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Does Investor Protection Regime Affect the Effectiveness of Outside Directorship on the Board?

Abstract

Since the Sarbanes-Oxley Act was enacted in U.S., there has been a general tendency to globally harmonize regulations and practices of board governance. The purpose of this study is to compare among countries how well the board of directors constrains earnings management. Using a sample of firms from 23 countries, we document some evidence that higher outside directorship on the board is associated with lower earnings management in the international context. We also find that there is no significant difference in the effectiveness of board outside directorship in constraining earnings management between high and low investor protection countries. Our findings mitigate a concern that harmonized corporate governance in low investor protection countries may not work.

Keywords: Investor protection; Corporate governance; Outside directorship; Internationalization

JEL codes: G3, K2, M4

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1. Introduction

The United States Congress passed the Sarbanes-Oxley Act in 2002 in order to provide effective corporate governance to publicly listed firms. The enactment of the Sarbanes-Oxley Act strengthens the accountability of the board of directors, which leads to higher representation of outside directors in the composition of the board (Valenti, 2008). Following the enactment of the Sarbanes-Oxley Act, many other countries also implemented similar regulations and practices of corporate governance to increase the accountability of board members. For example, the U.K. Chancellor of the Exchequer and the Department of Trade and Industry issued the Higgs Review in January 2003, which proposed guidelines on improving board effectiveness, and Canadian regulatory bodies instituted federal regulatory reform to improve corporate governance such as National Instrument 52-109, equivalent to Sarbanes-Oxley but for the audit requirement on internal control systems.

The general tendency has been towards globally harmonized regulations and practices of board governance. However, concerns remain. It is yet unclear that regulation of and practices by the board of directors will in fact converge to an appropriate global threshold of effectiveness of board governance. Thus, comparing among countries how well the board of directors monitors the management can provide an implication for the costs and benefits of the international convergence of both regulations and practices of corporate governance.

Outside directorship on the board (i.e., board independence) reflects the extent to which the board can maintain its independence in overseeing the financial reporting process. Prior research (e.g., Klein, 2002a; Xie et al., 2003; Vafeas, 2005) finds that firms with high board independence on the board have lower earnings management than firms with low board

independence. Nevertheless, extant studies on the effectiveness of board governance are limited to the context of a single country.

Differences in national institutional infrastructures, however, likely influence the effectiveness of board governance and generate variation among countries. La Porta et al. (1999) suggest that corporate governance environments are different between countries with strong investor protection and countries with weak investor protection. Thus, differences in laws and regulations regarding investor protection may influence the effectiveness of outside directorship on the board. On the one hand, the effectiveness of board governance may be lower in weak investor protection countries than in strong investor protection countries. When investor protection is weak, controlling shareholders and managers may wield significant influence over the board and thereby impair the effectiveness of board governance. In addition, outside directors may have less incentive to monitor managers in weak investor protection countries because of lower reputational losses and risk of lawsuits.

On the other hand, weak investor protection is associated with more agency problems, which may lead to a higher demand for corporate governance in that country. Lang et al. (2004) and Kwon et al. (2007) suggest that there could be a substitute relationship between investor protection and the corporate governance mechanism. It is also likely that the effectiveness of board governance is higher in weak investor protection countries than in strong investor protection countries.

Moreover, if the complimentary effect of investor protection on corporate governance is offset against the substitute effect of investor protection on corporate governance, there will be no significant difference in the effectiveness of board governance between strong and weak

investor protection countries. Thus, whether investor protection influences the effectiveness of outside directorship on the board becomes an empirical question.

While comparing the effectiveness of board governance across countries is warranted, research on this issue is highly limited to the data availability. Lack of international board governance data is due to two reasons. First, there are no electronic databases providing the multi-country data on board governance. Hand data collection is necessary but time consuming. Second, even though we hand collect the data, there are few data sources that can provide information on board governance of companies from various countries in English. Thanks to the Business Week website, we hand collect the data on board independence from 23 countries. To the best of our knowledge, our study is the first one to develop a data set of international board independence. The uniqueness of our data set not only enriches the international corporate governance research but also provides some implications to researchers for collecting international board governance data.

Our study examines both whether earnings management is negatively related to outside directorship on the board in the international context and whether investor protection influences the relationship between earnings management and outside directorship on the board. We find some evidence that outside directors on the board can effectively constrain earnings management across countries. We also find that there is no significant difference in the effectiveness of outside directorship on the board in constraining earnings management between strong and weak investor protection countries. Our findings suggest that the effectiveness of board governance will not decrease with either international convergence of corporate regulations and practices of board governance or the range of strong to weak investor protection regimes.

Our study contributes to the literature in the following two ways. First, previous studies (e.g., Klein, 2002a; Xie, et al. 2003; Vafeas, 2005) use the data from a specific national context, whereas our study focuses on the international context. Our findings suggest that the results on the outside directorship on the board from a specific context are generalize-able to the international context. Our study contributes to the growth of harmonization of corporate regulations and practices on board governance across countries by extending empirical evidence in support of global corporate governance regime thus contributing to the public policy debate in the post Sarbanes-Oxley period.

Second, our study enriches the limited research on the relationship between investor protection and corporate governance mechanisms. Lang et al. (2004) focus on the relationship between investor protection and analyst coverage, while Kwon et al. (2007) and Francis and Wang (2008) focus on the relationship between investor protection and external auditing. Unlike those studies, we focus on the relationship between investor protection and board governance. Our study also adds to a stream of research on the effectiveness of board governance in enhancing financial reporting quality.

