

Audit Committees, Corporate Governance, and Shareholder Wealth: Evidence from Korea

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Abstract

This paper examines the effect of audit committee appointments on shareholder wealth in Korea. We show that stock prices generally increase with audit committee appointments; however, *chaebol* (business group) affiliates and firms switching audit committee membership are associated with significantly lower stock returns. We suggest that this may be due to management's opportunistic behavior that influences the selection of committee members to their advantage. Audit committee independence and financial literacy of audit committee members appear to help alleviate this opportunistic behavior. In sum, the regulatory governance mechanism established in Korea following the Asian financial crisis seems to be partly effective.

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1. Introduction

Following the Asian financial crisis, many emerging economies attempted to improve corporate governance to protect shareholder wealth, as poor governance was regarded as one of the main reasons for the massive decline in shareholder value during the crisis (Johnson et al. 2000; Mitton 2002; Lemmon and Lins 2003; Baek et al. 2004). Many Asian governments reformed their corporate governance by introducing a number of governance devices from developed economies. The audit committee was one of those key governance devices.¹ Because the audit committee monitors management on behalf of shareholders and ensures fair presentation of financial statements, it is an integral part of most corporate governance systems. A strong audit committee is expected to remedy poor governance systems (e.g., agency problems) that seem to prevail in emerging markets.²

This paper studies the announcement effect of audit committee appointments in Korea to examine whether the market's reaction is consistent with the role of the audit committee. Audit committees have two major roles in mitigating agency problems as Kim (2007) describes: one in operational audit and the other in accounting audit. Operational audit focuses more on monitoring operational activities of top management while accounting audit emphasizes quality of financial reporting. Kim (2007) argues that audit committees in Korea are primarily concerned with operational audits, which is in contrast to the focus of U.S. audit committees on financial

¹ The 2002 Sarbanes-Oxley Act (SOX hereafter) in the US also helped strengthen the role of the audit committee system. A number of emerging countries suffering from the financial crisis (e.g., Singapore, Thailand, Malaysia, Hong Kong, and Korea) also mandated the audit committee system to help protect shareholders' wealth.

² Gibson (2003) provides evidence of poor corporate governance systems in emerging markets. He shows that among more than 1,200 emerging market companies, large firms owned by large domestic shareholders have a lower probability of CEO turnovers, despite poor firm performance. Campbell and Keys (2002) show similar evidence in Korea.

reporting quality. Thus audit committees in Korea can improve shareholder value by monitoring management more closely and directly in its operational activities. However, the effectiveness of the audit committee system may be questioned when management influences the selection of audit committee members for its own benefits, not for protecting shareholders' wealth (Shivdasani and Yermack 1999; Carcello, Neal, Palmrose, and Scholz 2011). Given the evidence from the appointment announcement of the audit committee members, we support the argument of management influencing the selection of the audit committee members. Furthermore, we examine characteristics of an audit committee that would lessen the management's influence or reduce agency problems in general.

Our study of Korean firms explores some unique governance environments, focusing on business group (known as *chaebol*) affiliation and family-owned largest shareholders. The literature on business groups in Korean markets is well established, showing potential management entrenchment in *chaebol*-affiliated firms (For examples, see Campbell and Keys 2002; Bae, Kang, and Kim 2002; Baek, Kang, and Park 2004; Baek, Kang, and Lee 2006). Furthermore, the controlling shareholders are prevalent in Korea as in other emerging countries. Incentives for controlling shareholders to expropriate minority shareholders especially around financial crises are well documented (Joh 2003; Baek et al. 2004). Therefore, we conjecture that the management of *chaebol*-affiliated firms has greater incentives to influence the audit committee's composition to its advantage when compared to those of independent firms.

