mechanism to enhance the use of board directors' time in an efficient manner as the time of the directors, in particular the non-executive ones, was limited. Thus it enabled the board to run effectively.

Most previous literatures had used the **natural logarithm of total assets** to measure firm size. Belkhir (2009) and Hsu (2010) illustrated a significantly negative correlation between natural logarithm of total assets and firm performance measured by Tobin's Q in the U.S. Mahmood and Abbas (2011) found positive and significant relationship between **leverage** ratio and ROE. Black, Jang, and Kim (2006) used **ADRs** as a control variable and found there was a negative but insignificant relationship with firm performance (Tobin's Q and Market-to-book ratio). Cheung et al. (2007) studied 168 Hong Kong listed firms in year 2004. They found that H-share firms (Hang Seng China Enterprise Index) had the lowest corporate governance index scores among four Hong Kong stock market indices. They also found there was a negative but insignificant relationship between **H-shares/Red-chips** and firm performance (Market-to-book ratio and ROE).

Chiang (2005) illustrated that financial **transparency** and information disclosure had significantly positive relationship with firm performance (ROE). Bhagat and Bolton (2008) found a positive relationship between corporate governance indices and better current and subsequent operating performance. Chhaochharia and Laeven (2009) found a positive relationship between the adoption of corporate governance and firm valuation. Black et al. (2006) based on firms publicly listed on Korea Stock Exchange found a likely causal relationship between an overall governance index and higher share prices in emerging markets. Cheung et al. (2007) found that investors tended to value the same assets much more highly for firms with better corporate governance practices and cost of raising capital went down for such listed firms in Hong Kong. Chalevas and Tzovas (2010) found that the mandatory corporate governance mechanisms decreased firms' weighted average cost of capital and increased their financial leverage. Hassan Al-Tamimi (2012) found that there was a significant positive relationship between CG practices of United Arab Emirates national banks and disclosure and transparency, shareholders' interests, stakeholders' interests, and the role of the board of directors. Florackis and Palotás (2012) found that there was modest relationship between corporate governance and firm performance by using a set of UK-listed firms.

Cheung et al. (2007) and Hong Kong Institute of Directors (2009) used OECD principles of corporate governance to build a corporate governance index. Both of them studied the relationship between corporate governance and firm performance of Hong Kong firms. They found there was significant and positive relationship between corporate governance and firm performance. Lemmon and Lins (2003) found Hong Kong

had a high rule of law score in 8 East Asian countries. Similarly, Klapper and Love (2004) found Hong Kong had very high legal and judicial efficiency levels among 14 emerging markets.

First, based on the above literature review, the findings vary, i.e. they do not converge. This may be due to the proxies for constructed corporate governance indexes not being comprehensive. Empirical studies of the relationship between corporate governance and firm market value are still not adequate. Gompers et al. (2003) and Brown and Caylor (2009) studied this topic for U.S. firms, whereas Lemmon and Lins (2003), Klapper and Love (2004), Black et al. (2006), and Cheung et al. (2007) covered non-US firms. A further study on Hong Kong market can provide more empirical evidence on the topic. Second, Gompers et al. (2003), Klapper and Love (2004), Black et al. (2006), Cheung et al. (2007), and Brown and Caylor (2009) had used different proxies to construct a corporate governance index. However, the studies can be further developed with more detailed construction of the corporate governance index. Furthermore, some new variables can be added, such as the natural logarithm of number of directors in the board, percentage of outside directors in the board (POUTBoard), directors' interests (DI), and audit fee over sales ratio. These variables are measured in percentage or are ratios, so that more meaningful relative figures can be obtained. These will be much helpful for analysis. This study is expected to fill the gap of the relationship between good corporate governance, board structure, ownership structure, audit quality, disclosure and firm performance.

III. RESEARCH METHOD AND DATA COLLECTION

Research method

Correlation analysis is first used in identifying the preliminary relationships among variables while multiple regression analysis will then be employed to confirm whether the relationships are valid once other control variables are taking into account. Since dependent variables (i.e. Tobin's Q, ROE, and natural logarithm of market-to-book ratio (Ln(MTB)) are affected by several factors, several independent variables (i.e. Corporate Governance Index (CGI[1]), board, ownership concentration, and audit quality) are investigated. Moreover, regression models on five corporate governance sub-indices instead of CGI and other independent variables will be examined. Furthermore, sub-indices for disclosure and non-disclosure items instead of CGI and other independent variables will also be studied.

For supplementary checks of possible bias, 1) natural logarithm of market-to-book ratio is used as the independent variable instead of Tobin's Q. This regression model is run to see if similar results are obtained.

This paper hopes to report two findings. First, does any significant correlation between good corporate governance and firm performance exist? Second, whether some specific corporate governance factors would

[1] Details of the CGI questionnaire are available upon request.

affect firm performance more than others.

