

Effects of Independent and Friendly Outside Directors

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Abstract

Using information on business, professional and social ties of directors, we examine how board independence and lack of independence affect firm value. Controlling for endogeneity problems, independent outsiders improve firm value on average while friendly outsiders have negative impact. Independent boards as monitor perform better in large firms and in firms with less-information asymmetry and high transparency. However, friendly boards increase firm value more than independent boards when their firms face financial volatility and M&A threats. Furthermore, politically connected friendly outsiders have more positive impacts on firm value operating in domestic markets. Our results suggest that the effectiveness of boards' multiple roles as monitor, advisor, and facilitator depends on their independence and corporate environments.

JEL classification: G32; G34; G38; K22

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“A Friend in Need is a Friend Indeed”

Old English Proverb

1. Introduction

Since the corporate scandals in early 2000 and following enactment of the Sarbanes and Oxley Act in 2002 (hereafter SOX), much emphasis has been put on the independence of outside directors in corporate governance. Reflecting such trend, many studies emphasize the benefits of independent directors on boards that play a monitoring role (e.g., Cotter, Shivdasani, and Zenner, 1997; Paul, 2007; Choi, Park, and Yoo, 2007; Kumar and Sivaramakrishnan, 2008). Furthermore, studies show how lack of independence of directors can harm firm value. For example, directors who have social ties with top managers are more likely to pay excessive compensation to their CEOs whose subsequent performance is worse than otherwise (Hwang and Kim 2009). These studies imply the importance of outside directors' independence from management as they play a monitoring role in corporate governance.

Previous studies in finance, however, have paid little attention to other roles that outside directors play. As Johnson, Daily, and Ellstrand (1996) point out, directors have multiple roles in addition to a monitoring role. Outside directors can play an advisory role to the management in volatile or vulnerable corporate environments or they can act as a facilitator in resource expanding activities or dealing with outside organizations. Consider corporate environment where a firm has large free cash flows. As a monitor, independent outside directors are expected to be more effective than friendly board members in this situation. On the other hand, suppose a firm is exposed to potential outside takeover threats or it faces financial distress. Because it

is already exposed to external monitoring, the firm may benefit more from advice by friendly outside directors than from monitoring by independent outside directors who keep an arm's length relationship with the insiders.

The corporate needs, costs and benefits of directors' roles might change as corporate characteristic changes. Depending on the role outside directors are expected to play, independent directors do not necessary better perform than 'connected' or 'friendly' directors. We argue that the value of having independent outside directors depends on firm size (Chhaochharia and Grinstein (2007)) as well as other corporate environments. Specifically, the effects of board independence on firm value hinge on different corporate needs stemming from various corporate environments and ensuing benefits from different roles directors can play.

We examine various corporate environments encompassing information environments, financial environments, financial volatility and vulnerable corporate control environments, and political/regulatory environments. The effectiveness of outside directors as a monitor depends on information environments (Raheja, 2005; Adams and Ferreira, 2007; Harris and Raviv, 2008; Duchin, Matsusaka, and Ozbas, 2010). Information environments are associated with the cost of acquiring information and degree of information asymmetry. When outside directors are not well-informed of the firm due to high information acquiring costs or information asymmetry, their monitoring activity will not generate much value.

Some firms are exposed to severe external monitoring mechanism and managers in those firms are under press to deliver performance. Consider firms that are exposed to large financial volatility or firms facing distress or outside takeover threats in vulnerable corporate control environments. If external and internal monitoring activities are substitutable rather than complementary as Jensen and

Ruback (1983) argue, the need for internal monitoring by outside directors is weak when outside monitoring is strong. In this case, friendly outside directors who are trusted and reliable advisors might contribute more to firm value than independent outside directors who are monitors.

Political and regulatory environments also affect the corporate need to rely on the facilitator role of outsiders as the resource-dependence theory argues (Selznick, 1949; Zald, 1969; Pfeffer and Salancik, 1989). Firms subject to strong government regulations might rely on outsiders who have knowledge and experience of or connections to the regulatory authorities. Such outsiders can help the firm deal with regulators and regulations as the revolving door theory suggests (Che, 1995; Geiger et al. 2008). Such corporate reliance on ‘connected’ outside directors might depend on governments’ influence in business, legal system, and industry specific characteristics. In short, firms might use board of directors as a means to facilitate the acquisition of external resources such as government licenses, permits and contracts which are critical for the firm’s success (Goldman, Rocholl, and So, 2009).

Using hand-collected data on executive and outside directors, we empirically examine how the effects of friendly boards and independent boards on firm value vary as the corporate environments change. We focus on the listed non-financial firms in Korea from 1999 when Korean firms were required to appoint outside directors to 2006.

As a newly industrialized country transforming from emerging market to more industrialized economy, Korean data provide interesting information environments and political/regulatory environments to analyze. Korea used to face many problems associated with information asymmetry as an emerging market (Hubbard and Palia (1999), some of which are revealed during the Asian economic crisis in 1997 (Chang

et al. 2007). On the course of restructuring and recover following the crisis, many Korean firms have been exposed to changes in governance systems, vulnerable corporate conditions and external monitoring. In addition, social and political connection plays an important role in firm management as the Korean governments' influence is strong Siegel (2007), Joh and Jung (2011) and Joh, Johnson and Kim (2009) suggest.

Outside directors are non-executive directors who are not employees of the company and have no operational responsibilities within the company. As described in the SOX act in 2002, independent directors in this study have not engaged in business or professional activities associated with the firm, has neither financial nor familial ties to the chief executive officer (CEO) or controlling families. In addition, independent directors in this study are considered to be free from 'social ties' to them as we apply stricter definition of independence following a trend in recent studies (Hwang and Kim 2009). Conversely, friendly boards in this study have 'social ties' such as attending same schools, had been worked for the same workplaces, or have financial, professional or familial ties to the CEO or to the controlling families of the firm.

We explore how relationship between the board independence and firm characteristic affect firm value, after classifying outside directors into independent or friendly directors. Firm value is measured through Tobin's Q. While using Tobin's Q might suffer from the problems associated with stock market valuations, it still reflects investor valuations of the firm. Using Tobin's Q helps avoid earnings management problems associated with using profitability as a firm value. Our Q based on firm value after deducting management compensation is closely related to shareholders' payoff because profit sharing through stock options and stock grants is

not common, especially among non-financial firms in Korea (Kim and Sul 2010).

Our main finding is that, on average, independent outsiders yield positive impact on firm value while friendly outsiders create negative impact, confirming the outcome of other studies as well (Hill and Snell, 1988; Schellenger et al., 1989; Rosenstein and Wyatt, 1990; Byrd and Hickman, 1992; Pearce and Zahra, 1992; Coles, and Terry, 1994). In addition, the study finds that the effects of independent and friendly boards on firm value vary with the corporate conditions.

Independent boards increase firm value more in firms with better information environments such as lower cost of information acquisition, lower information asymmetry and more transparency, and in large firms. A higher ratio of independent managers increases firm value in firms with high free cash flows, low ownership concentration of the largest shareholders, or low inside management' ownership, or low growth rate¹. These results suggest that independent boards are more valuable in firms which are likely to face serious agency problems.

On the other hand, friendly boards appear to improve corporate value in firms which are exposed to M&A threats, in stand-alone firms, in firms in distress or in firms with sizable volatility. These results suggest that advisory role of friendly outside directors becomes more important in firms in a vulnerable situation. In addition, directors with political connection have larger impact on firms doing business in the domestic markets exclusively. This result implies that directors who have ties with the government might play a facilitator role depending on political and regulatory environments.

An important contribution of our study is to show that friendly boards improve firm value under certain vulnerable/volatile circumstances or strong

¹ Myers (1977) argues that high-growth firms avoid potential agency problems related to underinvestment.

political/regulatory conditions. Our study sheds some insights on why some firms still appoint friendly directors, while it complements the existing literature showing that board independence depends on country specific systems and regulations (Denis and McConnell; 2003) and firm characteristics and financial conditions (Kaplan and Minton (1994). Although facing a negative response from the markets for appointing friendly directors, firms might benefit from outside directors who can be close counselors and trusted facilitators depending on corporate environments.