The rest of the paper is organized as follows. We introduce theoretical background and develop hypotheses in section 2, discuss research design in section 3, present empirical results in section 4, and conclude in section 5.

2. Theoretical background and hypotheses development

2.1. The effect of board independence on earnings management

The separation of ownership and control creates agency costs arising from adverse selection and moral hazard. Managers may behave for their private purposes at the expense of

shareholders' interests. One way to solve these agency problems is the oversight of the company's activities by the board of directors.

One of the important duties of the board of directors and its committees is to monitor the financial reporting process, for example, to review the choice of accounting and disclosure policies, oversee the internal control process, and hire external auditors. As outside directors on the board are non-executive directors unaffiliated with the management, they are more likely to be independent of the management and thus more effectively monitor the management. Moreover, outside directors have incentive to oversee managers because managerial opportunism may impair their reputation and increase the risk of lawsuits. Thus, firms with high board independence may engage in less earnings management.

U.S. studies on the board of directors verify the positive impact of board independence on earnings management. Klein (2002a) examines whether earnings management is associated with board independence and audit committee independence. She reports that board independence and audit committee independence are negatively related to abnormal accruals, suggesting that the board and audit committees structured to be more independent of the management are more effective in constraining earnings management. Likewise, Xie et al. (2003) find that lower abnormal accruals are associated with greater board independence.

Using the likelihood of reporting a marginal earnings increase or avoiding a negative earnings surprise to measure earnings management, Vafeas (2005) examine the effect of the structures of the board and audit committees on earnings quality.¹ He reports that firms with high audit committee independence are less likely to report small earnings increase than firms with low outside directorship on audit committees. He also reports that an increase in board

¹ Burgstahler and Dichev (1997) use the prospect theory and costs of transactions with stakeholders to explain why firms manage earnings to avoid earnings decrease.

independence is associated with a decrease in the likelihood of avoiding negative earnings surprise. These results are consistent with the notion that outside directorship is effective in reducing the incidence of earnings management.

Corresponding to the U.S. studies, there are several studies using data from a single non-U.S. country to examine the effect of board independence on earnings management. Firth et al. (2007) find that the more independent the board, the more effective is the board in constraining earnings management, suggesting that outside directorship might have reduced earnings management in China. Using a sample of Australian firms, Davidson et al. (2005) investigate the role of a firm's internal governance structure in constraining earnings management. They find that both board and audit committee independence are associated with a lower likelihood of earnings management.

Nevertheless, some non-U.S. studies do not find evidence on the negative association between board independence and earnings management. Chin et al. (2006) examine whether the incidence of earnings management around SEOs depends on corporate governance structures, and find no evidence that higher board independence leads to lower earnings management in Hong Kong. As opposed to the results in U.S., Bradbury et al. (2006) find an insignificant association between earnings management and outside directorship on the board for Singapore and Malaysian firms.

In summary, although the U.S. studies indicate that board independence plays an effective governance role, it is not clear whether this corporate governance mechanism can work internationally, especially for countries that have significantly different institutions than U.S. This concern is due to the higher ownership concentration in many non-U.S. countries, where the main agency problem could be the expropriation of minority shareholders by controlling

shareholders as a result of the separation of controlling shareholders' cash-flow rights (i.e., ownership) from their control rights (La Porta et al., 1999; Claessens et al., 2000).

The conflict of interest between minority and controlling shareholders may have a dual effect on board governance. On the one hand, board independence is likely to be weakened by the entrenchment of controlling shareholders who wield significant influence over the board, which increases earnings management. On the other hand, more agency problems arising from the conflict of interest between minority and controlling shareholders provide more opportunities to outside directors to play their monitoring role if they really protect the interest of minority shareholders. In this case, board independence may be more effective in constraining earnings management. Based on the U.S. studies, we formulate the first hypothesis as follows:

H1. Earnings management is negatively associated with outside directorship on the board in the international context.

2.2. The effect of investor protection on the effectiveness of board independence

La Porta et al. (1998) find that common-law countries have stronger investor protection than civil-law countries, suggesting that investor protection varies across countries. In weak investor protection countries, there are few internal and external constraints that might prevent and discourage managers and controlling shareholders from opportunistic behavior. For example, it is more difficult to pursue legal actions against managers and controlling shareholders for their expropriation of minority shareholders in those countries (Leuz et al., 2003). Thus, it is likely that earnings quality is lower in weak investor protection countries than in strong investor protection countries.

Based on La Porta et al. (1998), researchers compare earnings quality between countries with different legal environment and investor protection. Ball et al. (2000) report that earnings

are more timely and less smoothed in common law countries than in civil law countries, suggesting that common law countries have a higher demand for timely public disclosure to mitigate information asymmetry and engage in less earnings management than civil law countries. Hung (2001) finds that both countries with accounting systems using accruals more extensively and countries with strong investor protection have higher value relevance of accounting earnings. Her findings suggest that strong investor protection may enhance the benefits of accrual accounting by constraining opportunism.

Leuz et al. (2003) examine earnings management in the international context. They document that the level of earnings management, including the absolute value of accruals and income smoothing, is lower in countries with high investor protection than in countries with low investor protection, consistent with the notion that investor protection can constrain earnings management. Bushman and Piotroski (2006) examine whether legal and political institutions affect accounting conservatism across countries, and find that bad news is reflected more timely in accounting earnings in strong investor protection countries than in weak investor protection countries. DeFond et al. (2007) document evidence that the annual earnings announcements are more informative in countries with strong investor protection. In summary, prior research suggests that higher investor protection is associated with higher quality earnings.