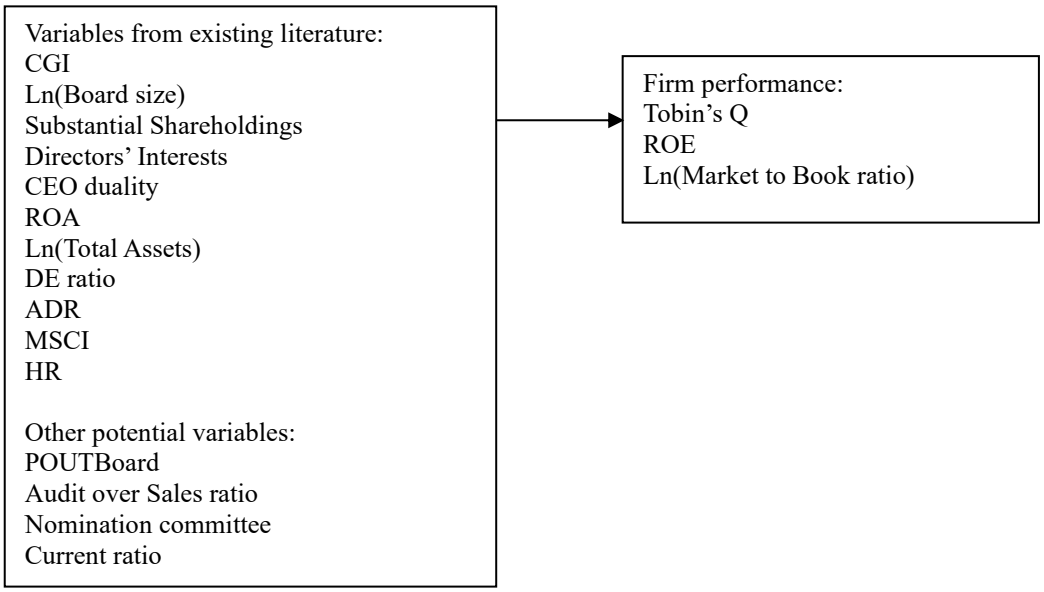
The explanatory variables used in this study are CGI, POUTBoard, Ln(Board size), substantial shareholdings, directors' interests, CEO duality, and audit quality. The CGI is derived from a composite of revised OECD guidelines from Cheung et al. (2007). The most popular reference to corporate governance is the OECD principles of corporate governance published in year 2004. The principles have five sections (CGI_A, CGI_B, CGI_C, CGI_D, and CGI_E): the rights of shareholders and key ownership functions, the equitable treatment of shareholders, the role of shareholders in corporate governance, disclosure and transparency, and the responsibilities of the board (OECD, 2004). The CGI reviews some key issues of a firm: 1) the disclosures of the remuneration of the board; 2) the board attendance of last annual general meeting; 3) the adequacy of communication with shareholders; 4) the related-party transactions involved; 5) the disclosures of the safety and welfare of a firm's employees; 6) the level of transparency of the ownership structure; 7) the quality of annual report and audit committee report, and 8) the appointment and involvement of independent directors. Ho (2005) used these OECD principles as the basis to study corporate governance and corporate competitiveness for international firms. Each section determines 20% of the total score, so the total score is evenly divided into five sections. Based on the updated set, zero mark is given when the annual report does not compile the composite guidelines requirements. One mark is given when the annual report compiles the guideline requirement. Then, each firm is assigned a score on the corporate governance index. POUTBoard is the percentage of the number of outside directors on the board (i.e. independent non-executive directors and non-executive directors). Ln(Board size) (Ln(BS)) is the natural logarithm of total number of directors in the board. Substantial shareholdings (%SShare) is measured by the percentage of outstanding shares of the five largest shareholders. Directors' interests (%DirInterest) is the directors' shareholdings in the firm. Audit quality (Audit_Sales ratio) is the audit fee divided by sales amount. Since audit committee and remuneration committee already exist in Hong Kong, these are not studied further. CEO Duality variable equals to 1 if the chief executive officer is also the chairman of the board and 0 otherwise.

The dependent variables are Tobin's Q, return on equity, and Ln(MTB). Tobin's Q is proxy of firm (market) performance. It is better than accounting ratios (i.e. ROE or ROA) because it is based on market value, not just accounting earnings and avoids earnings manipulations. Tobin's Q is the ratio of market value of the firm to the replacement value of its assets (Black et al., 2006; Belkhir, 2009). Tobin's Q is a more appropriate measure of firm value because it integrates capital market data with accounting data (Elbannan, 2011). Return on equity (ROE) is the net income divided by book value of equity. It measures the firm (accounting) performance.

Moreover, there are control variables, such as ROA, firm size, leverage and current ratio. ROA is net income divided by assets. Firm size is the natural logarithm of total assets. Leverage is total debt (long term debt plus short term debt) divided by common equity. Current ratio is current assets divided by current liabilities. Furthermore, there are some dummy variables - Dummy NC, Dummy MSCI, Dummy ADR, and Dummy HR. Dummy NC equals to 1 if a firm has a nomination committee (NC), 0 otherwise. Dummy ADR equals to 1 if a

firm has American Depositary Receipts (ADR) trading in the U.S., 0 otherwise. Dummy MSCI equals to 1 if a firm is included in the Morgan Stanley Capital International (MSCI) index, 0 otherwise. Dummy HR share equals to 1 if a firm is either a H share or Red-chip share, 0 otherwise. The dummy HR is extracted from Hang Seng Indexes Company Limited website. A summary of definitions of all variables are shown in the appendix.

A conceptual framework and key variables are listed below:



The regression models are constructed as follow:

Tobin's Q = alpha + β1 * CGI + β2 * POUTBoard + β3 * Ln(Board size) + β4 * Substantial Shareholdings + β5 * Directors' Interests + β6 * Audit over Sales ratio + β7 * CEO duality + β8 * ROA+ β9 * Ln(Total assets) + β10 * DE ratio + β11 * Current ratio + β12 * Dummy Nomination committee + β13 * Dummy ADR + β14 * Dummy MSCI + β15 * Dummy HR

Ln(MTB) = alpha + β1 * CGI + β2 * POUTBoard + β3 * Ln(Board size) + β4 * Substantial Shareholdings + β5 * Directors' Interests + β6 * Audit over Sales ratio + β7 * CEO duality + β8 * ROA+ β9 * Ln(Total assets) + β10 * DE ratio + β11 * Current ratio + β12 * Dummy Nomination committee + β13 * Dummy ADR + β14 * Dummy MSCI + β15 * Dummy HR

ROE = alpha + β1 * CGI + β2 * POUTBoard + β3 * Ln(Board size) + β4 * Substantial Shareholdings + β5 * Directors' Interests + β6 * Audit over Sales ratio + β7 * CEO duality + β8 * Ln(Total assets) + β9 * DE ratio + β10 * Current ratio + β11 * Dummy Nomination committee + β12 * Dummy ADR + β13 * Dummy MSCI + β14 * Dummy HR

Data collection

Corporate governance data and some accounting data were collected from corporate governance section of annual reports and websites of listed firms manually. Besides, share prices and accounting data of the firms were extracted from Datastream.

The sample firms selected comprises constituents of the two major HKEX indices: Hang Seng Index (HSI) and Hang Seng Hong Kong Composite Index (HSHKCI). The HSI is one of the earliest stock market indexes in Hong Kong. The HSI, publicly launched on 24 November 1969, has become the most widely quoted indicator of the performance of the Hong Kong stock market. It had 42 constituent stocks, which covered the top 90% of the total market value of all shares listed on the HKEX in 2009. The HSHKCI measures the performance of firms whose sales revenue is derived from Hong Kong, mainland China, and other parts of the world. It includes all HSI constituent stocks and the largest Hong Kong firms (Hang Seng Indexes Company Limited, 2009). Major new rules were effective and recommended by HKEX in year 2005. Data will be extracted from firms which had financial years ending between 31 December 2005 and 31 December 2006 because the new HKEX rules apply from year ended 31 December 2005 onwards. Cheung et al. (2007) used 168 and Hong Kong Institute of Directors (2009) used 146 Hong Kong index constituent firms as sample. In this study, 154 listed firms (33 stocks from HSI and 121 largest stocks from HSHKCI) in Hong Kong are examined. The sample ranges from largest to small firms. Firms with higher market capitalization are selected, accounting for 98% (i.e. HK$5,948,986 million) of the total value of constituent stocks of HSHKCI. They account for almost 80% of the Hong Kong stock market turnover and over 70% of total net sales and total assets. Both the HSI and HSHKCI include the largest H share and Red-chip share firms. Hence, the sample is very representative and their price movement can reflect the price trend or performance of the overall Hong Kong stock market. Accounting variables are yearly values based on each firm's fiscal year.