Our results supplement U.S. literature that examines CEO involvement in the selection of new directors. For example, Shivdasani and Yermack (1999) find that significant lower abnormal stock returns on the announcement of independent directors are associated with CEO involvement in the selection. In addition, Carcello, Neal, Palmrose, and Scholz (2011) argue that CEO involvement in the selection of board members including audit committee members reduces

the effectiveness of the audit committees.³ However, as discussed briefly, there are some fundamental differences in the institutional roles of audit committees and their monitoring effectiveness in the U.S. versus in Korea. One critical difference is that unlike the emphasis of monitoring on reporting quality among U.S. audit committees (Kim 2007; Carcello, Neal, Palmrose, and Scholz 2011), the audit committee in Korea mainly focuses on monitoring operating activities of management. Finally, we analyze the independence of the committee, member changes, and financial literacy of the audit committee members as firm-specific governance variables.

We obtain the following results. First, we find significant positive cumulative abnormal returns (CARs) around 182 audit committee appointment announcements in Korea. Therefore, we conclude that the choice of audit committee members on average is expected to improve shareholder wealth. Second, we find that *chaebol*-affiliated firms are associated with significantly lower abnormal announcement stock returns than independent firms. This suggests that the market does not value the appointment of audit members in *chaebol* firms as much as in independent ones. This may be, we argue, because the market anticipates that the management of *chaebol* firms is more likely to select management-friendly audit committee members in order to exercise more controlling power.

An alternative interpretation of the weaker stock price response for *chaebol* firms is possible, based on the firm's financial reporting quality. The market may anticipate smaller benefits from the appointment of members for *chaebol* firms since large firms like *chaebols* are believed to have better reporting quality than smaller independent firms. As a result, the audit committee in *chaebol* firms may not have as much impact. However, this argument is not likely to apply to the Korean market since large *chaebol* firms are not necessarily considered to have better reporting

³ In a different context, Fich and White (2005) show that CEO involvement in the form of interlocking directors is evidence of management's opportunistic behavior. In contrast, Callahan, Millar, and Schulman (2003) find that management involvement in the director selection enhances corporate performance.

quality. Furthermore, Korean audit committees in general focus more on operation audits rather than on accounting audit (financial reporting). Management entrenchment by chaebol firms extends to the area of financial reporting. For example, Kim (2009) and Jung, Kim, and Kim (2009) document that income-shifting and tunneling in chaebol firms are prevalent and the degree of their severity depends on the controlling shareholders' opportunism.⁴

We also find that firms adopting committee member changes experience significantly lower stock returns at the time of the appointment than firms that extend the term of office of their existing members. We argue that switching audit committee members can be interpreted as the opportunistic behavior of management in 'opinion shopping'.⁵ Interestingly, independence of the audit committee appears to mitigate the negative effect of these factors (such as *chaebol* affiliation and member switching) on shareholder wealth.⁶ We also find higher announcement stock returns to be associated with the financial literacy of the appointed audit committee members when the appointing firm holds an independent audit committee. This finding is consistent with Defond et al. (2005), in which the independence of the audit committee is an indicator of good corporate governance.⁷ Financial literacy appears to be more effective in diversified firms and in firms with mandatorily established audit committees. We use the term "financial literacy" to describe financial background more loosely than financial expertise due to our sample limitation. This will be explained in greater detail in the 'Data' section.

⁴ Kim (2009) finds that the market reacts negatively to the release of financial statements by chaebol firms due to potential tunneling. Also Campbell and Keys (2003) argue that top management for chaebol firms is more shielded from the market discipline than that for non-chaebol firms because of a lack of internal governance in chaebols. They specifically show that top management turnover is unrelated to chaebols' performance, while the turnover is strongly affected by performance for non-chaebol firms.

⁵ Klock (1994), for example, argues that if the stock market treats the switching of the certifying accountant as the opportunistic behavior of management, there should be a negative share price reaction to the appointment.

⁶ A large amount of research suggests that the independence of the audit committee has positive effects on firm performance (Pomeroy and Thornton, 2008).