The rest of the paper is organized as follows: In Section 2, we present a literature review, and develop our hypotheses. We describe our data and the sample in Section 3. In Section 4, we test our hypotheses regarding the valuation effect of board independence. We provide concluding remarks in Section 5.

2. Previous Literature on the Role of Outside Directors and Hypotheses

2.1. Role of Outside Directors

Boards of directors perform multiple roles in modern corporations (Johnson et al. 1996). As a fiduciary representing and protecting (minority) shareholders' interest, outside directors monitor managers who may pursue their own interests (Jensen and Meckling, 1976). Acting as an advisor, outside directors can also offer counsel to top managers to help them make better decisions. In addition, board members act as a facilitator in linking the firms and their environments so that the firms can acquire external resources or build organizational legitimacy (Finkelstein and Hambrick, 1996; Forbes and Milliken, 1999).

As an important internal governance mechanism, independence of outside directors is a crucial factor in determining the effectiveness of monitoring and

disciplining the management (Baysinger and Butler, 1985; Daily and Dalton, 1994; Choi, Park, and Yoo, 2007). Board independence, however, does not always guarantee the effective monitoring. According to Chhaochharia and Grinstein (2007), large firms get benefits of independent monitoring while small firms do not. In addition, corporate information environments matter as well. Raheja (2005) and Adams and Ferreira (2007) argue that outside directors are less informed about the firm although they provide more independent monitoring than insiders. Consequently, the benefit of monitoring by independent outside directors decreases with a rise in cost of information acquisition and processing (Raheja, 2005; Adams and Ferreira, 2007; Harris and Raviv, 2008; Duchin, Matsusaka, and Ozbas, 2010). Therefore, Maug (1997) argues that it is optimal for outside directors to give full control to managers when information is too costly to acquire while they can intervene firm management when information is not difficult to acquire. Furthermore, board independence decreases as the cost of information acquisition and processing rises as outside directors incur such information costs for the firm they serve. Linck, Netter, and Yang (2008) empirically show that board independence decreases in firms with high information costs. In short, we expect the valuation effect of board independence to be negatively related to information asymmetry risk.

Boards can play a role of counselors or advisors to top managers in their decision making. Boards' advising role can complement the organization-specific knowledge of inside director (Johnson, Daily, and Elistrand (1996), Kesner and Johnson (1990)). Outside directors who understand top managers better are more knowledgeable of the firm's important strategic issues. With such knowledge, they are likely to make positive impact on firm performance (Judge and Dobbins (1995)) Outside directors may initiate important strategic changes in an early stage of corporate strategy

formation, structural organization changes involving M&As, or getting capital from venture capitalists, etc (Fama and Jensen (1983), Lorsch and MacIver (1989), Palmer, Jennings, and Zhou (1993), Haunschild (1993), Rosenstein et al. (1993)). Such advising role can be more valuable in organizations which are already under strong alternative monitoring forces such as external markets. Firms gain more from counselors or advisors when the external conditions are volatile, firms are vulnerable to external factors, or there is strong external monitoring on the firms.

In addition, board members can act as a facilitator in linking the firms and their environments, helping them acquire external resources or build organizational legitimacy (Finkelstein and Hambrick, 1996; Forbes and Milliken, 1999). Khwaja and Mian (2005) show that politically connected firms managed to borrow more from financial institutions. Goldman, Rocholl, and So (2008) argue that former politicians with various backgrounds, either in the administration or in the legislative branch or in any other type of political position, can be valuable to a company.

2.2 Hypotheses

We argue that directors play multiple roles as a monitor, advisor or facilitator in firms. The value of these roles would depend whether directors are friendly with insiders or whether they maintain their independence from insiders. Furthermore, the effects depend on different corporate needs stemming from various firm characteristics and corporate environments. Using refined definition of independence of outside directors, we examine how independent or friendly directors affect firm value depending on corporate environments.

First, we try to examine whether directors' independence or lack of it affect their role as a monitor and thereby affect firm value under different corporate

environments.

We test whether firm characteristics such as the degree of information asymmetry affect the effects of independent outside directors. Specifically, do firms with high information asymmetry yield smaller impacts of board independence on firm value? We expect that the effects of board independence increase with more transparency in management and lower information asymmetry, and lower information transaction costs.

Second, independence can be more valuable in a firm which faces a high tendency of agency problems as the benefit of monitoring increases. Managers likely engage in value destroying activities when the firm has high free-cash flows (Jensen, 1986) or low ownership concentration of insiders (Jensen and Meckling 1976).

Third, we examine whether independence affects the role of boards as counselors or advisors to top managers. Since the boards' advising role can complement the insiders' firm-specific knowledge, friendly directors who understand insiders better can better perform advisory role. As discussed earlier, advisory role would yield stronger in firms with large financial volatility and those facing distress or outside takeover threats because their monitoring role is substitutable under strong alternative monitoring forces such as external markets. So, we expect that friendly outside directors will improve firm performance when the firm is under with large financial volatility and those facing distress or outside takeover threats.

Fourth, we examine whether board members' social/political capital can affect their role as facilitator for the firm. When a firm has to deal with government, or regulatory authorities for license, permits or contracts, friendly directors who insiders can trust are better able to execute these roles. Facilitator role can be more important when firms operate when regulators have strong influence. Compared to firms that

export goods abroad, firms operating in domestic markets only would be more subjective to regulatory authorities' influence. We examine whether friendly outside directors with political connection will improve firm performance when the firm operates in domestic markets exclusively.

Finally, we also deal with the issue of endogeneity problems in board structure and board independence. Firms with high information asymmetry would invite fewer independent directors and solicit less monitoring from them because transferring firm-specific information to outsiders is costly as Maug (1997) and Linck, Netter, and Yang (2008) argue. Therefore, board independence increases when information asymmetry costs are low. Or board friendliness increases when information asymmetry costs are high. To answer to this question, we have to deal with endogeneity problems using non-linear generalized method of moments (GMM).

3. Sample selection and data

3.1. Data Sources

Our sample consists of all public companies listed on the Korea Stock Exchange (KSE) between 1999 and 2006. From this population, we select 4,572 non-financial firm-years with information available on their board compositions and board characteristics. We then match this sample to the FnDataguide and restrict the sample to firms with annual financial data, monthly stock returns, and an information asymmetry index based on measures of adverse selection developed by the market microstructure literature.

We hand-collect data for the educational institutions (high school, college), previous careers, and family ties to controlling shareholders of 45,691 directors and

CEOs. We collect this information from TS2000 database provided by Korea Listed Companies Association, KISINFO provided by Korea Information Service, Inc., and the Who's Who databases of four daily newspapers. Most boards are appointed during the shareholders annual meeting, which is usually held in the first quarter of each year. Accordingly, boards are largely responsible for the firm performance of the year in which they were appointed.

We limit the sample of directors to those who are legally registered and divide them into executive and non-executive directors. Our final data set consists of complete information on the top managers and financial information of 3,836 firm-years (21,120 directors and CEOs), representing 578 unique firms from 1999 through 2006.

3.2. Regression variables

3.2.1. Board independence

Based on our rich information on directors, we refined definition of independence: classifying an outside director as independent when he has not engaged in business or professional activities associated with the firm just like in Weisbach (1988) and has no personal relationship with insiders including CEO or controlling shareholders as in Hwang and Kim (2009). Otherwise, the director is classified as friendly.

To explain in more details, definitions of independent outside directors are as follows. First, they are neither past nor current employees of the firm or its affiliates'. Second, they have neither personal ties (e.g., belonging to the same high school, or

the same major at the same college/university) with the top manager or controlling shareholders of the firms. Third, they have not worked at the same company before with the top manager or controlling shareholders. Thus, our definition of friends or lack of independence is larger than most studies that confine friendly boards to those with business or family ties to a firm (Fich, 2005; Choi, Park, and Yoo, 2007). We then make a proxy of the ratio of the number of independent/friendly outside directors on the total number of registered boards for board independence.