Most of the data cannot be readily collected, but are collected manually through reading the entire annual report of each sample firm. The manually collected data include the CGI questionnaire, board size, substantial shareholdings, directors' interests, CEO duality, POUTBoard, audit fee over sales ratio, nomination committee, Tobin's Q, and MTB ratio. The difficulty encountered in the process is the time limit. The process itself is time-consuming. First, the answer for each CGI question is obtained from different parts of an annual report. Second, it takes a lot of time for reading the notes at various sub-sections in an annual report when calculating the substantial shareholdings and directors' interests, not only adding the total.

IV. DATA DESCRIPTION AND EMPIRICAL ANALYSIS

For the 154 samples, 7 firms are removed because some of them are delisted after year 2005 and some of them

no longer provide detailed company information publicly. CGI is an important factor and variable for the sample 147 firms listed in Hong Kong that contributes to this research paper. The CGI scores range from a scale 0 to 100. Table 1 presented the descriptive statistics of CGI and the CGI's sub-indices.

Total CGI has a mean score 61.24, maximum score 82.50, and minimum score of 40.00. CGI_D (Disclosure and transparency) obtains the highest mean score of 69.37 out of 100. Its maximum score is 88.00 and minimum score is 50.00. CGI_D has the smallest standard deviation of 7.64 indicating smaller variability in the data. Two other sections have good mean scores. One is CGI_A (Rights of shareholders), which has a mean score of 64.80, maximum score 100.00, and minimum score 25.00. The standard deviation for CGI_A is 17.5. The other good section is CGI_C (Role of stakeholders), which has a mean score of 61.39, maximum score 100.00, and minimum score of 25.00. CGI_C has the largest standard deviation of 24.52 indicating larger variability in the data. The remaining two sections have lower mean scores. CGI_E (Board responsibilities and composition) has a mean score of 58.02, maximum score of 88.00, and minimum score of 38.00. The standard deviation for CGI_E is 9.5. The worst and lowest section is CGI_B (Equitable treatment of shareholders), which has a mean score of 53.32, maximum score of 88.00, and minimum score of 25.00. The standard deviation for CGI_B is 14.62.

Table 2 shows the Spearman (S) and Pearson correlation matrix between three dependent variables (Tobin's Q, ROE and Ln(MTB)) and independent variables. Those with a statistical significance level at the 5% level are bold. The results from Spearman's test are very similar to that of the Pearson's correlations. Further, Tobin's Q is found to be significantly related to CGI, Ln(Board Size), and %DirInterest, among others. In order to examine the joint effect of these independent variables on the firm performance, multiple regression analysis is performed to check the relationships. CGI does not have relationship with dummy variables (Dummy_NC, Dummy_ADR, Dummy_MSCI, and Dummy_HR).

Table 2 also shows that the correlation coefficients among independent variables are less than 0.7 indicating moderately correlated with each other. Besides, the correlation coefficients among five CGI sub-indices are less than 0.7. In other words, the problem of multicollinearity is not significant and hence, all the important variables are included in the regression model. When ROE is the dependent variable, one independent variable (ROA) is removed from the multiple regression because the correlation coefficient is greater than 0.7.

Multiple regression results and analysis

Table 3 shows the regression results for the CGI, control variables and dummy variables. CGI is significantly and positively correlated with all dependent variables (TQ, ROE and Ln(MTB)) in all models. The regression coefficient of CGI on TQ is 0.035 (model 1) which is statistically significant at the 1% level. Better corporate governance structure provides more information to the public in order to establish a positive image. Disclosure is served as one of the monitoring processes to reduce agency costs. Investors tend to value firms with better

corporate governance practice higher. As a result, the cost of raising capital will be decreased for listed firms in Hong Kong. Directors' interests have a positive relationship with firm performance. It is significantly related with ROE (model 2) and Ln(MTB) (model 2), but it is not significantly related with Tobin's Q. Directors have the incentive to ameliorate the corporate governance mechanism of a firm. Having a meaningful stock ownership helps capture their attention, alertness and time of independent directors and motivates them to be watchful to the firm's performance.

ROA is significantly and positively related with TQ and Ln(MTB) at the 5% level. Investors value firm's profitability for Hong Kong listed firms. Firm size (Ln(TA)) is significantly and negatively related with TQ and Ln(MTB) at the 5% level. It is because diseconomies of scale exist (Belkhir, 2009). MSCI constituent stock is significantly and positively related with TQ the 1% level. It is because MSCI usually selects good firm performance firms as constituents.

For other variables considered together, the result in term of sign remains the same for variables such as Ln(Board size), substantial shareholders, audit fee over sales ratio, CEO duality, current ratio, debt-to-equity ratio, nomination committee, ADR listed, and H/Red-chip share. However, the significance levels of a few explanatory variables change from significant to insignificant, such as Ln(Board size), substantial shareholders, directors' interests. That means these variables cannot greatly affect Tobin's Q when all variables are considered together.

Natural logarithm of total number of directors in the board has a negative but not significant relationship with firm performance. A board with a smaller number of directors is more effective in executing the corporate governance role and enables firms to limit the board size in order to enhance the effectiveness in functioning roles. The percentage of outside directors is positively but not significantly correlated with TQ and ROE (model 2). Most of the sample firms follow the recommended best practice of having at least one-third of the board consisting of independent non-executives. It helps effective working of the board and fair monitoring. Substantial shareholdings have a negative but not significant relationship with firm performance. Ownership concentration has negative effects on the development of other institutional and legal frameworks for corporate governance (Claessens et al., 2000). Audit quality has a positive but not significant relationship with firm performance. Investors view management as willing to invest resources to hire auditors to provide good advisory services and then they have more confidence in these firms' shares. Therefore, overall firm performance is improved. CEO duality has a positive but not significant relationship with firm performance. It is more likely that the posts of CEO and chairman are combined in a complex firm, since the benefits of having different individuals undertaking the role of CEO and chairman are likely outweighed by the cost incurred for sharing of information between CEO and chairman and the lack of flexibility for CEO to make decisions (Faleye, 2007). Current ratio, a common control variable for measuring liquidity, has a positive but not significant relationship with firm performance. The better a firm's financial position, the better the firm performance. Debt to equity ratio, a common control variable for measuring leverage, has a positive relationship

with firm performance (significantly related to Ln(MTB) but not significantly related to Tobin's Q). Corporate governance practices affect a firm's access to credit. As the ability of accessing credit is higher, the firm performance is better. Having a nomination committee has a positive but not significant relationship with firm performance (TQ and Ln(MTB), but significantly related to ROE). Board committees take up the governance and oversight role (Liu and Fong, 2010). As a firm is monitored closely and is run more effectively, firm performance will be better. Having outstanding American depositary receipts, a control variable, does not have a relationship with firm performance. Being included in the MSCI index, the main international stock index covering Hong Kong, it is a proxy for price pressure because of purchases by index funds, more liquidity, and foreign investor interest. It has a positive and significant relationship with Tobin's Q. Having issued either H shares or Red-chip shares, a control variable, has a negative relationship with firm performance. It is significantly related to ROE and Ln(MTB), but it is not significantly related to Tobin's Q. Since some firms just have listed H share or R-chip shares in Hong Kong for two to five years in year 2005, the Tobin's Q of these firms is low before the asset injection from mainland China between year 2005 and year 2006.