The effectiveness of board independence in monitoring the financial reporting process may vary with the level of investor protection. On the one hand, low investor protection environments may weaken the monitoring role of outside directors. In countries with low investor protection, companies are less widely held, which facilitates the expropriation of minority shareholders' earnings by controlling shareholders and managers. These controlling shareholders and managers may exert higher influence on the decisions made by the board of

directors. In order to engage in opportunistic activities, they may have more incentive to impair the effectiveness of board governance. Jaggi et al. (2009) find that the monitoring effectiveness of independent boards is lower in family-controlled firms.

In addition, outside directors in weak investor protection environments are both less vulnerable to reputational losses and less likely to experience monetary penalties arising from corporate fraud. Thus, outside directors may be less liable in weak investor protection countries than in strong investor protection countries.

DeFond and Hung (2004) examine the effect of investor protection on the association between CEO turnover and poor performance. They document that investor protection enhances the association between CEO turnover and poor performance. Since good corporate governance will terminate CEOs who perform poorly, the association between CEO turnover and poor performance may reflect the quality of corporate governance. Thus, their findings suggest that weak investor protection may be associated with a low quality of corporate governance. Francis and Wang (2008) investigate the effect of investor protection on the audit quality differentiation between Big 4 auditors and non-Big 4 auditors. They find that the higher audit quality of Big 4 auditors relative to non-Big 4 auditors is more pronounced in strong investor protection countries than in weak investor protection countries. Their results indicate a complement relationship between investor protection and corporate governance.

On the other hand, outside directors may play a more important monitoring role in weak investor protection environments. La Porta et al. (1999) suggest that there might exist more agency problems resulting from concentrated ownership structures in weak investor protection countries. If outside directors in those countries are really independent of controlling shareholders and managers, they will have more opportunities to solve agency problems than in

strong investor protection countries. Hence, there may be a higher demand for effective board governance in weak investor protection countries.

Lang et al. (2004) investigate the relationship among ownership structure, analyst following, investor protection, and valuation in 27 countries. They examine whether the presence of concentrated family / management control and analyst coverage interactively affects firm valuation. They document a stronger positive interaction effect of the presence of concentrated family / management control and analyst coverage on firm valuation in weak investor protection countries than in strong investor protection.² Since analyst coverage is a type of corporate governance mechanism, their results suggest that analysts may play a more important governance role in weak investor protection than in strong investor protection countries. In a study of international auditor industry specialization, Kwon et al. (2007) find that earnings quality is more positively associated with auditor industry specialization in weak investor protection countries than in strong investor protection countries. These studies suggest that corporate governance may substitute to investor protection.

Taken together, whether board independence is complimentary to or substitutes for investor protection could be considered an empirical question. If the complement (substitute) effect of investor protection on outside directorship overwhelmingly dominates over the substitute (complement) effect of investor protection on outside directorship, the effectiveness of board independence in constraining earnings management will be higher (lower) in strong investor protection countries than in weak investor protection countries. It is also likely that the complement effect is offset against the substitute effect and thus the difference in the effectiveness of board independence is insignificant between strong and weak investor protection

² The positive interaction effect of the presence of concentrated family / management control and analyst coverage indicates that the expropriation of minority shareholders may be lower when more analysts follow firms.

countries. Since the directional effect of investor protection on the effectiveness of board independence in constraining earnings management is not clear, we develop the second hypothesis in the null form:

H2. The negative association between earnings management and outside directorship on the board is not affected by investor protection.

3. Research design

3.1. Sample selection

We begin to collect the financial data used in our analysis for year 2007 from the Compustat Global database. We choose 2007 as the sample year because the Business Week website provided the data of the board of directors only for year 2007 when we collected the data for this study. We select sample firms from all countries included in the Compustat Global database except for U.S. as long as the data are available for our analyses. We exclude U.S. firms as our study focuses on the effectiveness of board independence in non-U.S. countries. Since U.S. has the uniqueness of legal environment and investor protection, another concern on including U.S. firms in the sample is that the results may be driven by the U.S. context.

While we collect the financial data from the Compustat Global database, we have to hand collect the data on board independence from the Business Week website. For a country covered by the Compustat Global database, in which there are more than 100 firms in 2007, we randomly select 100 firms from the database as our sample firms for that country. We select all firms as our sample firms for a country if there are less than 100 firms in that country. This procedure yields a raw sample of 1,427 firms across 24 countries, which have the financial data used in the analyses. Next, we collect the data of directors for raw sample firms from the Business Week

website,³ which provides the information about outside and inside directors of companies in various countries. After excluding raw sample firms for which the data on directors are not available from the Business Week website, the final sample consists of 629 firms across 23 countries.

Table 1 reports the frequencies and percents of 629 sample firms by country. A large proportion of our sample firms are from Singapore (11.76%), Australia (10.81%), and Canada (10.49%), while a small proportion of our sample firms are from Denmark (0.64%), Indonesia (0.64%), Switzerland (0.95%), and Mexico (0.95%). We note the over representation of Singapore, Australia, and Canada in our sample. We use two ways to control for the effect of country dominance. The first way is to include these three dominance countries' dummies in the model. The second way is to include all countries' dummies when we conduct the third additional analysis.