3.2.2. Firm value

Firm value is measured through Tobin's Q—the ratio of the firm's market value to the replacement cost of its assets, following earlier studies on corporate governance and performance issues since Morck, Shleifer, and Vishny (1988). The mean value of Tobin's Q is 0.933. While the Q may suffer when there are bubbles in stock markets or high volatility in stock prices, it reflects market participants' valuations of firm value. The Q avoids the problems associated with earnings management, which can occur when we use profitability as a proxy for firm value. Because the Tobin's Q might depend on market structure as monopolistic firms would have a higher value than firms in competitive markets, we also use an industry-adjusted Tobin's Q to control for industry effects.

3.2.3. Other variables

To capture the information environments, we use several measures. One set of measures is based on bid-ask spread in stock prices reflecting information transaction costs developed in market microstructure models of Glosten-Harris (1988) (hereafter

GH) and Hasbrouck (1991), Foster and Viswanathan (1993) model (hereafter HFV)². We use GH and HFV variables calculated by Chae, Jung, and Yang (2011) using Trade and Quote (TAQ) data. The mean values of the information transaction costs of the sample firms are 0.032 for GH and 0.034 for HFV. We drew GH and HFV variables for each year between 1999 and 2006 by calculating annual averages for the daily variables. A high GH or HFV measure based on Trade and Quote (TAQ) data means that the degree of information asymmetry risk of a firm is high.

Additionally, we examine whether the firm characteristics which proxy for information acquisition and processing costs (size, analyst report, governance, and institution ownership) are associated with the valuation effect. *Analyst report* is the total number of analyst reports in the year. *Transparency* is the natural logarithm of the sum of transparency related items on Korea Corporate Governance Index (KCGI) between 2002 and 2006³ (i.e. investor relations meeting, disclosure on earnings, forecast, boards, and financial statement)

Free cash flows and inside ownership are used a proxy to measure corporate environments which are more likely face agency problems. Free cash flows are calculated by taking operating cash flow and subtracting capital expenditures. Inside ownership concentration is the percentage of the firm's outstanding shares held by insiders (CEO, executive managers, and inside auditors).

² Market microstructure proxies of information asymmetry capture the idea that the presence of better-informed traders in a financial market may affect its process of price formation. These measures are based on the concept of bid-ask spread because market microstructure literature assumes that market makers widen the bid-ask spread to compensate for their loss from informed traders (Glosten and Milgrom (1985)). Using information on price, quote, and spread, Glosten and Harris (1988) empirically divide the bid-ask spread into permanent components related to information asymmetry cost and temporary components related with order processing cost, inventory cost, etc. Hasbrouck (1991) and Foster and Viswanathan (1993) consider the effects over time.

³ If total scores varied by year, they were normalized so that they matched the annual average of total score.

Corporate vulnerability to outside threats is measured by M&A threat, standalone dummy, and distress. M&A threat is a dummy for firms exposed to outside M&A threats previously or in the future. If a firm has even been announced as targeted for M&A over the past three years or is to be in the next three years, it is assigned the value 1, and 0 for otherwise⁴. *Standalone dummy* is a dummy variable to indicate whether a firm does not belong to one of the 50 largest business groups according to the classification of Korea Fair Trade Commission. Firms belonging to business groups are connected through interlocking ownership among affiliates which help protect firms from outside threats. *Distressed* is a dummy that takes 1 when a firm experienced ordinary income losses in recent 3 years or an equity loss in the year.

We also measured financial volatility of firms using information on stock market prices and sales information. *Stock return volatility* is measured as the annualized standard deviation of daily returns during the year. *Sales volatility* is measured as the standard deviation of Sales from years t-4 to t.

We define political capital as the ratio of board members who has ever held a political or government position, and attempt to find out whether high political capital translates into higher effectiveness of friendly outsiders as facilitator. *Political capital* is the ratio of inside and outside directors who has ever held a political or government position over total number of board members. We also examine whether this is even more pronounced in the case of firms doing business exclusively in the domestic market, given that the government has a stronger influence on these firms. The distribution of politically connected directors is quite skewed as overall ratio is quite low and median is zero and mean is almost 9.9%.

⁴ It includes cases where M&A announcement was made but the deal failed to go through.

3.3. Data description

Figure 1 presents the time series of the board composition of the sample. The sample includes 3,836 firm-years from 1999 through 2006. Figure 1 shows that the ratio of outside directors was only about 12 % in 1999, when the Korean government instituted outside directors on the board, and thereafter it sharply increased, exceeding 30% in 2006. Among all directors, 23.4% of directors are outside directors which combine independent directors (17.8%) and friendly directors (5.4%). Independent outside directors have not participated in the management of the firm presently or in the past, or who have no business or personal ties with a firm or the CEO or controlling shareholders. A 23% of outside directors are considered to have a tie with the CEO or controlling shareholders. However, there has been a gradual decrease in the ratio of friendly boards in recent years.

[insert Figure 1 around here]

Table 1 presents each sample firm's descriptive statistics regarding key firm characteristics, board, and information asymmetry variables. Our final data set consists of complete information on the top managers and financial information of 3,836 firm-years, representing 578 unique firms from 1999 through 2006.

[insert Table 1 around here]

Table 2 shows the relationship between the GH (HFV) variable representing the information transaction costs in market microstructure models and other traditional variables representing information asymmetry risk, i.e., firm size, institution

ownership, analyst report⁵, credit rating dummy⁶, and firm age. We divide the GH (HFV) variable into two groups based on median value and examine whether the variable is associated with traditional variables representing information asymmetry risks. Firms with a high GH (HFV) measure have a small size, less institutional ownership, a small number of analyst reports, and low or non-credit rating. However, the firm age does not show a significant difference between the two groups⁷.

[insert Table 2 around here]

4. Empirical design and results

We examine whether the effects of board independence and friendliness on firm value. Then, we examine whether the valuation effects of board independence or friendly board are robust controlling for endogeneity issues. Once we establish the robustness, we test whether the effects vary as corporate environments change. Specifically, three types of corporate environments are examined: information environments, volatile corporate conditions, and political and regulatory environments.

4.1. Valuation effect of board independence/friendliness

⁵ Collins and Kothari (1989) use analyst reports in measuring the level of information asymmetry within a business environment. Also, Chae (2005) finds that investors have more information in the first quarter because more analyst reports are observed during the first quarter.

⁶ Whited(1992) and Kashyap, Lamont, and Stein (1994) apply credit rating for corporate bonds as a substitute variable for financial restraint and Calomiris, Himmelberg, and Wachtel (1995) use credit rating for CP(Commercial Paper)s as a substitute variable for financial restraint. We use credit rating dummy variables for companies with credit ratings for CPs or corporate bonds are given "1", for companies without credit ratings for CPs or corporate bonds are given "0". Also, we use credit rating score variables, which "0~6" are graded according to credit ratings for CPs, "0~10" are graded for corporate bonds, with the same results.

⁷ Choe and Yang (2006) argue for the effectiveness of GH and HFV measures by regressing each information asymmetry measure on various firm characteristic variables that are likely to be related to the information asymmetry risk of a firm, i.e., firm size, BE/ME, turnover, residual volatility, and analyst coverage.

We analyze how information transaction costs impact the valuation effect of board independence. We run regression analysis using the interaction terms between board independence and the information transaction costs then we redo the same regressions with other firm characteristics related to firms' information asymmetry for a robustness check.

Firm value is regressed on the ratio of independent directors and the ratio of friendly directors along with other factors. To reduce omitted variables bias, we also collect firm-specific financial variables such as firm size, leverage, capital expenditure, profitability, market risk and distress. These variables are included in specification as previous studies of Yermack (1996) and Faleye (2007) show that these variables affect Tobin's Q.