⁷ The G-index developed by Gompers et al. (2003) considers audit committee independence as a measure of the soundness of a firm's corporate governance.

Finally, we find an interesting result with the relationship between the largest shareholder ownership and the announcement effect. The pattern depends on whether firms are *chaebol*-affiliated or not. *Chaebol*-affiliated firms whose largest shareholder holds less than 10% or more than 30% of total equity ownership experience higher abnormal announcement returns around audit committee appointments. This may suggest that firms with substantially low or substantially high controlling shareholders' ownership concentration align their interests with the minority shareholders. We obtain exactly the opposite result for independent firms. The market responds more positively to the audit committee appointments when the controlling shareholder's ownership belongs to the intermediate 10% to 30% range.

This research contributes to the literature in several ways. First, this study contributes to the existing literature on audit committees in emerging markets by studying the Korean market. In particular, it explores how controlling owner groups, characterized by indigenous business groups in Korea known as *chaebols*, influence the effectiveness of the audit committee and firm value. This investigation helps explain the 'anticipated' effectiveness of audit committees under different corporate governance structures (for example, *chaebol* or non-*chaebol* firms). The second contribution relates to broad data issues on potential endogeneity and sample selection in estimating the impact of governance on firm value in the literature.⁸ Endogeneity problems may arise when past firm performance determines the change in audit committee members. The problem is alleviated because we assess how the stock price responds to the announcement of the re-appointments of audit committee members. Finally, this study complements existing work on the impact of management's involvement in the selection of audit committee members on the

⁸ When one examines firm performance as a function of the board (or audit committee) composition, we may face the potential endogeneity problem because firm performance may affect the board composition. Refer to Hermalin and Weisbach (2003) and Bhagat and Black (2002) for the general discussion of the endogeneity issues and Choi et al. (2007) and Klein (1988) for the specific econometric treatment of the issue.

effectiveness of the audit committee in the U.S.⁹ Furthermore, our study extends results on audit committee independence and the financial literacy of audit committee members by specifying these factors as firm-specific governance variables. This is important because, as Klein (1998) shows, board committee composition rather than overall board composition may determine firm performance. Also, the ownership-related result contributes to a line of research in corporate governance that reveals a nonlinear relationship between ownership concentration and firm value.

The paper proceeds as follows. Section 2 provides a literature review on audit committees as part of corporate governance and the regulatory changes in corporate governance in Korea, deriving our hypotheses. Section 3 presents our sample and details descriptive statistics. Section 4 presents our basic empirical results, while Section 5 provides a detailed analysis of audit committee independence and robustness checks for our models. Section 6 conducts an additional investigation relating to a firm's *chaebol* affiliation. Section 7 concludes.

2. Literature Review, Backgrounds, and Hypotheses

2.1. Literature Review

Audit committees as a governance device have been widely studied following implementation of the Sarbanes-Oxley Act (SOX) in the United States.¹⁰ These studies investigate several aspects concerning the impact of the audit committee characteristics on shareholder wealth, firm performance, and financial reporting quality. For example, Klein (2002) and Pomeroy and Thornton (2008) concentrate on audit committee independence and reporting quality, while Davidson et al. (2004), Defond et al. (2005) and Coates et al. (2007) examine the effect of financial expertise of audit committee members on stock price changes. Vafeas and Waagelein

⁹ Refer to Shivdasani and Yermack (1999) and Carcello, Neal, Palmrose, and Scholz (2011) for more details.

¹⁰ A few studies examine audit committees before the SOX (Pincus et al., 1989; Bradbury, 1990). However, these primarily focus on the determinants of voluntary audit committee formation.

(2007) investigate how the characteristics of the audit committee, including its size, member expertise, and independence, affect the level of firms' audit fees, while Turley and Zaman (2004) survey the literature on identifying the effects of corporate governance on audit committees. Xie, Davidson, and DaDalt (2003) show that audit committees with directors who are independent and have financial expertise are more effective monitors, and thus may alleviate the incentives for earnings management. Bradbury (1990) and Firth and Rui (2006) examine the voluntary formation of audit committees in New Zealand and Hong Kong, respectively.