Multiple regression results for five CGI sub-indices

Table 4 shows the regression results for TQ, ROE, and Ln(MTB) as dependent variables with other independent variables when CGI is divided into five sub-indices based on OECD Principles for analysis. Rights of shareholders sub-index measures whether shareholders can get relevant and material information of firms on a timely and regular basis. The higher the score, the more shareholder rights are protected. Equitable treatment of shareholders sub-index examines whether all shareholders, including minority and foreign shareholders, are treated equitably. Role of stakeholders sub-index checks whether firms recognize the rights of stakeholders set by law or through mutual agreements. Stakeholders include employees, creditors, and shareholders, etc. Disclosure and transparency sub-index tests whether firms have timely and accurate disclosure on all material matters related to the firm. Firms providing better quality information to investors will help reducing information asymmetry issues and agency problems. Responsibilities of the board sub-index checks whether firms have ensured the effective monitoring and accountability of the board to the firms.

Three sub-indices are significantly and positively related to Tobin's Q. The coefficients of Rights of shareholders are 0.014 (model 1) and 0.012 (model 2), which are significant at the 1% level. Those of Disclosure and transparency on TQ are 0.019 (model 2) and those on ROE are 0.355 (model 1) and 0.386 (model 2), which are statistically significant at the 1% level. The coefficients of Board responsibilities and composition on TQ are 0.019 (models 1) and 0.016 (model 2) and those on Ln(MTB) are 0.051 (model 1) and 0.045 (model 2), which are statistically significant at the 1% level.

Further, Role of stakeholders sub-index is significantly and positively related to ROE at the 1% level. Overall results show that each of the sub-indices is an important aspect of corporate governance practices and all weigh the same in terms of the level of importance. Three other variables (ROA, Ln(Total assets) and MSCI)) remain

the same sign and significance level as in Table 3. All other variables remain the same sign and insignificant results except Ln(BS) changes from insignificantly negative (Table 3) to insignificantly positive (Table 4).

To isolate the effect of each sub-index on firm performance, one sub-index at a time in one regression model is run. Same significant levels are resulted for CGI_A, CG_B, CGI_C, and CGI_E. CGI_D has same significant level when regression is run without dummy variables. However, CGI_D is significantly related at 5% level with same sign when regression is run with dummy variables. To further investigate this, the CGI is separated into transparency index (TI) and Non-transparency index (Non-TI) based on the CGI questions to measure the extent of transparency and disclosure.

Multiple regression results for Transparency index

Table 5 shows regression results for TQ, ROE, and Ln(MTB) with TI, Non-TI, and other independent variables.

Transparency index is positively correlated with all dependent variables (TQ, ROE and Ln(MTB)) in all models. However, only those coefficients of TI on TQ (0.026) and ROE (0.353 – 0.399) are statistically significant at the 1% level. Financial transparency and information disclosure have a significantly positive relationship with firm performance, which is in alignment with the signaling theory that firms with better corporate governance structure provide more information to the public in order to establish a positive image (Chiang (2005). Moreover, in order to maintain international standards, most international firms in Asia (including Hong Kong) conform to good corporate governance practices (Ho, 2005).

Non-transparency index is also positively associated with TQ, ROE, and Ln(MTB) in all models. However, only those coefficients of non-TI on Ln(MTB), which are around 0.04, are statistically significant at the 1% level. Overall results show that both sub-indices are important aspect of corporate governance practices depending on what measure we use for firm performance.

Robustness test

As endogeneity can be a potential problem in affecting the interpretation of our results**,** in order to check the robustness of the findings, Dummy_Ln(TA), a dummy variable, at 24.5 (around $43.67 billion, 1 for large firms; 0 for small firms) is used as an instrument for CGI. A problem with this instrument is that firm size can directly influence Tobin's Q. To tackle this issue, regression discontinuity analysis is used. It was adopted from Black (2006). This analysis employs a smooth parametric form to get the direct influence of firm size on Tobin's Q. Dummy_Ln(TA) obtains the discontinuous influence of size on governance at $43.67 billion because the regression line changes at that point. Ln(TA) is used as a simple parametric form for firm size, which hopefully gets the direct relationship between firm size and Tobin's Q.

Table 6 shows the correlation results of instrumental variable. The coefficient between Dummy_Ln(TA) and CG is statistically significant (r = -0.3). While the correlation coefficient between Dummy_Ln(TA) and residual is zero and insignificant. Thus, the Dummy_Ln(TA) is a valid instrumental variable. Then, the Durbin-Wu-Hausman test uses a two-stage least squares regression to check whether CGI is endogenous. Table 7 shows the two-stage regression results. In the first stage, CGI is regressed on Dummy_Ln(TA) and other control variables (assumed to be exogenous). Since the VIF of current ratio is the largest (VIF = 1.033) and significantly related with CGI, current ratio is removed in the first stage regression to avoid multicollinearity. In the second stage, Tobin's Q is regressed on CGI, control variables, and the first-stage residual term. A significant coefficient on the first-stage residual is evidence of endogeneity. The coefficient of residuals is insignificant (r = 0.092). The Durbin-Wu-Hausman test does not reject the null hypothesis of no endogeneity. The second-stage coefficient on instrumented CGI is significantly positive (r = 0.035). The inference from this result is that endogeneity is probably not important.

V. CONCLUSIONS

The objectives of this study are to examine: 1) whether corporate governance practices have a positive relationship with firm performance; and 2) whether any corporate governance elements have significant correlation with firm performance. This study shows both corporate governance (i.e. CGI) and disclosures (i.e. TI) have a significantly positive relationship with firm performance after including extensive control variables. In particular, this study has performed sub-index analysis and finds that Rights of shareholders (CGI_A) and Board responsibilities and composition (CGI_E) have significant relationships with firm performance. CGI_A sub-index reflects the firm's effort in presenting the remuneration of the board and in offering shareholders' other ownership rights beyond voting such as dividend. CGI_E sub-index reflects the firm's effort in enhancing the quality of audit committee reports, the provision of an option scheme which incentivizes top management, and the appointment and involvement of independent directors. Our results show that investors concern these areas as they are related to firm performance. Therefore, firms should spend more resources to improve three specific CGI sub-indexes, namely Rights of shareholders (CGI_A), Disclosure and transparency (CGI_D), and Board responsibilities and composition (CGI_E), so that the public can rely on the disclosed information to make better decisions. This correlation is robust across different measures of CG, CGI, five CGI sub-indices, TI and Non-TI sub-indices, and different firm performance measurement.