For each firm, board characteristic is measured through its size and average age. *Management size* is the natural logarithm of the total number of top managers. *Managers' average age* is the natural logarithm of the average age of a management group. Financial information is derived as follows: *Firm size* is the natural logarithm of total assets; *CAPEX/Assets* is the ratio of capital expenditures to total assets; *Leverage* is the ratio of total debt to total assets; *Current Profitability* is earnings before interest and taxes (EBIT) to total assets at the beginning of the year. *Distress* is a dummy that equals 1 when a firm has experienced ordinary income losses in the past three years or an equity loss in the given year. *Market risk* (beta) is measured using monthly returns from the market model. In addition, non-financial information such as ownership concentration and types of business organization are included in the regression. For ownership variable, to avoid a causality problem pointed out by Demsetz and Lehn (1985), Demsetz and Villalonga (2001), and Cho (1998), we use

the lagged value of the percentage shareholding of the largest shareholder, *Lag (largest ownership)*. The *Standalone* dummy takes 1 for firms not belonging to one of the 50 largest chaebols, according to the Korea Fair Trade Commission; otherwise, it is equal to 0. Furthermore, we include the two-digit primary Standard Industrial Classification (SIC) code dummies to control for *Industry* fixed effects and *Year* dummies to account for economy-wide shocks. All regressions use year dummies, robust standard errors, and standard errors are firm clustered.

Hermalin and Weisbach (1998) suggest that board structure and firm performance are likely to be endogenously determined. As Linck, Netter, and Yang (2008) show that the ratio of independent outside directors depends on information acquisition and processing costs. These arguments altogether suggest that firm performance and the same firm's characteristics may determine the ratio of friendly/independent boards.

To account for the endogenous effect of board independence/friendliness and firm value, we estimate systems of simultaneous equations with independent outside boards, friendly outside boards, and tobin's Q as endogenous variables. We estimate the system of equations by generalized method of moments (GMM), using the exogenous variables as instruments in the moment conditions. Greene (2002) and Kennedy (2003) suggest that GMM estimates are more efficient than 2SLS estimates when regression errors are heteroskedastic and/or autocorrelated, and that GMM estimates coincide with 2SLS estimates otherwise. The issue of nonlinearity that can result from the scenario where the product of exogenous and endogenous variables is included in regression may produce inconsistent estimates if the system is estimated with a linear technique. We therefore estimate the system using nonlinear GMM, which recognizes that any products involving endogenous variables are themselves

endogenous functions of the exogenous variables. Finally, note that we do not report the R^2 's for our estimated equations, since as Goldberger (1991) observes, there is no guarantee that the R^2 's reported in system estimation techniques lie between zero and one. Billett, King, Mauer (2007) argue that there is no widely accepted goodness of fit measure for nonlinear system estimation.

Our specifications for the tests of hypotheses on the valuation effect of independent/friendly outside boards are as follows.

$$\begin{aligned} \text{Tobin's } Q = & \alpha + \beta_1 \text{Board independence} + \beta_2 \text{Board friendliness} + \beta_3 \text{Board size} + \beta_4 \\ & \text{Board's age} + \beta_5 \text{Largest ownership} + \beta_6 \text{Standalone} + \beta_7 \text{CAPEX/Assets} + \\ & \beta_8 \text{Leverage} + \beta_9 \text{Firm size} + \beta_{10} \text{Operating profitability} + \beta_{11} \text{Distress} + \\ & \beta_{12} \text{Market risk} + \text{Industry dummy} + \text{Year dummy} + \varepsilon \end{aligned} \quad (1)$$

$$\begin{aligned} \text{Board independence} = & \alpha + \beta_1 \text{Tobin's } Q + \beta_2 \text{R\&D spending} + \beta_3 \text{Stock return} \\ & \text{volatility} + \beta_4 \text{GH(HFV)} + \beta_5 \text{Board size} + \beta_6 \text{Board's age} + \beta_7 \text{Largest} \\ & \text{ownership} + \beta_8 \text{Standalone} + \beta_9 \text{Leverage} + \beta_{10} \text{Firm size} + \beta_{11} \text{Distress} + \\ & \text{Industry dummy} + \text{Year dummy} + \varepsilon \end{aligned} \quad (2)$$

$$\begin{aligned} \text{Board friendliness} = & \alpha + \beta_1 \text{Tobin's } Q + \beta_2 \text{R\&D spending} + \beta_3 \text{Stock return volatility} + \\ & \beta_4 \text{GH(HFV)} + \beta_5 \text{Board size} + \beta_6 \text{Board's age} + \beta_7 \text{Largest ownership} + \\ & \beta_8 \text{Standalone} + \beta_9 \text{Leverage} + \beta_{10} \text{Firm size} + \beta_{11} \text{Distress} + \text{Industry} \\ & \text{dummy} + \text{Year dummy} + \varepsilon \end{aligned} \quad (3)$$

where *Tobin's Q* = The ratio of the sum of the market value of common equity, the book value of preferred equity, and the book value of long-term debt to the book value of assets

Board independence = The ratio of outside directors who have no business or personal ties to a firm to board size as of the beginning of the year

Board friendliness = The ratio of outside directors who have business or personal ties to a firm to board size as of the beginning of the year

R&D spending = the R&D expenses over total assets.

Stock return volatility = the annualized standard deviation of daily returns during the year.

Board size = The natural logarithm of total number of boards

Board's age = The natural logarithm of the age of board members as of the end of year
Largest ownership = The lagged value of the shareholding ratio of the largest shareholder
Standalone = A dummy variable to indicate whether a firm does not belong to one of the 50 largest chaebols
CAPEX/Assets = The ratio of capital expenditures to total assets
Leverage = The ratio of total debt to total assets
Firm size = The natural logarithm of (total assets/1,000,000)
Operating profitability = The ratio of earnings before interest and taxes (EBIT) to beginning total assets
Distress = A dummy that takes 1 when a firm experienced ordinary income losses in recent 3 years, or an equity in the year
Market risk = The estimate from market model in which the firm's monthly returns over the last year are regressed on the KOSPI monthly returns

Table 3 shows the estimation of our system with board independence, board friendliness, and firm value. The first two columns report the estimation of a system with board independence and board friendliness. The results show that Tobin's Q does not have a significant effect on board independence/friendliness, and that information asymmetric environments affect the board independence negatively. Also, board friendliness is shown to go up as members of the boards are older and the firm is affiliated with a chaebol. The third column examines whether the valuation impact differs when we divide outside directors into independent and friendly boards. It shows that board independence (measured by the ratio of independent outside directors) positively impacts firm performance (measured by Tobin's Q) while board friendliness (measured by the ratio of friendly outside directors) negatively does.

[insert Table 3 around here]

4.2. Board Monitoring and Information Environments

We provide a proxy for information asymmetry with two information transaction costs variables derived from market micro structural models (GH, HFV) as well as the other firm characteristics used in studies, i.e., firm size, analyst report, governance index, and institutional ownership. Our regressions include interaction terms of the independent (friendly) outsider ratio with the information transaction measures.

In Table 4, we examine the relation between the valuation effect of board independence/friendliness and information asymmetry. In columns (1) and (2), the interaction terms with independent directors are significant and negative. That means given the ratio of independent board members who have no personal or business relationship with insiders or its affiliates, firm value is higher when firm's information transaction costs are lower. Larger firm size, more analyst reports, higher governance scores, more institutional ownership mean less information asymmetry and better transparency in columns (3) to (6), respectively. As such, the interaction terms between these information asymmetry variables and independent directors are all positive and significant.

These results suggest that independent outside directors have a more positive valuation effect under conditions of low information asymmetry. Regardless of proxy for information asymmetry, these results suggest that the monitoring role of independent outside directors decreases under high information asymmetry because the costs of acquiring and processing information are high. Conversely, the valuation effect of independent directors increases as the costs of monitoring becomes lower because they do not have to incur high information costs of acquisition and processing with lower information asymmetry.