There is a recent body of research relevant to our work regarding management involvement in selecting audit committee members. Using a U.S. sample in 2000 and 2001, Carcello, Neal, Palmrose, and Scholz (2011) have explored the effect of CEO involvement in selecting board members on the effectiveness of audit committees. Further, Bronson, Carcello, Hollingsworth, and Neal (2011) reaffirmed the importance of audit committee independence, supporting the Sarbanes-Oxley Act's requirement of fully independent audit committees.¹¹ However, few studies address the effectiveness of audit committees in emerging markets where regulatory authorities have recently mandated the audit committee system after the Asian financial crisis. In particular, it is important to recognize that the institutions and roles of audit committees in emerging markets can be very different from those in advanced markets. This difference demands a close examination of the institutional background and its impact of audit committees. Especially, Korea's unique corporate structure – an industrial group called *chaebol* – and audit committees with a focus on operational audits provide an ideal empirical setting in which we can understand how audit committees work in a different environment, otherwise difficult to achieve with the U.S. data. In the next section, we will discuss the institutional background of audit committees in Korea in more detail and describe the advantage of comparing a *chaebol* sample with non-

¹¹ Refer to Beasley, Carcello, Hermanson, and Neal (2011) and Bronson, Carcello, Hollingsworth, and Neal (2011) for additional investigations into audit committee effectiveness. Refer to Shivdasani and Yermack (1999), Callahan, Millar, and Schulman (2003), and Fich and White (2005) for CEO involvement in board composition in general.

chaebol firms.

2.2. *Backgrounds: Audit Committee as Corporate Governance Device in Korea*

The Korean government introduced its audit committee system by the Commercial Law revision in 1999, which required firms listed on the Korea Stock Exchange to set up an audit committee and further mandated the audit committee for firms with assets of two trillion or more Korean Won (KRW) by the Securities Trading Act revision in 2000.¹² This regulation dramatically changed certain dimensions of the corporate governance system in most firms. For example, audit committee requirements in Korea generally resulted in an increase in the number of outside directors because the Act now requires the audit committee to consist of three or more directors, with two-thirds as outside directors. Outside directors are defined by Korean commercial law as directors who are not currently enrolled for a full-time position in the firm and have not violated the criteria presented in Panel B of Table 1. The regulatory requirements of the audit committee are then a good experimental setting to analyze the effectiveness of the audit committee system. Nevertheless, there are few studies related to the effectiveness of the audit committee in emerging markets after the extensive *mandated* regulatory reform.

[Insert Table 1 here]

The primary role of Korea's audit committees as operational audit is geared more towards ensuring the compliance of the law and the fiduciary duties of officers and directors rather than monitoring the financial report quality in the U.S. (Kim 2007). The objective of operational audits is to monitor almost all ranges of business operations by requesting business reports from directors and subsidiary firms, investigating operational and financial statuses of the firm and its

¹² Refer to Choi, Park, and Yoo (2007) for further details on the regulatory changes regarding outside directors. Also, refer to Kim (2007) for more discussions about the historic background regarding the audit committees in Korea. Refer to Table 1 for important times and events regarding the establishment of audit committee requirements.

subsidiary, attending board meetings, reviewing directors' proposals and documents, reporting directors' violations of law or articles of the company to the board, filing law suits against directors, auditing financial statements, and submitting audit reports. Although auditing financial statements is a part of the responsibility of audit committees under the Korean Commercial Code (KCC), Kim (2007) notes that in reality, the audit committee heavily relies on the internal audit department and/or the external auditor. The problem is that both the internal audit department and the external auditor may not be independent from the management. He concludes that the Korean audit committee does not adequately perform its accounting audit functions.¹³