Insert Table 1 about here

3.2. Regression models

We first estimate the following regression model to test H1:

$$EM = b_0 + b_1 BDIND + b_2 INVP + b_3 MB + b_4 SIZE + b_5 LEV + b_6 LOSS + b_7 XLS + b_8 BIG4 + b_9 OWNC + b_{10} IFRS + \text{Dominance country dummies} + \varepsilon \quad (1)$$

where *EM* is *earnings management*, measured as the ratio of the absolute value of total accruals to the absolute value of cash flow from operations. *BDIND* is *board independence*, measured as the proportion of outside directors on the board. *INVP* is *investor protection*, measured by legal enforcement scores. Following Leuz et al. (2003), legal enforcement scores are the average of three measures from La Porta et al. (1998): (1) the efficiency of the judicial system, (2) the rule of law, and (3) level of corruption in a country. We use legal enforcement as a measure of

³ <http://investing.businessweek.com/research/common/symbollookup/symbollookup.asp>

investor protection because Durnev and Kim (2005) point out that strong investor protection laws can be ineffective if they are not enforced. In the additional analyses, we also use anti-director rights, legal origin, and institutional clusters as alternative measures of investor protection.

MB is *market-to-book ratio*, measured as the ratio of the market value of common equity to the book value of common equity. *SIZE* is *firm size*, measured as the logarithm of total assets. *LEV* is *financial leverage*, measured as the ratio of long-term debt to total assets. *LOSS* is *loss-making dummy*, coded “1” if a firm is making loss and “0” otherwise. *XLS* is *cross listing*, coded “1” if a firm is cross listed on a U.S. stock exchange and “0” otherwise. *BIG4* is *Big 4 auditor*, coded “1” if a firm is audited by a Big 4 auditor and “0” otherwise. *OWNC* is *ownership concentration*, measured by ownership concentration scores from La Porta et al. (1998). *IFRS* is *IFRS adoption*, coded “1” if a country has mandatorily adopted IFRS and “0” otherwise. Since firms from Singapore, Australia, and Canada are dominated in our sample, we include the dummies of these three countries to control for their over representation.

Prior research on earnings management (e.g., Klein, 2002a; Xie et al., 2003) usually uses the Jones (1991) model to estimate discretionary accruals as a measure of earnings management. Unlike our study, these studies collect the data only from one country. There are two reasons for not choosing discretionary accruals as the main proxy for earnings management in this study. First, it is unclear whether the Jones (1991) model performs equally well in measuring earnings management among countries. Second, using discretionary accruals will significantly reduce the sample size and thus statistical power for this study. However, we still use discretionary accruals as an alternative measure of earnings management in an additional analysis.

Our proxy for earnings management used in the main tests is measured as the absolute value of total accruals deflated by the absolute value of cash flow from operations. We choose this measure as the main proxy for earnings management for two reasons. First, extant international studies on earnings management (e.g., Leuz et al., 2003; Sun, 2009) employ this measure. These studies also select the data from various countries. Second, using this measure can avoid the significant reduction in sample size, which is crucially important for international studies with data constraints. Like Leuz et al. (2003), we also use income smoothing as an alternative measure of earnings management in an additional analysis.

If outside directors are more effective in constraining earnings management than inside directors in the international context, we expect that the coefficient on board independence (b_I) will be negative and significant. We include *INVP* in model (1) because Leuz et al. (2003) find that earnings management is lower in countries with strong investor protection than in countries with weak investor protection. *MB* is added in model (1) as Klein (2002b) find that the market-to-book ratio is positively associated with earnings management. Armstrong et al. (2010) assert that large firms provide high quality information, suggesting that large firms may have less earnings management. However, Watts and Zimmerman (1986) argue that large firms have high political costs, which may lead to more earnings management. Thus, we include *SIZE* in model (1) although the effect of firm size on earnings management could be negative or positive. Klein (2002a) also finds that financial leverage is positively associated with the absolute value of discretionary accruals. Francis et al. (2004) find that accrual quality is lower for firms that incurred losses, suggesting that earnings management is positively associated with loss-making.

We include *XLS* in the model because firms cross-listed on the U. S. stock exchanges may have higher accounting quality. Since Big 4 auditors provide high quality audit, earnings

management may be lower for firms audited by Big 4 auditors than for firms audited by non-Big 4 auditors (Becker et al., 1998). Prior research (e.g., Jensen and Meckling, 1976; Shleifer and Vishny, 1997) indicates that concentrated ownership may have both positive and negative impact on corporate governance. Barth et al. (2008) find that firms applying IFRS have less earnings management. Thus, we also include *BIG4*, *OWNC*, and *IFRS* in the model. Based on the above discussion, we expect that b_2 , b_7 , b_8 and b_{10} will be negative and that b_3 , b_5 , and b_6 will be positive. However, b_4 and b_9 are expected to be either positive or negative.^{4, 5}

We estimate the following regression model to test H2:

$$EM = b_0 + b_1 BDIND + b_2 INVP + b_3 BDIND*INVP + b_4 MB + b_5 SIZE + b_6 LEV + b_7 LOSS + b_8 XLS + b_9 BIG4 + b_{10} OWNC + b_{11} IFRS + \text{Dominance country dummies} + \varepsilon \quad (2)$$

We include the interaction term of *BDIND* and *INVP* in model (2). If investor protection affects the effectiveness of outside directorship in constraining earnings management, then the coefficient on *BDIND*INVP* (b_3) will be significant.

4. Empirical results

We report the descriptive statistics in Panel A, Table 2. The mean and median of the absolute value of accruals deflated by the absolute value of cash flow from operations (*EM*) are 1.06 and 0.48, respectively. The mean and median of board independence (*BDIND*) are 0.70 and 0.75, respectively. Thus, on average, about 70% to 75% of directors on the board are outside directors for our sample firms.