[insert Table 4 around here]

4.3. Monitoring and Environments with high agency problems.

We now proceed to examine whether the effect of monitoring role of independent boards depends on the agency problem. The results, presented in Table 5, show a stronger coefficient estimate when we interact board independence/friendliness variable with agency problem variables. In other words, the monitoring role of independent boards matter when the agency problem is severe (high free cash flow, low largest ownership, low insider ownership).

[insert Table 5 around here]

4.4. Advising and Financial Volatility

This section reports the relation between the valuation effect of the advising role of boards and corporate financial volatility and vulnerability to outside threats. Compared with independent/detached directors, friendly directors who are closer to insiders can better provide advisory role which complement the insiders' firm-specific knowledge. When firms are in need of advice due to their financial volatility and vulnerability, directors' advisory role becomes more important. These arguments suggest that advisory role of friendly boards would yield stronger in firms with large financial volatility.

Table 6 reports how independence and friendly board affects advisory role when firms are exposed to outside threats. Corporate vulnerability to outside threats is measured by M&A threat, standalone, and distress. M&A threat is a dummy for firms exposed to outside M&A threats previously or anticipated M&A threats. Standalone

is a dummy for firms not belonging to top 50 business groups which are connected through interlocking ownership, and distress is a dummy for firms facing financing distress. The interaction terms of independence with such vulnerability to outside threats are negative. As expected, firm's vulnerability such as M&A threat, standalone, distress, and less free cash flow to increase the valuation effect of friendly outside directors compared to independent directors. The results imply that a firm under a vulnerable situation deems imperative in the role of friendly outsider.

[insert Table 6 around here]

Table 7 presents how board friendliness interacts with the firms' financial volatility which might affect firm's information transaction costs. We expect firm's stock return (sales) volatility to increase information asymmetry risk, thus, to increase information transaction costs. The standard deviations of stock returns (sales) can affect the monitoring costs of independent outside directors (Fama and Jensen (1983), Gaver and Gaver (1993)). Interaction term of independence with financial volatility shows a negative (but not significant) coefficient while that of friendly board yields a positive and significant coefficient. The results show that a firm with high stock return volatility and high sales volatility expenditure has a lower valuation effect of board independence while the friendly outsiders have a higher valuation effect, consistent with our previous works.

[insert Table 7 around here]

4.3. Board as Facilitator and Regulatory Environments

We examine facilitator role of board members with social/political capital. Without consideration of whether a firm operates in domestic market only or not, we pool all observations together. In this case as columns (1) and (2) of the table 8 show, directors with political connection improve firm performance more when the board is friendly than independent. We also divide the samples into two groups: firms that export goods abroad, firms operating in domestic markets only. Compared to firms that export goods abroad, firms operating in domestic markets only would be more subjective to regulatory authorities' influence. Columns (3) to (6) show that friendly outside directors with political connection improve firm performance when the firm operates in domestic markets exclusively.

[insert Table 8 around here]

5. Conclusion

While recent corporate governance literature emphasizes the importance of outside directors' monitoring role and their independence, we note that directors can play multiple roles as a monitor, advisor or facilitator for the firms. The value of some of these roles would depend whether directors are friendly with insiders or whether they maintain their independence from insiders. Furthermore, the effects depend on different corporate needs stemming from various firm characteristics and corporate environments.

Using information on business and professional relationship as well as social ties between outside directors and insiders, we examine how independent or friendly directors affect firm value depending on corporate environments. The results suggest the importance of different roles that outsiders play.

Overall, our evidence suggests that independent directors improve firm value. However, compared with strict and independent directors, friendly boards have a positive impact on firm value under certain vulnerable/volatile circumstances or political/regulatory conditions. In addition to the size of firm which is noted by Chhaochharia and Grinstein (2007), some firms do not benefit much from independent monitoring. High information asymmetry which increases information transaction costs and opaque firm related information, volatile financial conditions or corporate vulnerability to outside threats weakens the effect of board independence on firm value. Conversely, in such environments, the effects of friendly boards on firm value are positive. Furthermore, firms appear to gain more with the political connected managers when the firms are exposed to regulatory environments. These results suggest that the effects of board independence on firm value hinge on different roles of directors stemming from various corporate environments: information environments, financial volatility and vulnerable corporate control environments, and political/regulatory environments.

Our study sheds some insights on why some firms appoint independent directors more while other firms appoint friendly directors even in the same country under the same governance systems and regulations. Although there is in general strong emphasis on independence and potentially negative response to friendly board members from the markets, our results provide evidence that the effects are not uniformly distributed and depend on corporate environments. The results imply that firms may need different roles of outside directors and a long-living practice of close counselor as board members might work depending on corporate environments.

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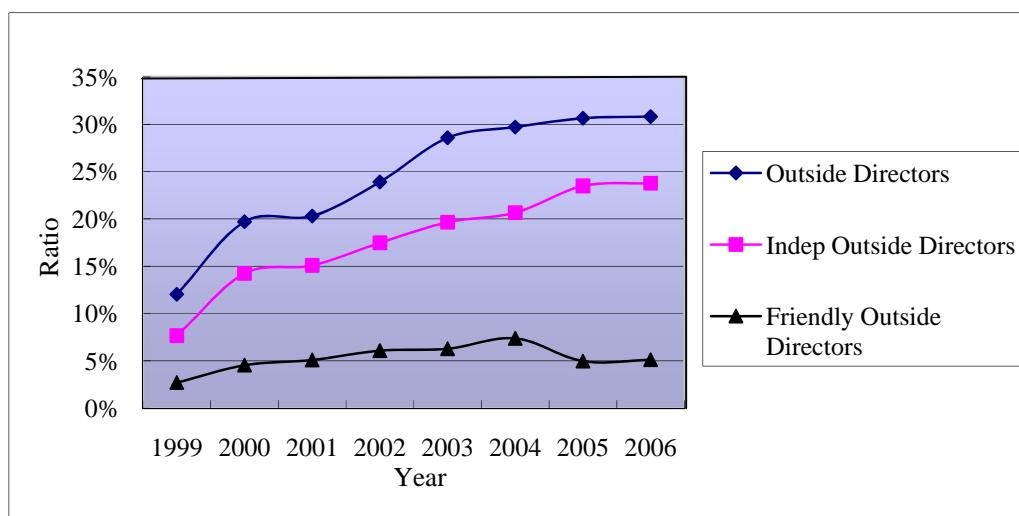


Fig. 1. Board Structure Trends: 1999-2006. The sample includes 578 unique firms covering 3,836 firm-years over the period 1999-2006. Figure reports the percent of outside directors, independent outside directors, and friendly outside directors. *Outside Directors* are the ratio of outside directors to board size. *Indep Outside Directors* are the ratio of outside directors who have no business or personal ties to a firm to board size. *Friendly Outside Directors* are the ratio of outside directors who appear to have business or personal ties to a firm to board size.