Forty-eight percent of the sample firms in this study are also listed in the U.S. stock market as ADR. Therefore, international investors and regulators can make reference to the results of this study. This study shows that these sample firms that also listed as ADR have significant and positive relationship with rights of shareholders (CGI_A).

Modification of laws and regulations requiring more transparent disclosure of ownership structure and board structure will enhance the level of transparency. As such, better corporate governance is the result which in

return improves firm performance. They are supported by Chiang (2005). Most Hong Kong listed firms are family controlled. Their willingness to have corporate governance reform will be higher when they see the benefits discussed in this study. It is important for firms to have a set of good corporate governance practices in order to enhance firm performance. Furthermore, in view of globalization of the business world, harmonization of corporate governance codes of different countries is the way forward. This study has evaluated Hong Kong firms' corporate governance performance based on an international set of corporate governance guidelines from OECD. It provides insights and is useful for management of Hong Kong firms to review their corporate governance practices.

Limitations and Recommendations for future studies

Since the CGI scores and most of the variables (board size, percentage of outside directors, substantial shareholdings, directors' interests, audit fee over sales ratio, CEO duality, and nomination committee) are collected manually, it is very time consuming. The data covers only one year period, that is, year ended between 2005 and 2006. The results may have been improved if the sample size was larger and the data were collected for two years period. As time-series data of the samples' corporate governance practices are not collected, no relevant analysis and hence no conclusion can be deduced about the causal relationship between firm performance and corporate governance practices. To solve endogeneity, other than sharp regression discontinuity design which has been used in this study, fuzzy regression discontinuity design will also be used. Moreover, cash levels can be a variable. Lee and Lee (2009) found that firm value was negatively associated with cash levels.

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Table 1: Descriptive statistics of CGI and its sub-indices

	Total CGI	CGI_A Rights of shareholders	CGI_B Equitable treatment of shareholders	CGI_C Role of stakeholders	CGI_D Disclosure and transparency	CGI_E Board responsibilities and composition
Mean	61.24	64.80	53.32	61.39	69.37	58.02
Minimum	40.00	25.00	25.00	25.00	50.00	38.00
Maximum	82.50	100.00	88.00	100.00	88.00	88.00
Std. Dev.	7.61	17.50	14.62	24.52	7.64	9.50
N	147	147	147	147	147	147

This Table shows the descriptive statistics of the CGI and five sub-indices for 147 firms included in the sample year ended between 31 December 2005 and 30 September 2006. The new corporate governance rules are effective after 31 December 2005. The CGI ranges from 0 to 100.

Table 2: Spearman (S) and Pearson correlation matrix

Pearson \ S	Tobin's Q	ROE	Ln(MTB)	CGI	CGI_A	CGI_B	CGI_C	CGI_D	CGI_E	Ln(BS)	POUTBoard	%SShare
Tobin's Q	1	**0.312*****	**0.595*****	**0.227*****	0.022	0.006	**0.196****	**0.261*****	**0.219*****	**-0.184****	-0.111	-0.136
ROE	**0.291*****	1	**0.220*****	**0.235*****	0.080	0.048	0.136	**0.224*****	0.118	-0.116	0.033	-0.114
Ln(MTB)	**0.595*****	**0.169****	1	**0.235*****	0.109	-0.012	0.138*	**0.246*****	**0.272*****	-0.035	-0.158*	-0.118
CGI	**0.372*****	**0.239*****	**0.260*****	1	**0.374*****	**0.367*****	**0.695*****	**0.275*****	**0.570*****	0.028	-0.047	**-0.169****
CGI_A	**0.166****	0.039	0.137*	**0.408*****	1	0.001	**-0.217*****	**0.330*****	0.011	0.144*	-0.025	**-0.176****
CGI_B	0.065	0.037	-0.016	**0.427*****	0.048	1	0.085	**-0.173****	-0.034	0.128	0.050	-0.107
CGI_C	**0.206****	**0.194****	0.128	**0.697*****	**-0.196****	0.081	1	-0.074	**0.494*****	-0.055	0.021	0.039
CGI_D	**0.349*****	**0.256*****	**0.271*****	**0.276*****	**0.241*****	-0.134	-0.023	1	0.074	-0.025	-0.133	**-0.260*****
CGI_E	**0.276*****	0.115	**0.270*****	**0.578*****	0.027	-0.022	**0.472*****	0.113	1	-0.133	-0.094	0.019
Ln(BS)	**-0.230*****	-0.102	-0.053	0.029	0.134	0.140*	-0.070	-0.059	-0.123	1	-0.080	-0.011
POUTBoard	-0.048	0.020	-0.136	-0.018	-0.022	0.029	0.041	-0.147*	-0.066	-0.067	1	-0.024
%SShare	-0.158*	-0.125	-0.132	**-0.205****	**-0.180****	-0.136	-0.014	**-0.314*****	0.008	-0.040	-0.072	1
%DirInterest	**0.206****	**0.200****	**0.329*****	-0.055	-0.152*	0.066	-0.052	0.141*	-0.018	-0.161*	**-0.168****	0.033
Audit_Sales	0.096	0.011	**0.201****	-0.030	-0.028	0.031	-0.102	0.101	0.072	0.031	-0.081	-0.025
CEO Duality	0.101	-0.012	0.039	**0.171****	**0.197****	0.083	0.004	0.129	0.078	-0.144*	-0.095	-0.013
ROA	**0.481*****	**0.784*****	**0.246*****	**0.181****	0.009	0.063	0.126	**0.242*****	0.089	**-0.250*****	-0.088	-0.058
Ln(TA)	**-0.493*****	-0.075	**-0.215*****	**-0.209****	**0.186****	-0.118	**-0.244*****	**-0.181****	**-0.223*****	**0.474*****	**0.168****	0.023
CR	**0.193****	-0.096	0.143*	-0.095	0.038	0.049	**-0.198****	0.065	-0.065	-0.073	-0.123	-0.145*
DE ratio	-0.033	-0.045	**0.420*****	0.060	0.058	-0.071	0.056	0.151*	-0.026	0.024	0.009	-0.055
Dummy_NC	0.087	**0.239*****	-0.075	0.104	0.101	-0.128	0.129	0.081	0.026	0.023	0.139*	-0.114
Dummy_ADR	-0.147*	0.040	-0.126	-0.053	**0.167****	0.017	-0.152*	-0.007	-0.155*	**0.167****	0.077	-0.045
Dummy_MSCI	**0.222*****	0.138	**0.244*****	-0.045	0.078	-0.073	-0.100	**0.200****	-0.118	0.152	**0.173****	**-0.181****
Dummy_HR	**-0.243*****	**-0.249*****	**-0.387*****	0.003	0.074	0.045	-0.002	**-0.189****	-0.038	0.038	-0.045	0.096

The upper part of the shaded area of the above Table shows the results of Spearman's test; the bottom part of the shaded area shows the results of Pearson's test. ***, **, * represent significance at the 1%, 5%, and 10% level (2-tailed) respectively. Significant correlations (at 5% level or better) are **bold**. N=147.