Panel B, Table 2 presents the Pearson correlations among the independent variables. We find that board independence is not significantly correlated with investor protection, suggesting that there is no significant difference in the demand for outside directorship across countries.

⁴ *INVP* is standardized as $(INVP - \text{Mean})/\text{Std.}$

⁵ All continuous variables in models (1) and (2) are winsorized at the level of 1% and 99%.

Not significant correlation between board independence and investor protection also indicates the internationalization of corporate governance regulations and practices, namely, similar board structure. The highest correlation coefficient is 0.61 for *XLS* and *BIG4*, which indicates that cross-listed firms in U.S. are more likely to be clients of Big 4 auditors. Since all other absolute values of correlation coefficients are less than 0.61, multicollinearity is less likely to be a substantive issue in this study.

Insert Table 2 about here

Table 3 reports the results on testing H1. We find that the coefficient on *BDIND* is negative and significant ($t = -2.40, p < .01$), which supports H1. This suggests that international outside directorship is effective in constraining earnings management in the international context. Our results are consistent with those documented in a specific context (the U.S. context in most studies). Like Leuz et al. (2003), we document a negative and significant coefficient on *INVP* ($t = -2.10, p < .05$), consistent with the notion that earnings management is lower in countries with strong investor protection than in countries with weak investor protection. We also find that loss-making firms have larger absolute value of accruals. Clients of Big 4 auditors and firms from countries with high ownership concentration have lower absolute value of accruals.

Insert Table 3 about here

Table 4 provides the results on testing H2. We find that the coefficient on the interaction of *BDIND* and *INVP* is insignificant, suggesting that investor protection does not affect the effectiveness of outside directorship in constraining earnings management. Thus, outside directors may play a similar monitoring role in the financial reporting process across countries.

Insert Table 4 about here

We also conduct several additional analyses to test the robustness of our results. First, we use income smoothing as an alternative measure of earnings management. Leuz et al. (2003) argue that managers may use accounting discretion to conceal poor current performance. Moreover, managers may also use real business activities to smooth earnings.⁶ Like Leuz et al. (2003), we measure income smoothing by the correlation coefficient between changes in total accruals and changes in cash flows from operations over the period from year $t-4$ to year t . This income smoothing measure reflects both accrual and real earnings management. Since a large negative correlation coefficient between changes in accruals and changes in cash flows from operations indicates a strong income smoothing, we multiply the correlation coefficient by -1 to measure earnings management.

Table 5 reports the results when we test the hypotheses using income smoothing as a measure of earnings management. Columns 3 and 4, Table 5 show the results on testing H1. We still find that income smoothing is negatively associated with board independence ($t = -1.44, p < .10$), consistent with H1. We also find that income smoothing is negatively associated with investor protection ($t = -1.66, p < .05$), consistent with Leuz et al. (2003). In addition, we find that income smoothing is lower for firms cross-listed in U.S., firms incurring losses, clients of Big 4 auditors, firms from countries with high ownership concentration or countries that have mandatorily adopted IFRS, while income smoothing is higher for large or high growth firms. Columns 5 and 6, Table 5 include the results on testing H2. We find that the coefficient on *BDIND*INVP* is insignificant. Thus, investor protection does not affect the effectiveness of outside directors on the board in constraining income smoothing. This suggests that outside directors may play an equally important role in overseeing financial reporting process wherever they sit on the board in strong or weak investor protection countries.

⁶ For example, Bartov (1993) finds that managers use asset sales to manipulate earnings.

Insert Table 5 about here

Second, we examine whether the results on testing H2 are sensitive to using alternative measures of investor protection. We choose anti-director rights, legal origin, and institutional clusters as alternative measures of investor protection. Anti-director rights indicate the voting rights of minority shareholders (Leuz et al., 2003). Since La Porta et al. (1998) find that investor protection is higher in common law countries than in civil law countries, legal origin, which is a dummy coded “1” for a common law country and “0” for a civil law country, is a proxy for investor protection. Like Leuz et al. (2003), we classify countries into three institutional clusters. The third alternative measure of investor protection is a dummy coded “2”, “1”, and “0” for a country in clusters 1, 2, and 3, respectively.⁷ The non-tabulated results also show that the negative association between earnings management and board independence is not affected by using anti-director rights, legal origin, or institutional clusters. Thus, our results are robust to these alternative measures of investor protection.

Third, we test the hypotheses by controlling for the fixed country and industry effects. We included country dummies and industry dummies in models (1) and (2). When we estimate model (1), we find that the coefficient on *BDIND* is negative and significant (non-tabulated $t = -2.24, p < .05$). We also find that the coefficient on *BDIND*INVP* is insignificant when model (2) is estimated. Hence, the results still hold after controlling for the fixed country and industry effects.