Table 1
Descriptive statistics for sample firms

This table presents descriptive statistics for sample firms over 1999-2006. The sample is drawn from FnDataguide. Data related to board of director characteristics are taken from Korea Listed Companies Association and KISINFO, a database maintained by Korea Information Service, Inc as well as database of people of JoongAngilbo. Data related to GH (HFV) are taken from Trade and Quote (TAQ) database provided by the Institute of Banking and Finance at Seoul National University (IFB/KSE database). *Tobin's Q* is the ratio of the sum of the market value of common equity, the book value of preferred equity, and the book value of long-term debt to the book value of assets. *Outside directors* are the ratio of directors who are not employees of the company and have no operational responsibilities within the company to board size. *Independent outsiders* are the ratio of outside directors who have no business or personal ties to a firm to board size. *Friendly outsiders* are the ratio of outside directors who appear to have business or personal ties to a firm to board size. *GH* or *HFV* is information transaction costs estimated by Glisten and Harris (1988) model or Hasbrouck (1991)–Foster and Viswanathan (1993) model. *Board size* is the natural logarithm of total number of directors. *Board age* is the natural logarithm of the age of board members as of the end of year. *Largest ownership* is the shareholding ratio of the largest shareholder. *CAPEX/Assets* is the ratio of capital expenditures to total assets. *Leverage* is the ratio of total debt to total assets. *Firm size* is the natural logarithm of (total assets/1,000,000). *Operating profitability* is the ratio of earnings before interest and taxes (EBIT) to beginning total assets. *Distressed* is a dummy that takes 1 when a firm experienced ordinary income losses in recent 3 years, or an equity loss in the year. *Standalone dummy* is a dummy variable to indicate whether a firm does not belong to one of the 50 largest chaebols. The Korea Fair Trade Commission updates the list of the 50 largest chaebols annually. *Market risk (beta)* is the estimate from market model in which the firm's monthly returns over the last year are regressed on the KOSPI monthly returns. *Stock return volatility* is measured as the annualized standard deviation of daily returns during the year. *Sales volatility* is measured as the standard deviation of Sales from years t-4 to t. *Analyst report* is the total number of analyst reports in the year. *Transparency* is the natural logarithm of *Governance* is the natural logarithm of total Korean corporate governance index (KCGI) which consists of four sub-indices: Shareholder rights, Disclosure, Audit committees, and Ownership parity (excluding Board structure index) between 2002 and 2006. *Institution ownership* is the fraction of shares owned by institutions. *Free cash flow* is calculated by taking operating cash flow and subtracting capital expenditures. *M&A threat* is dummy variable. If a firm has even been announced as targeted for M&A over the past 10 years, it is assigned the value 1, and 0 for otherwise. *Political capital* is a number of board members, including CEO, in ratio who has ever held a political or government position.

Variable	First quartile	Mean	Median	Third quartile	Standard deviation	Sample size
Tobin's Q	0.672	0.933	0.813	1.030	0.530	3,836
Outside directors	0.020	0.234	0.222	0.300	0.152	3,836
Independent outsiders	0.000	0.178	0.200	0.250	0.152	3,836
Friendly outsiders	0.000	0.054	0.000	0.083	0.104	3,836
GH	0.001	0.032	0.003	0.012	0.324	3,836
HFV	0.001	0.034	0.003	0.013	0.351	3,836
Board size	1.609	1.826	1.946	2.197	0.710	3,836
Board age	3.954	3.999	4.007	4.057	0.088	3,836
Largest ownership	0.202	0.335	0.316	0.453	0.175	3,836
Standalone dummy	1.000	0.810	1.000	1.000	0.393	3,836
CAPEX/Assets	0.006	0.044	0.025	0.062	0.312	3,836
Leverage	0.351	0.515	0.494	0.641	0.257	3,836
Firm size	4.479	5.522	5.282	6.330	1.483	3,836
Operating profitability	0.006	0.022	0.032	0.067	0.142	3,836
Distressed dummy	0.000	0.381	0.000	1.000	0.486	3,836
Market risk(beta)	0.476	0.728	0.723	0.974	0.370	3,836
Stock return volatility	0.377	0.561	0.498	0.692	0.259	3,836
Sales volatility	0.013	0.075	0.062	0.137	0.270	3,836
Analyst report	0.000	2.877	0.000	2.000	5.620	3,836
Transparency	2.773	2.956	2.996	3.219	0.405	2,150
Institution ownership	0.082	0.258	0.199	0.383	0.215	3,836
Free cash flow	-0.021	0.034	0.034	0.094	0.183	3,836
M&A threat	0.000	0.069	0.000	0.000	0.253	3,836
Political capital	0.000	0.099	0.000	0.125	0.205	3,836

Table 2
Information transaction costs, Split Sample

This table reports subsample averages for information transaction costs measured by market microstructure models and other firm characteristics proxy for information asymmetry. The sample comprises 3,836 nonfinancial firms listed on the KSE between 1999 and 2006. Small *GH (HFV) group* is the one whose information transaction costs are smaller than the median of the sample firms and Large *GH (HFV) group* is the one whose information transaction costs are larger than the median of the sample firms. *Firm size* is the natural logarithm of (total assets/1,000,000). *Institution ownership* is the fraction of shares owned by institutions. *Analyst report* is the natural logarithm of total number of analyst reports in the year. *Credit rating dummy* for companies with credit ratings for CPs or corporate bonds are given "1", for companies without credit ratings for CPs or corporate bonds are given "0". *Firm age* is the natural logarithm of the firm's age. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. T-values calculated from heteroscedastic corrected standard errors (White, 1980).

Panel A : GH variable			
	Small GH group (A)	Large GH group (B)	Difference (t-stat.) (A-B)
Firm size	5.705 (0.033)	5.187 (0.026)	12.430***
Institution ownership	0.293 (0.006)	0.254 (0.006)	4.492***
Analyst report	3.532 (0.125)	2.229 (0.107)	7.923***
Credit rating dummy	0.323 (0.467)	0.264 (0.441)	4.424***
Firm age	3.362 (0.548)	3.334 (0.536)	0.674
Panel B : HFV variable			
	Small HFV group (A)	Large HFV group (B)	Difference (t-stat.) (A-B)
Firm size	5.707 (0.033)	5.184 (0.026)	12.591***
Institution ownership	0.295 (0.006)	0.254 (0.006)	4.764***
Analyst report	3.551 (0.125)	2.224 (0.107)	8.097***
Credit rating dummy	0.321 (0.467)	0.266 (0.442)	4.167***
Firm age	3.359 (0.556)	3.329 (0.562)	0.764

Table 3
Board independence and Firm Value

The systems of equations are estimated by nonlinear GMM, and are based on 3,836 firm-year observations over the 1999 to 2006. The dependent variable in the first column is *Independent outsiders (Board independence)*, which is the ratio of outside directors who have no business or personal ties to a firm to board size. The dependent variable in the second column is *Friendly outsiders (Board friendliness)*, which is the ratio of outside directors who have business or personal ties to a firm to board size. The dependent variable in the third column is *Tobin's Q*, which is the ratio of the sum of the market value of common equity, the book value of preferred equity, and the book value of long-term debt to the book value of assets. See Table 1 for exact definitions of the variables. *Industry dummies* and *year dummies* are employed to control for industry compensation practices and economy-wide shocks. Standard errors are shown in parentheses under parameter estimates. We correct the standard errors for heteroskedasticity and double-cluster the errors at the firm and time level. Levels of significance are indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

Variable	Three-Equation System		
	Board independence	Board friendliness	Tobin's Q
Tobin's Q	0.063 (0.041)	-0.017 (0.016)	
Independent outsiders			6.696*** (1.501)
Friendly outsiders			-16.497*** (4.775)
R&D spending	-0.780* (0.434)	0.164 (0.236)	
Standard deviation of stock return	-0.038 (0.029)	0.023 (0.015)	
Board size	-0.013 (0.010)	0.006 (0.005)	0.211*** (0.066)
Board age	-0.008 (0.016)	0.014** (0.007)	0.306*** (0.090)
Largest ownership			0.199*** (0.080)
Standalone dummy	0.030** (0.014)	-0.019*** (0.007)	-0.557*** (0.144)
CAPEX/Assets			-0.051* (0.030)
Leverage	-0.030 (0.025)	0.004 (0.014)	0.382*** (0.153)
Firm size	0.025*** (0.006)	0.003 (0.002)	-0.127*** (0.038)
Operating profitability			-0.113 (0.205)
Distressed dummy	0.010 (0.009)	0.007 (0.005)	0.039 (0.047)
Market risk(beta)			0.170*** (0.054)
Industry dummy	Yes	Yes	Yes
Year dummy	Yes	Yes	Yes
Number of firms	3,836	3,836	3,836