Table 2: Spearman (S) and Pearson correlations (Continued)

Pearson \ S	%DirInterest	Audit_Sales	CEO Duality	ROA	Ln(TA)	CR	DE ratio	Dummy_NC	Dummy_ADR	Dummy_MSCI	Dummy_HR
Tobin's Q	**0.388*****	0.061	0.092	**0.461*****	**-0.582*****	**0.331*****	-0.009	0.110	-0.069	**0.215*****	**-0.291*****
ROE	**0.173****	-0.091	0.038	**0.790*****	-0.062	-0.031	-0.011	**0.169****	0.011	**0.168****	**-0.233*****
Ln(MTB)	**0.443*****	0.155*	0.040	**0.244*****	**-0.219*****	**0.201****	**0.514*****	-0.041	-0.102	**0.243*****	**-0.362*****
CGI	-0.002	-0.061	**0.189****	0.125	**-0.267*****	0.028	0.036	0.085	-0.061	-0.078	0.009
CGI_A	-0.119	-0.024	**0.205****	-0.009	**0.195****	0.017	0.033	0.114	**0.172****	0.098	0.066
CGI_B	0.023	0.004	0.066	0.081	-0.117	0.108	-0.057	-0.139*	0.025	-0.060	0.038
CGI_C	-0.043	-0.141*	0.014	0.065	**-0.333*****	-0.064	0.016	0.131	-0.155*	-0.104	0.001
CGI_D	**0.194****	0.162*	0.149*	**0.166****	-0.096	0.082	0.086	0.094	0.020	**0.170****	-0.159*
CGI_E	0.106	0.090	0.084	0.035	**-0.307*****	0.028	0.028	0.014	**-0.176****	-0.144*	-0.068
Ln(BS)	**-0.174****	-0.018	-0.153*	**-0.219*****	**0.454*****	-0.162*	0.160*	0.029	0.161*	0.154*	0.042
POUTBoard	**-0.168****	-0.046	-0.090	-0.088	0.140*	-0.161*	**-0.261*****	0.156*	0.064	**0.172****	-0.059
%SShare	-0.095	-0.050	-0.054	-0.041	0.108	-0.135	-0.009	-0.099	-0.054	**-0.210****	0.079
%DirInterest	1	**0.346*****	-0.038	**0.210****	**-0.304*****	**0.256*****	**0.203****	-0.059	**-0.285*****	0.153*	**-0.672*****
Audit_Sales	**0.278*****	1	-0.153*	0.001	-0.123	0.091	0.077	**-0.248*****	**-0.208****	-0.002	**-0.363*****
CEO Duality	-0.018	-0.062	1	0.010	-0.097	-0.029	0.014	0.105	0.013	-0.038	0.062
ROA	**0.204****	0.029	-0.019	1	**-0.254*****	**0.240*****	-0.134	0.066	-0.022	0.112	-0.191**
Ln(TA)	**-0.246*****	**-0.163****	-0.111	**-0.261*****	1	**-0.329*****	**0.269*****	0.053	**0.309*****	**0.198****	0.171**
CR	**0.288*****	**0.238*****	-0.053	0.091	**-0.187****	1	-0.134	-0.046	-0.084	0.090	-0.146*
DE ratio	**0.164****	0.052	-0.038	-0.086	0.141*	-0.107	1	-0.135	-0.077	-0.001	-0.072
Dummy_NC	-0.055	**-0.245*****	0.105	0.098	0.101	-0.049	-0.084	1	0.136*	0.119	0.079
Dummy_ADR	**-0.277*****	**-0.217*****	0.013	-0.020	**0.291*****	-0.029	-0.060	0.136*	1	**0.246*****	**0.192****
Dummy_MSCI	0.087	-0.042	-0.038	0.109	**0.174****	0.072	0.089	0.119	**0.246*****	1	**-0.411*****
Dummy_HR	**-0.587*****	**-0.270*****	0.062	**-0.179****	**0.162****	**-0.188****	-0.078	0.079	**0.192****	**-0.411*****	1

The upper part of the shaded area of the above Table shows the results of Spearman's test; the bottom part of the shaded area shows the results of Pearson's test. ***, **, * represent significance at the 1%, 5%, 10% level (2-tailed) respectively. Significant correlations (at 5% level or better) are **bold**. N=147.

Table 3: Regression results for TQ, ROE, and Ln(MTB) with CGI and other independent variables