Fourth, we examine whether there is any endogeneity problem for using board independence in our OLS regressions. We use the Hausman endogeneity test as follows. First, we choose a dummy variable (i.e., *ESOX*) coded “1” for countries with a mandatory corporate

⁷ The three institutional clusters are based on the nine institutional variables from La Porta et al. (1997; 1998) including stock market capitalization, listed firms, IPOs, ownership concentration, anti-director rights, disclosure index, efficiency of judicial system, rule of law, and corruption index.

governance code equivalent to the Sarbanes-Oxley Act and “0” otherwise as an instrumental variable of board independence. *ESOX* can be used as the instrumental variable because these mandatory corporate governance codes can affect board independence but cannot be affected by earnings management. Second, we run the first-stage regression as follows:

$$BDIND = a_0 + a_1 ESOX + a_2 MB + a_3 SIZE + a_4 LEV + a_5 LOSS + \varepsilon \quad (3)$$

We include *MB* in model (3) because Bathala and Rao (1995) and Linck et al. (2008) find that board independence is negatively associated with growth opportunities. Since Lehn et al. (2003) and Boone et al. (2007) document that board independence is higher for large firms, *SIZE* is included in model (3). We add *LEV* in the model as Jensen and Meckling (1976) suggest that financial leverage could be a substitute to corporate governance. We also include *LOSS* in the model because Klein (2002b) suggests that firms incurring losses might have a lower demand for corporate governance.

We find that the coefficient on *ESOX* is positive and significant (non-tabulated $t = 5.96$, $p < .01$), suggesting that more outside directors sit on the board when countries have mandatory corporate governance codes equivalent to the Sarbanes-Oxley Act. Third, we include the residual value from model (3) (i.e., *RBDIND*) as an additional regressor in model (1). We then estimate model (1) and find that the coefficient on *RBDIND* is insignificant, which indicates that there is no severe endogeneity problem when we use board independence in our OLS regressions.

Fifth, we examine whether board independence has different effectiveness in constraining earnings management between countries with mandatory corporate governance codes equivalent to the Sarbanes-Oxley Act and countries without such codes. We re-estimate model (2) by replacing *INVP* with *ESOX*. We still find that the coefficient on *BDIND*ESOX* is insignificant.

Thus, outside directorship is equally effective in constraining earnings management regardless of whether countries have mandatory corporate governance codes or not.

Sixth, we estimate models (1) and (2) using signed value of accruals. Table 6 includes the results on directional tests on accruals. We find that the coefficient on *BDIND* is negative but insignificant in model (1). We also find that the coefficient on *BDIND*INVP* is negative and significant, suggesting that outside directorship may more effectively constrain earnings management in high investor protection countries than in low investor protection countries. However, we recommend that these results should be cautiously explained as F-statistic and adjusted R^2 indicate that using signed accruals as the dependent variable in models (1) and (2) seems statistically problematical.

Insert Table 6 about here

Seventh, we use discretionary accruals as the dependent variable in models (1) and (2). We compute discretionary accruals for any industry-country using the Jones (1991) model. After the exclusion of observations omitting discretionary accruals, the sample size dramatically decreases from 629 to 381 observations. We find insignificant coefficients on board independence in model (1) and the interaction of board independence and investor protection in model (2). We also find an insignificant coefficient on investor protection in model (1), inconsistent with the theory (Leuz et al., 2003). A concern on using discretionary accruals in this study is that the statistical power of testing the hypotheses is low when the sample size is dramatically reduced. Thus, the results on discretionary accruals in this study should be cautiously interpreted.

Eighth, we examine the relationship between board independence and auditor choice. Beasley and Petroni (2001) document a positive association between board independence and

audit quality. As Big 4 auditors provide higher quality audit than non-Big 4 auditors (Francis et al., 1999), we run the logistic regression by using *BIG4* as the dependent variable in the models. We find a positive and significant coefficient on *BDIND* in model (1) (non-tabulated $\chi^2 = 1.78, p < .10$), suggesting that outside directors also demand high quality auditors in the international context. We also find an insignificant coefficient on *BDIND*INVP* in model (2). Thus, the results on auditor choice are consistent with the results on earnings management.

Ninth, we examine the relationship between board independence and dividend payouts. La Porta et al. (2000) suggest that high corporate governance leads to high dividend payouts. We re-run the logistic regression by replacing the dependent variable in the models with a dummy variable coded “1” if a firm pays dividends and “0” otherwise. We find that the coefficient on *BDIND* in model (1) is positive and significant (non-tabulated $\chi^2 = 1.79, p < .10$), which indicates that firms with high board independence are more likely to pay dividends than firms with low board independence. Like the results on earnings management, we still find that the coefficient on *BDIND*INVP* in model (2) is insignificant.

5. Conclusion

This study examines whether earnings management is negatively associated with board independence and whether investor protection affects the association between earnings management and board independence. We document some international evidence that outside directors effectively constrain earnings management. We also find that investor protection does not affect the effectiveness of outside directorship in constraining earnings management. The results suggest that outside directors may play a similar role in monitoring the financial reporting process wherever they sit on the board in strong or weak investor protection countries. Thus, our

findings support the internationalization of regulations and practices on board governance as evinced by the enactment of the Sarbanes-Oxley Act.

This study provides several implications for future research. First, it is warranted for future research to improve data availability. Our study has limitations on data collection. Due to the data constraints, we collect the data only for 2007. We acknowledge that our results might be affected by the financial crisis that started in 2007. Future research may expand the sample by collecting more recent data from alternative data sources. Second, it is worth investigating the relationship between investor protection and the monitoring effectiveness of a particular kind of corporate governance mechanisms. Our study indicates that the monitoring effectiveness of board independence is equal across countries, whereas Lang et al. (2004) and Kwon et al. (2007) suggest that the monitoring effectiveness of analyst coverage and auditor industry specialization is higher in low investor protection countries than in high investor protection countries. Thus, the results on one kind of corporate governance mechanisms may not apply to another kind of corporate governance mechanisms. Third, this study begs a question of why the results on board independent are inconsistent with those on other corporate governance mechanisms. Future research might explain why investor protection differently affects the monitoring effectiveness of various corporate governance mechanisms.