Table 4
Monitoring role under low information transaction costs

This table presents estimates from regressing firm value during 1999-2006 on board independence and various firm characteristics. The dependent variable is *Tobin's Q*, which is the ratio of the sum of the market value of common equity, the book value of preferred equity, and the book value of long-term debt to the book value of assets. *Independent outsiders* are the ratio of outside directors who have no business or personal ties to a firm to board size. *Friendly outsiders* are the ratio of outside directors who appear to have business or personal ties to a firm to board size. *GH* or *HFV* is information transaction costs estimated by Glosten and Harris (1988) model or Hasbrouck (1991)–Foster and Viswanathan (1993) model. *Firm size* is the natural logarithm of (total assets/1,000,000). See Table 1 for exact definitions of the variables. *Analyst report* is the total number of analyst reports in the year. *Transparency* is the natural logarithm of total Korean corporate governance index (KCGI) between 2002 and 2006. *Sales growth rate* is a log value of the net sales between year *t* and year *t*-1. We correct the standard errors for heteroskedasticity and double-cluster the errors at the firm and time level. Levels of significance are indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

Variable	(1)	(2)	(3)	(4)	(5)	(6)
Independent outsiders	0.286*** (0.053)	0.299*** (0.053)	-0.407*** (0.184)	0.047 (0.064)	-0.428 (0.502)	0.289*** (0.056)
Friendly outsiders	-0.120 (0.073)	-0.098 (0.073)	-0.023 (0.263)	-0.058 (0.082)	-0.138 (0.720)	-0.063 (0.076)
Board size	0.020 (0.022)	0.021 (0.022)	0.022 (0.022)	0.008 (0.021)	0.037 (0.037)	0.012 (0.022)
Board age	-0.768*** (0.079)	-0.774*** (0.078)	-0.736*** (0.071)	-0.611*** (0.069)	-1.259*** (0.128)	-0.703*** (0.071)
Largest ownership	-0.011 (0.045)	-0.010 (0.045)	0.003 (0.044)	0.047 (0.043)	0.057 (0.061)	-0.019 (0.044)
Standalone dummy	-0.053** (0.022)	-0.052** (0.022)	-0.050** (0.022)	-0.008 (0.022)	-0.082*** (0.031)	-0.049** (0.023)
CAPEX/Assets	-0.008 (0.023)	-0.006 (0.023)	-0.008 (0.023)	-0.006 (0.022)	-0.025 (0.027)	0.019 (0.027)
Leverage	0.345*** (0.044)	0.346*** (0.043)	0.442*** (0.037)	0.473*** (0.037)	0.259*** (0.063)	0.453*** (0.038)
Firm size	0.008 (0.008)	0.009 (0.008)	-0.018* (0.010)	-0.068*** (0.009)	0.014 (0.012)	0.004 (0.008)
Operating profitability	-0.138** (0.064)	-0.132** (0.063)	-0.060 (0.058)	-0.057 (0.056)	-0.398*** (0.090)	-0.068 (0.059)
Distressed dummy	-0.019 (0.018)	-0.018 (0.018)	-0.028 (0.018)	-0.024 (0.017)	-0.022 (0.026)	-0.018 (0.018)
Market risk(beta)	0.086*** (0.024)	0.084*** (0.024)	0.086*** (0.023)	0.064*** (0.022)	0.115*** (0.034)	0.063*** (0.023)
GH	0.045 (0.030)					
HFV		0.047* (0.027)				
Analyst report				0.026*** (0.003)		
Transparency					0.127** (0.050)	
Sales growth rate						0.003*** (0.001)
Independent outsiders * GH	-0.247* (0.158)					
Friendly outsiders * GH	0.105 (0.441)					
Independent outsiders * HFV		-0.229* (0.130)				
Friendly outsiders * HFV		0.230 (0.476)				
Indep outsider * Firm size			0.104*** (0.027)			
Friendly outsider * Firm size			-0.015 (0.043)			
Indep outsider * Analyst report				0.010* (0.006)		
Friendly outsider * Analyst report				-0.002 (0.010)		
Indep outsider * Transparency					0.258* (0.157)	
Friendly outsider * Transparency					-0.001 (0.237)	
Indep outsider * Sales growth rate						-0.010*** (0.002)
Friendly outsider * Sales growth rate						0.001 (0.002)
Industry (Year) dummy	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	3,836	3,836	3,836	3,836	2,150	3,836
Adj. R ²	0.248	0.248	0.259	0.299	0.290	0.270

Table 5
Monitoring role under high agency problem

This table reports results from regressing firm value during 1999-2006 on board independence and various firm characteristics. The dependent variable is *Tobin's Q*, which is the ratio of the sum of the market value of common equity, the book value of preferred equity, and the book value of long-term debt to the book value of assets. *Independent outsiders* are the ratio of outside directors who have no business or personal ties to a firm to board size. *Friendly outsiders* are the ratio of outside directors who appear to have business or personal ties to a firm to board size. *M&A threat* is dummy variable. If a firm has even been announced as targeted for M&A over the past 10 years, it is assigned the value 1, and 0 for otherwise. *Standalone dummy* is a dummy variable to indicate whether a firm does not belong to one of the 50 largest chaebols. *Distressed* is a dummy that takes 1 when a firm experienced ordinary income losses in recent 3 years, or an equity loss in the year. *Free cash flow* is calculated by taking operating cash flow and subtracting capital expenditures. *Inside ownership concentration* is the percentage of the firm's outstanding shares held by insiders (CEO, executive managers, and inside auditors). See Table 1 for exact definitions of the variables. *Industry dummies* and *year dummies* are employed to control for industry compensation practices and economy-wide shocks. Standard errors are shown in parentheses under parameter estimates. We correct the standard errors for heteroskedasticity and double-cluster the errors at the firm and time level. Levels of significance are indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

Variable	(1)	(2)	(3)
Independent outsiders	0.199*** (0.056)	0.304*** (0.101)	0.318*** (0.065)
Friendly outsiders	-0.058 (0.076)	-0.115 (0.154)	-0.109 (0.103)
Board size	0.011 (0.022)	0.012 (0.022)	0.021 (0.022)
Board age	-0.701*** (0.071)	-0.729*** (0.071)	-0.707*** (0.071)
Largest ownership	-0.001 (0.044)	0.058 (0.070)	0.014 (0.045)
Insider ownership			0.021 (0.092)
Standalone dummy	-0.050** (0.022)	-0.047** (0.022)	-0.046** (0.022)
CAPEX/Assets	-0.031 (0.023)	-0.008 (0.023)	-0.008 (0.023)
Leverage	0.469*** (0.038)	0.453*** (0.038)	0.440*** (0.038)
Firm size	0.006 (0.008)	0.004 (0.008)	-0.003 (0.008)
Operating profitability	-0.088 (0.059)	-0.051 (0.058)	-0.041 (0.058)
Distressed dummy	-0.035 (0.018)	-0.028 (0.018)	-0.035** (0.018)
Market risk(beta)	0.094*** (0.023)	0.087*** (0.023)	0.081*** (0.023)
Free cash flow	-0.185*** (0.062)		
Indep outsider * Free cash flow	0.050 (0.290)		
Friendly outsider * Free cash flow	-0.671* (0.399)		
Indep outsider * Largest ownership		-0.397* (0.238)	
Friendly outsider * Largest ownership		0.068 (0.416)	
Indep outsider * Insider ownership			-1.274*** (0.381)
Friendly outsider * Insider ownership			0.210 (0.529)
Industry(Year) dummy	Yes	Yes	Yes
Number of firms	3,836	3,836	3,836
Adj. R ²	0.262	0.257	0.261

Table 6
Friend under vulnerability

This table reports results from regressing firm value during 1999-2006 on board independence and various firm characteristics. The dependent variable is *Tobin's Q*, which is the ratio of the sum of the market value of common equity, the book value of preferred equity, and the book value of long-term debt to the book value of assets. *Independent outsiders* are the ratio of outside directors who have no business or personal ties to a firm to board size. *Friendly outsiders* are the ratio of outside directors who appear to have business or personal ties to a firm to board size. *M&A threat* is dummy variable. If a firm has even been announced as targeted for M&A over the past 10 years, it is assigned the value 1, and 0 for otherwise. *Standalone dummy* is a dummy variable to indicate whether a firm does not belong to one of the 50 largest chaebols. *Distressed* is a dummy that takes 1 when a firm experienced ordinary income losses in recent 3 years, or an equity loss in the year. *Free cash flow* is calculated by taking operating cash flow and subtracting capital expenditures. See Table 1 for exact definitions of the variables. *Industry dummies* and *year dummies* are employed to control for industry compensation practices and economy-wide shocks. Standard errors are shown in parentheses under parameter estimates. We correct the standard errors for heteroskedasticity and double-cluster the errors at the firm and time level. Levels of significance are indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