	TQ as dependent variable			ROE as dependent variable			Ln(MTB) as dependent variable		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
CGI	**0.035*** **	**0.033*** **	**0.053*** **	**0.385*** **	**0.449*** **	**0.428*** **	**0.043*** **	**0.045*** **	**0.063*** **
	(3.986)	**(3.616)**	**(4.832)**	**(2.814)**	**(3.169)**	**(2.961)**	**(2.623)**	**(2.634)**	**(3.242)**
Ln(Board Size)	-0.011	0.024		-0.104	-0.077		0.073	0.100	
	(-0.158)	(0.329)		(-1.373)	(-0.964)		(0.958)	(1.273)	
POUTBoard	0.005	0.047		-0.022	0.062		-0.116	-0.067	
	(0.078)	(0.737)		(-0.286)	(0.773)		(-1.768)	(-0.968)	
%SShare	-0.034	-0.085		-0.029	-0.084		-0.033	-0.068	
	(-0.543)	(-1.311)		(-0.374)	(-1.036)		(-0.492)	(-0.981)	
%DirInterest	0.037	0.068		0.104	**0.113*** **		0.039	**0.014*** **	
	(0.584)	(1.014)		(1.106)	**(2.710)**		(0.467)	**(2.777)**	
Audit_Sales	0.041	0.037		0.004	-0.044		0.083	0.112	
ratio	(0.672)	(0.573)		(0.053)	(-0.535)		(1.217)	(1.593)	
CEO Duality	0.030	0.029		-0.059	-0.052		0.031	0.014	
	(0.500)	(0.445)		(-0.764)	(-0.652)		(0.474)	(0.209)	
ROA	**0.044*** **	**0.050*** **		N/A	N/A		**0.039** **	**0.042*** **	
	(4.761)	**(5.240)**					**(2.302)**	**(2.365)**	
Ln(Total	**-0.291*** **	**-0.250*** **		-0.011	0.034		**-0.178** **	-0.169* **	
Assets)	**(-6.441)**	**(-5.316)**		(-0.140)	(0.408)		**(-2.118)**	(-1.883)	
Current Ratio	0.099	0.125		-0.120	-0.147		0.115	0.119	
	(1.612)	(1.932)		(-1.554)	(-1.794)		(1.712)	(1.658)	
DE Ratio	0.012	0.033		-0.060	-0.099		**0.025*** **	**0.024*** **	
	(0.193)	(0.513)		(-0.786)	(-1.234)		**(6.350)**	**(5.819)**	
Dummy_NC	0.043			**6.603*** **			-0.037		
	(0.705)			**(3.110)**			(-0.548)		
Dummy_ADR	-0.086			0.074			0.015		
	(-1.365)			(0.949)			(0.211)		
Dummy_MSCI	**0.669*** **			0.012			0.129		
	(4.449)			(0.136)			(1.749)		
Dummy_HR	-0.015			**-7.593*** **			**-1.155*** **		
	(-0.215)			**(-3.523)**			**(-4.530)**		
Adjusted R square	0.484	0.417	0.133	0.158	0.09	0.051	0.389	0.337	0.061

This Table shows the multiple regression results on Tobin's Q (TQ), return on equity (ROE), and natural logarithm of market-to-book ratio (Ln(MTB)). CGI is corporate governance index, Ln(Board Size) is the natural logarithm of board Size, POUTBoard is the percentage of outside directors, %SShare is the percentage of the outstanding shares of five largest shareholders, %DirInterest is directors' shareholdings percentage, Audit_Sales ratio is audit fee over sales ratio, CEO Duality equals to 1 if the chief executive officer is also the chairman of the board and 0 otherwise, ROA is net income after tax is divided by total assets, Ln(Total Assets) is the Natural logarithm of total assets, current ratio is current assets divided by current liabilities, DE_Ratio is debts divided by equities, Dummy_NC equals to 1 if a firm has a nomination committee and 0 otherwise, Dummy_ADR equals to 1 if a firm has American Depositary Receipts (ADR) trading in the United States and 0 otherwise, Dummy_MSCI equals to 1 if a firm is included in a Morgan Stanley Capital International index and 0 otherwise, and Dummy_HR equals to 1 if a firm is either a H share or Red-chip share and 0 otherwise. *, **, *** indicate significance level at 10%, 5%, and 1% respectively. Significant levels at 5% level or better are **bold**. N=147. The t-values, based on White's heteroskedasticity-consistent standard errors, are reported in parentheses.

Table 4: Regression results for TQ, ROE, and Ln(MTB) with 5 CGI sub-indices and other independent variables

	TQ as dependent variable		ROE as dependent variable		Ln(MTB) as dependent variable	
	(1)	(2)	(1)	(2)	(1)	(2)
Rights of shareholders	**0.014*** (3.757)**	**0.012*** (3.055)**	0.022 (0.273)	0.036 (0.438)	0.120 (1.893)	**0.017** (2.480)**
Equitable treatment of shareholders	0.003 (0.052)	0.010 (0.158)	0.092 (1.202)	0.069 (0.884)	0.015 (0.228)	-0.034 (-0.510)
Role of stakeholders	0.063 (0.911)	0.065 (0.898)	**0.094*** (2.232)**	**0.101*** (2.369)**	-0.025 (-0.339)	-0.028 (-0.361)
Disclosure and transparency	0.077 (1.196)	**0.019*** (2.033)**	**0.355*** (2.579)**	**0.386*** (2.804)**	0.075 (1.107)	0.051 (0.704)
Board responsibilities and composition	**0.019*** (2.835)**	**0.016*** (2.195)**	-0.002 (-0.024)	0.004 (0.045)	**0.051*** (4.090)**	**0.045*** (3.425)**
Ln(Board Size)	0.024 (0.352)	0.048 (0.677)	-0.076 (-1.001)	-0.053 (-0.680)	0.042 (0.637)	0.126 (1.696)
POUTBoard	0.028 (0.463)	0.083 (1.332)	0.001 (0.018)	0.050 (0.638)	-0.105 (-1.629)	-0.046 (-0.681)
%SShare	-0.044 (-0.722)	-0.059 (-0.901)	-0.014 (-0.179)	-0.041 (-0.507)	-0.054 (-0.829)	-0.077 (-1.167)
%DirInterest	0.047 (0.753)	0.063 (0.968)	0.091 (0.973)	**0.101*** (2.478)**	0.029 (0.344)	**0.015*** (3.066)**
Audit_Sales ratio	0.018 (0.304)	0.006 (0.091)	0.001 (0.011)	0.007 (0.089)	0.052 (0.772)	0.086 (1.260)
CEO Duality	0.009 (0.145)	-0.004 (-0.062)	-0.049 (-0.633)	-0.061 (-0.784)	0.064 (1.003)	-0.007 (-0.096)
ROA	**0.046*** (5.128)**	**0.048*** (5.134)**	N/A	N/A	**0.049*** (3.033)**	**0.044*** (2.561)**
Ln(Total Assets)	**-0.327*** (-7.219)**	**-0.275*** (-5.759)**	0.020 (0.249)	0.042 (0.498)	-0.113 (-1.645)	**-0.187** (-2.127)**
Current Ratio	0.065 (1.079)	0.087 (1.388)	-0.117 (-1.496)	-0.135 (-1.678)	**0.119** (2.061)**	0.103 (1.474)
DE_ratio	0.027 (0.451)	0.023 (0.362)	-0.088 (-1.144)	-0.108 (-1.388)	**0.026*** (6.768)**	**0.025*** (6.191)**
Dummy_NC	0.045 (0.758)		**6.079*** (2.862)**		-0.036 (-0.565)	
Dummy_ADR	-0.098 (-1.574)		0.088 (1.118)		0.003 (0.049)	
Dummy_MSCI	**0.666*** (4.506)**		-0.006 (-0.067)		0.109 (1.550)	
Dummy_HR	-0.014 (-0.202)		**-6.457*** (-2.959)**		**-1.078*** (-4.274)**	
Adjusted R square is	0.506	0.451	0.170	0.156	0.411	0.383

, * indicating significance at the 5% and 1% level are **bold**. N=147. The t-values, based on White's heteroskedasticity-consistent standard errors, are reported in parentheses.