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Table 1
Breakdown of sample firms and investor protection scores

Panel A. Breakdown of sample firms by country

Country Name	Country Code	Frequency	Percent (%)
Australia	AUS	68	10.81
Brazil	BRA	9	1.43
Canada	CAN	66	10.49
Switzerland	CHE	6	0.95
Germany	DEU	25	3.97
Denmark	DNK	4	0.64
France	FRA	24	3.82
United Kingdom	GBR	54	8.59
Greece	GRC	11	1.75
Hong Kong	HKG	35	5.56
Indonesia	IDN	4	0.64
Japan	JPN	42	6.68
Korea	KOR	14	2.23
Mexico	MEX	6	0.95
Malaysia	MYS	54	8.59
Netherlands	NLD	9	1.43
New Zealand	NZL	14	2.23
Philippines	PHL	17	2.70
Singapore	SGP	74	11.76
Sweden	SWE	31	4.93
Thailand	THA	27	4.29
Taiwan	TWN	11	1.75
South Africa	ZAF	24	3.82
Total		629	100.00

(Table 1 continued)

Panel B. Investor protection scores

Country Name	INVP	Anti-director right	Legal origin	Institutional clusters
Australia	9.51	4	1	3
Brazil	6.13	3	0	-
Canada	9.75	5	1	3
Switzerland	10.00	2	0	2
Germany	9.05	1	0	2
Denmark	10.00	2	0	2
France	8.68	3	0	2
United Kingdom	9.22	5	1	3
Greece	6.82	2	0	1
Hong Kong	8.91	5	1	3
Indonesia	2.88	2	0	1
Japan	9.17	4	0	2
Korea	5.55	2	0	1
Mexico	5.37	1	0	-
Malaysia	7.72	4	1	3
Netherlands	10.00	2	0	2
New Zealand	10.00	4	1	-
Philippines	3.47	3	0	1
Singapore	8.93	4	1	3
Sweden	10.00	3	0	2
Thailand	4.89	2	1	1
Taiwan	7.37	3	0	2
South Africa	6.45	5	1	2

Table 2
Descriptive statistics and Pearson correlations

Panel A. Descriptive statistics

Variable	N	Mean	Median	Std	Q1	Q3
<i>EM</i>	629	1.06	0.48	2.21	0.21	0.91
<i>BDIND</i>	629	0.70	0.75	0.18	0.57	0.86
<i>INVP</i>	629	8.45	9.05	1.65	7.72	9.51
<i>MB</i>	629	2.34	1.81	2.08	1.03	3.02
<i>SIZE</i>	629	6.82	6.70	2.06	5.40	8.27
<i>LEV</i>	629	0.13	0.11	0.13	0.02	0.21
<i>LOSS</i>	629	0.12	0.00	0.32	0.00	0.00
<i>XLS</i>	629	0.20	0.00	0.40	0.00	0.00
<i>BIG4</i>	629	0.12	0.00	0.33	0.00	0.00
<i>OWNC</i>	629	0.37	0.31	0.16	0.24	0.52
<i>IFRS</i>	629	0.45	0.00	0.50	0.00	1.00

Panel B. Pearson correlations

Variable	<i>INVP</i>	<i>MB</i>	<i>SIZE</i>	<i>LEV</i>	<i>LOSS</i>	<i>XLS</i>	<i>BIG4</i>	<i>OWNC</i>	<i>IFRS</i>
<i>BDIND</i>	0.06	0.10***	0.24***	0.18***	-0.03	0.27***	0.15***	-0.01	0.01
<i>INVP</i>		0.09*	0.04	0.03	0.03	0.22***	0.23***	-0.43***	0.30***
<i>MB</i>			0.09*	0.09 [†]	-0.07 [†]	0.04	0.00	-0.02	0.19***
<i>SIZE</i>				0.28***	-0.27***	0.33***	0.08 [†]	-0.20***	0.15***
<i>LEV</i>					-0.03	0.09*	0.05	-0.09*	0.07 [†]
<i>LOSS</i>						0.07 [†]	0.09*	0.05	-0.06
<i>XLS</i>							0.61***	-0.19***	-0.09*
<i>BIG4</i>								-0.28***	-0.33***
<i>OWNC</i>									-0.17***

EM: earnings management, measured as the ratio of the absolute value of accruals to the absolute value of cash flow from operations,

BDIND: board independence, measured as the proportion of outside directors on the board,

MB: market-to-book ratio, measured as the ratio of the market value of common equity to the book value of common equity,

SIZE: firm size, measured as the logarithm value of total assets,

LEV: financial leverage, measured as the ratio of long-term debt to total assets,

LOSS: loss-making dummy, coded "1" if a firm is making loss and "0" otherwise,

XLS: cross listing, coded "1" if a firm is cross listed on a U.S. stock exchange and "0" otherwise,

INVP: investor protection, measured by legal enforcement scores, i.e., the average of three measures from La Porta et al. (1998): (1) the efficiency of the judicial system, (2) the rule of law, and (3) level of corruption in a country (Leuz et al., 2003).

BIG4: Big 4 auditor, coded "1" if a firm is audited by a Big 4 auditor and "0" otherwise.

OWNC: ownership concentration, measured by ownership concentration scores from La Porta et al. (1998).

IFRS: IFRS adoption, coded "1" if a country has mandatorily adopted IFRS and "0" otherwise.

[†] p < .10 (two-tailed).

* p < .05 (two-tailed).