Variable	(1)	(2)	(3)
Independent outsiders	0.232*** (0.054)	0.161** (0.064)	0.223*** (0.066)
Friendly outsiders	-0.133* (0.075)	-0.057 (0.086)	-0.180** (0.093)
Board size	0.013 (0.022)	0.012 (0.022)	0.011 (0.022)
Board age	-0.726*** (0.071)	-0.726*** (0.071)	-0.730*** (0.071)
Largest ownership	-0.008 (0.044)	-0.002 (0.044)	-0.001 (0.044)
Standalone dummy	-0.047** (0.022)	-0.036 (0.032)	-0.047** (0.022)
CAPEX/Assets	-0.008 (0.023)	-0.008 (0.023)	-0.009 (0.023)
Leverage	0.451*** (0.038)	0.448*** (0.038)	0.448*** (0.038)
Firm size	0.004 (0.008)	0.005 (0.008)	0.005 (0.008)
Operating profitability	-0.052 (0.058)	-0.054 (0.059)	-0.054 (0.059)
Distressed dummy	-0.029* (0.017)	-0.028 (0.018)	-0.028 (0.027)
Market risk(beta)	0.086*** (0.023)	0.086*** (0.023)	0.086*** (0.023)
M&A threat	0.017 (0.050)		
Indep outsider * M&A threat	-0.297* (0.180)		
Friendly outsider * M&A threat	0.301* (0.185)		
Indep outsider * Standalone dummy		-0.141* (0.080)	
Friendly outsider * Standalone dummy		0.123* (0.075)	
Indep outsider * Distress			-0.065 (0.101)
Friendly outsider * Distress			0.217* (0.131)
Industry(Year) dummy	Yes	Yes	Yes
Number of firms	3,836	3,836	3,836
Adj. R ²	0.257	0.257	0.257

Table 7
Friend under volatility uncertainty

This table reports results from regressing firm value during 1999-2006 on board independence and various firm characteristics. The dependent variable is *Tobin's Q*, which is the ratio of the sum of the market value of common equity, the book value of preferred equity, and the book value of long-term debt to the book value of assets. *Independent outsiders* are the ratio of outside directors who have no business or personal ties to a firm to board size. *Friendly outsiders* are the ratio of outside directors who appear to have business or personal ties to a firm to board size. *Stock return volatility* is measured as the annualized standard deviation of daily returns during the year. *Sales volatility* is measured as the standard deviation of Sales from years t-4 to t. See Table 1 for exact definitions of the variables. *Industry dummies* and *year dummies* are employed to control for industry compensation practices and economy-wide shocks. Standard errors are shown in parentheses under parameter estimates. We correct the standard errors for heteroskedasticity and double-cluster the errors at the firm and time level. Levels of significance are indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

Variable	(1)	(2)
Independent outsiders	0.274*** (0.117)	0.289*** (0.056)
Friendly outsiders	-0.449*** (0.170)	-0.065 (0.075)
Board size	0.032 (0.021)	0.012 (0.022)
Board age	-0.625*** (0.070)	-0.703*** (0.071)
Largest ownership	0.019 (0.044)	-0.019 (0.044)
CAPEX/Assets	0.002 (0.022)	0.019 (0.027)
Leverage	0.353*** (0.038)	0.453*** (0.038)
Firm size	0.024 (0.008)	0.004 (0.008)
Operating profitability	-0.076 (0.058)	-0.068 (0.059)
Distress	-0.088*** (0.018)	-0.018 (0.018)
Standalone dummy	-0.040* (0.022)	-0.049** (0.023)
Market risk(beta)	-0.008 (0.024)	0.063*** (0.023)
Stock return volatility	0.508*** (0.052)	
Sales volatility		0.003*** (0.001)
Indep outsider * Stock return volatility	-0.168 (0.188)	
Friendly outsider * Stock return volatility	0.698*** (0.287)	
Indep outsider * Sales volatility		-0.010*** (0.002)
Friendly outsider * Sales volatility		0.001 (0.002)
Industry dummy	Yes	Yes
Year dummy	Yes	Yes
Number of firms	3,836	3,836
Adj. R ²	0.289	0.270

Table 8
Friend and political capital

This table reports results from regressing firm value during 1999-2006 on board independence and various firm characteristics. The dependent variable is *Tobin's Q*, which is the ratio of the sum of the market value of common equity, the book value of preferred equity, and the book value of long-term debt to the book value of assets. *Independent outsiders* are the ratio of outside directors who have no business or personal ties to a firm to board size. *Friendly outsiders* are the ratio of outside directors who appear to have business or personal ties to a firm to board size. Firms that have exported is categorized as *Export*, and *Domestic* for otherwise. *Political capital* is a number of board members, including CEO, in ratio who has ever held a political or government position. See Table 1 for exact definitions of the variables. *Industry dummies* and *year dummies* are employed to control for industry compensation practices and economy-wide shocks. Standard errors are shown in parentheses under parameter estimates. We correct the standard errors for heteroskedasticity and double-cluster the errors at the firm and time level. Levels of significance are indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

Variable	Overall		Export		Domestic	
	(1)	(2)	(3)	(4)	(5)	(6)
Independent outsiders	0.198*** (0.054)	0.129** (0.062)	0.026 (0.081)	-0.014 (0.093)	0.286*** (0.067)	0.239*** (0.077)
Friendly outsiders	-0.101* (0.064)	-0.186** (0.085)	0.084 (0.112)	0.072 (0.130)	-0.192** (0.087)	-0.314*** (0.101)
Board size	0.014 (0.022)	0.014 (0.022)	0.033 (0.034)	0.034 (0.034)	-0.011 (0.026)	-0.012 (0.026)
Board age	-0.744*** (0.071)	-0.732*** (0.071)	-0.293*** (0.093)	-0.293*** (0.093)	-1.142*** (0.096)	-1.137*** (0.096)
Largest ownership	-0.015 (0.044)	0.002 (0.044)	-0.113* (0.063)	-0.111* (0.063)	0.068 (0.056)	0.069 (0.056)
CAPEX/Assets	-0.007 (0.023)	-0.008 (0.023)	0.018 (0.040)	0.018 (0.040)	-0.009 (0.026)	-0.009 (0.026)
Leverage	0.435*** (0.038)	0.448*** (0.038)	0.420*** (0.057)	0.420*** (0.057)	0.413*** (0.067)	0.410*** (0.050)
Firm size	-0.002 (0.008)	0.001*** (0.008)	-0.002 (0.012)	-0.002 (0.012)	0.014 (0.010)	0.014 (0.010)
Operating profitability	-0.053 (0.059)	-0.056 (0.058)	0.030 (0.082)	0.029 (0.082)	0.100 (0.085)	0.092 (0.084)
Standalone dummy	-0.047** (0.022)	-0.043** (0.022)	-0.031 (0.035)	-0.031 (0.035)	-0.023 (0.027)	-0.020 (0.027)
Market risk(beta)	0.104*** (0.023)	0.083*** (0.023)	0.030 (0.034)	0.031 (0.034)	0.141*** (0.029)	0.138*** (0.029)
Political capital	0.091** (0.040)	-0.034 (0.069)	0.137** (0.060)	0.068 (0.099)	0.075 (0.049)	-0.069 (0.087)
Indep outsider * Political capital		0.347* (0.190)		0.278 (0.309)		0.290 (0.226)
Friendly outsider * Political capital		0.588** (0.299)		0.102 (0.495)		0.818*** (0.344)
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	3,836	3,836	2,238	2,238	1,598	1,598
Adj. R ²	0.254	0.259	0.322	0.322	0.262	0.264