Table 5: Regression results for TQ, ROE, and Ln(MTB) with TI, Non-TI and other independent variables

	TQ as dependent variable			ROE as dependent variable			Ln(MTB) as dependent variable		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
TI	**0.026*** (3.653)**	**0.026*** (3.441)**	**0.026*** (3.441)**	**0.353*** (3.197)**	**0.399*** (3.518)**	**0.365*** (3.121)**	0.094 (1.437)	0.092 (1.343)	0.066 (0.963)
Non-TI	0.107 (1.572)	0.088 (1.221)	0.088 (1.221)	0.018 (0.234)	0.011 (0.144)	0.049 (0.610)	**0.036*** (3.780)**	**0.038*** (3.863)**	**0.040*** (4.039)**
Ln(Board Size)	-0.014 (-0.193)	0.019 (0.261)		-0.139 (-1.841)	-0.119 (-1.503)		0.067 (0.983)	0.091 (1.294)	
POUTBoard	-0.012 (-0.190)	0.030 (0.467)		-0.050 (-0.656)	0.021 (0.266)		-0.075 (-1.132)	-0.030 (-0434)	
%SShare	-0.039 (-0.630)	-0.087 (-1.345)		-0.023 (-0.291)	-0.109 (-1.356)		-0.035 (-0.541)	-0.065 (-0.951)	
%DirInterest	0.038 (0.603)	0.069 (1.037)		0.116 (1.240)	**0.147*** (3.428)**		0.001 (0.010)	**0.011** (2.066)**	
Audit_Sales ratio	0.056 (0.913)	0.053 (0.812)		0.030 (0.374)	0.012 (0.149)		0.033 (0.476)	0.062 (0.870)	
CEO Duality	0.034 (0.556)	0.031 (0.481)		-0.054 (-0.699)	-0.054 (-0.688)		0.057 (0.887)	0.042 (0.627)	
ROA	**0.041*** (4.404)**	**0.048*** (4.865)**	**0.048*** (4.865)**	N/A	N/A	N/A	**0.053*** (3.286)**	**0.057*** (3.370)**	**0.064*** (3.830)**
Ln(Total Assets)	**-0.336*** (-7.432)**	**-0.295*** (-6.304)**	**-0.295*** (-6.304)**	-0.064 (-0.837)	-0.051 (-0.632)	-0.085 (-1.056)	-0.055 (-0.695)	-0.046 (-0.559)	-0.074 (-0.895)
Current Ratio	0.075 (1.223)	0.101 (1.572)	0.101 (1.572)	-0.130 (-1.701)	**-1.057**** (-1.995)	-0.083 (-1.028)	**0.124** (2.122)**	**0.129** (2.069)**	**0.169*** (2.816)**
DE_Ratio	0.027 (0.445)	0.047 (0.727)	0.047 (0.727)	-0.057 (-0.753)	-0.125 -1.574	-0.054 (-0.673)	**0.025*** (6.438)**	**0.025*** (6.042)**	**0.026*** (6.582)**
Dummy_NC	0.051 (0.840)			**6.478** (3.073)**			-0.038 (-0.578)		
Dummy_ ADR	-0.109 (-1.700)			0.037 (0.472)			0.030 (0.442)		
Dummy_ MSCI	**0.650*** (4.296)**			-0.020 (-0.235)			0.127 (1.774)		
Dummy_HR	-0.028 (-0.405)			**-8.026*** (-3.745)**			**-1.012*** (-3.960)**		
Adjusted R square is	0.476	0.412	0.412	0.170	0.122	0.056	0.402	0.355	0.340

, * indicating significance at the 5% and 1% level respectively are **bold**. N=147. The t-values, based on White's heteroskedasticity-consistent standard errors, are reported in parentheses

Table 6: Correlation results of instrumental variable

	Ln(TA)	CGI	Unstandardized Residual
Instrumental Dummy_Ln(TA)	**0.785*****	**-0.300*****	0.000
(p value)	(0.000)	(0.000)	(1.000)
N	147	147	147

This table shows that Dummy_Ln(TA) is not related to residual (r = 0.000).
*** indicating significance at the 1% level are **bold**.

Table 7: Two-stage regression results with Dubin-Wu-Hausman Test

	1st stage	2nd stage
	CGI	TQ
Instrumental	**-5.259*** **	
Dummy_Ln(TA)	(-3.908)	
CGI		**0.035*** **
		(3.986)
Ln(TA)	0.034	**-0.291*** **
	(0.262)	(-6.441)
Adjusted R square	0.168	0.484

This table shows the results of Durbin-Wu-Hausman test. It uses a two-stage least squares regression to check whether CGI is endogenous. The inference from this result is that endogeneity is probably not important. *** indicating significance at the 1% level are **bold**. N = 147.

Appendix: Definition of Variables

Tobin's Q (TQ)	Ratio of market value of the firm to the replacement value of its assets. Market value of assets (book value of total debt + book value of preferred stock + market value of common stock) is divided by book value of assets. It measures firm (market) performance.
Return on equity (ROE)	Net Income is divided by book value of equity. It measures firm (accounting) performance.
Ln(MTB)	Natural logarithm of market-to-book ratio of common stock. It measures firm (market) performance.
Corporate Governance Index (CGI)	Use a composite of OECD guidelines to draw a corporate governance index for firms.
Ln(Board size) (Ln(BS))	Natural logarithm of total number of directors in the board.
POUTBoard	The percentage of the number of outside directors on the board (i.e. independent non-executive directors and non-executive directors).
Substantial shareholdings (%SShare)	Ownership concentration is measured by the percentage of the outstanding shares of five largest shareholders.
Directors' interests (%DirInterest)	Directors' shareholdings percentage in the firm.
Audit quality (Audit over Sales ratio)	Audit fee is divided by sales.
CEO Duality	Equals to 1 if the chief executive officer is also the chairman of the board; 0 otherwise.
Return on assets (ROA)	Net income after tax is divided by total assets.
Firm size (Ln(TA))	Natural logarithm of total assets.
Leverage (DE ratio)	Total debts (Long term debt + Short term debt) are divided by common equities.
Current ratio	Current assets are divided by current liabilities.
Dummy_NC	Dummy variable, equals to 1 if a firm has a Nomination Committee; 0 otherwise.
Dummy_ADR	Dummy variable, equals to 1 if a firm has American Depositary Receipts (ADR) trading in the United States; 0 otherwise.
Dummy_MSCI	Dummy variable, equals to 1 if a firm is included in a Morgan Stanley Capital International (MSCI) index; 0 otherwise.
Dummy_HR share	Dummy variable, equals to 1 if a firm is either a H share or Red-chip share; 0 otherwise.
Dummy_Ln(TA)	Dummy variable, equals to 1 for large firms; 0 for small firms.