*** p < .001 (two-tailed).

Table 3
Results on testing H1

Variable	Predicted sign	Coefficient	t-statistic
Intercept	?	2.54	4.90***
<i>BDIND</i>	-	-1.23	-2.40**
<i>INVP</i>	-	-0.24	-2.10*
<i>MB</i>	+	0.02	0.59
<i>SIZE</i>	?	-0.05	-0.87
<i>LEV</i>	+	0.59	0.84
<i>LOSS</i>	+	1.62	5.78***
<i>XLS</i>	-	-0.26	-0.81
<i>BIG4</i>	-	-1.37	-2.35***
<i>OWNC</i>	?	-1.18	-1.76*
<i>IFRS</i>	-	-0.27	-1.12
N			629
F-statistic			5.69***
Adj. R ²			8.85%

INVP is standardized as: $(INVP - \text{Mean}) / \text{Std} = (INVP - 8.45) / 1.65$.

The regression model is as follows:

$$EM = b_0 + b_1 BDIND + b_2 INVP + b_3 MB + b_4 SIZE + b_5 LEV + b_6 LOSS + b_7 XLS + b_8 BIG4 + b_9 OWNC + b_{10} IFRS + \text{Dominance country dummies} + \varepsilon \quad (1)$$

* p < .05 (one-tailed).

** p < .01 (one-tailed).

*** p < .001 (one-tailed).

Table 4
Results on testing H2

Variable	Predicted sign	Coefficient	t-statistic
Intercept	?	2.53	4.88***
<i>BDIND</i>	?	-1.24	-2.41**
<i>INVP</i>	?	-0.16	-0.42
<i>BDIND*INVP</i>	?	-0.11	-0.22
<i>MB</i>	+	0.03	0.61
<i>SIZE</i>	?	-0.04	-0.84
<i>LEV</i>	+	0.58	0.83
<i>LOSS</i>	+	1.62	5.78***
<i>XLS</i>	-	-0.26	-0.81
<i>BIG4</i>	-	-1.37	-2.34**
<i>OWNC</i>	?	-1.17	-1.75*
<i>IFRS</i>	-	-0.27	-1.12
N			629
F-statistic			5.28***
Adj. R ²			8.71%

INVP is standardized as: $(INVP - \text{Mean}) / \text{Std} = (INVP - 8.45) / 1.65$.

The regression model is as follows:

$$EM = b_0 + b_1 BDIND + b_2 INVP + b_3 BDIND*INVP + b_4 MB + b_5 SIZE + b_6 LEV + b_7 LOSS + b_8 XLS + b_9 BIG4 + b_{10} OWNC + b_{11} IFRS + \text{Dominance country dummies} + \varepsilon \quad (2)$$

* p < .05 (one-tailed).

** p < .01 (one-tailed).

*** p < .001 (one-tailed).

Table 5
Results on income smoothing

Variable	Predicted sign	H1		H2	
		Coefficient	<i>t</i> -statistic	Coefficient	<i>t</i> -statistic
Intercept	?	0.77	8.06***	0.77	8.03***
<i>BDIND</i>	-	-0.14	-1.44 [†]	-0.14	-1.46 [†]
<i>INVP</i>	-	-0.04	-1.66*	-0.01	-0.13
<i>BDIND*INVP</i>				-0.04	-0.40
<i>MB</i>	+	0.01	1.55 [†]	0.01	1.58 [†]
<i>SIZE</i>	?	0.02	2.54**	0.02	2.56**
<i>LEV</i>	+	0.13	0.99	0.13	0.98
<i>LOSS</i>	+	-0.11	-2.06*	-0.10	-2.03*
<i>XLS</i>	-	-0.13	-2.19*	-0.13	-2.19*
<i>BIG4</i>	-	-0.25	-1.78*	-0.25	-1.77*
<i>OWNC</i>	?	-0.19	-1.51 [†]	-0.19	-1.49 [†]
<i>IFRS</i>	-	-0.06	-1.33 [†]	-0.06	-1.33 [†]
N			613		613
<i>F</i> -statistic			3.46***		3.22***
Adj. R ²			4.97%		4.84%

[†] p < .10 (one-tailed).
* p < .05 (one-tailed).
** p < .01 (one-tailed).
*** p < .001 (one-tailed).

Table 6
Results on signed accruals

Variable	Predicted sign	H1		H2	
		Coefficient	<i>t</i> -statistic	Coefficient	<i>t</i> -statistic
Intercept	?	1.57	4.02***	1.52	3.94***
<i>BDIND</i>	-	-0.44	-1.15	-0.44	-1.15
<i>INVP</i>	-	-0.08	-0.88	0.35	1.24
<i>BDIND*INVP</i>				-0.64	-1.68*
<i>MB</i>	+	-0.03	-1.06	-0.03	-1.01
<i>SIZE</i>	?	-0.00	-0.01	-0.00	0.05
<i>LEV</i>	+	0.27	0.51	0.26	0.49
<i>LOSS</i>	+	-0.07	-0.33	-0.06	-0.29
<i>XLS</i>	-	-0.18	-0.75	-0.13	-0.56
<i>BIG4</i>	-	-0.64	-1.15	-0.28	-0.93
<i>OWNC</i>	?	-0.54	-1.07	-0.69	-1.49 [†]
<i>IFRS</i>	-	-0.21	-1.15	-0.14	-0.90
N			629		629
<i>F</i> -statistic			1.16		1.51 [†]
Adj. R ²			0.33%		0.89%

[†] p < .10 (one-tailed).

* p < .05 (one-tailed).

*** p < .001 (one-tailed).