Existing research on Korean corporate governance provides evidence of self-interested behavior of the management of *chaebol*-affiliated firms. In addition, the controlling family owners of *chaebol* firms are inclined to act to expropriate the minority shareholders. Bae et al. (2002) find evidence of tunneling with acquisition announcements by Korean *chaebols*, while Baek et al. (2006) confirm similar evidence using private securities offering samples. Joh (2003) also suggests that when a *chaebol* undertook internal resource transactions in the pre-crisis period, resources were often wasted. Moreover, Baek et al. (2004) suggest that *chaebol* firms' stock prices decreased significantly more than for other firms during the Asian economic crisis. This suggests that the management for *chaebol*-affiliated firms has strong controlling power often used for self-interested purposes. Thus, given the evidence that the CEO is involved in the selection of audit committee members, it is more likely to observe management involvement in *chaebol* firms (rather than in independent firms) for self-interested benefit, eventually weakening the monitoring function of the audit committee and failing to enhance firm value.¹⁴

¹³ The KCC requires that the audit committee submit audit reports within 4 weeks of the end of the business year. Therefore, it is critical to resort to the support from the internal and external audit staff. Typically, the chairman of the audit committee fulfills his duty by reading a short report prepared by the internal audit department at the general shareholder meeting.

¹⁴ According to a survey published by 'Sangjang' in 2007, top management or dominant shareholders nominate audit committee members in almost 90% of the cases, which is strong evidence of management's involvement in

2.3. Hypotheses

The capital market is expected to correctly assess the value impact of the changes in the audit committee composition, providing us with the opportunity to evaluate the monitoring function of the audit committee. Rosenstein and Wyatt (1990; 1997) suggest that positive share price reactions to director appointments represent the expected benefits for shareholders from the event. Xie et al. (2003) find that self-interested behavior in earnings management is less likely when firms are comprised of more independent outside directors with financial expertise. Also, Defond et al. (2005) argue that financial expertise complements strong governance to enhance shareholder wealth, likely through increased monitoring. Moreover, they point out that audit committees may complement (substitute) strong (weak) governance to enhance shareholder wealth. This argument implies that the effect of the audit committee's function on shareholder wealth is complex and depends on existing governance systems and corporate or market structure.

Thus, we attempt to identify both corporate environments in which the audit committee becomes more efficient and the characteristics of the audit committee that facilitate the committee's monitoring role. In general, we expect positive abnormal returns around the announcement of audit committee appointments in our Korean sample. However, the effectiveness of the audit committee in *chaebol*-affiliated firms that demonstrate self-interested behavior in committee appointments remains a question. To the extent that the management of *chaebol* firms is involved in appointing management-friendly directors to the committee, the market's perception on the appointment of new committee members in *chaebol* firms would be negative. Therefore, we examine whether *chaebol*-affiliated firms are associated with lower cumulative abnormal returns (CARs) around the announcement of appointments to the audit

the selection of audit committee members. Although this survey does not specifically provide information on *chaebol* affiliations, we can safely assume that stronger management entrenchment in *chaebols*, as evidenced by the literature would naturally lead to more involvement in the selection of audit committee members.

committee, as compared to independent firms.

Management can also influence the audit committee by removing members who serve as effective monitors and are detrimental to managerial interest. Such replacements can further jeopardize the efficiency of the audit committee by posing a threat of dismissal to the remaining committee members. Although we lack existing evidence relating to audit committee member switches, several studies report negative stock price returns surrounding changes in firms' auditors. For instance, Fried and Schiff (1981) find that there are negative market reactions around the switching of CPAs. Klock (1994) also argues that the market in general seems to treat the switching of the certified accountant as an indication of the opportunistic behavior of management. Finally, Knechel et al. (2007) argue that changes in the type of auditor affect market returns and conclude that there is a negative return when a firm switches auditors out of a specialized Big-4 accounting firm. Similarly, we expect that there will be a negative share price reaction to the announcement of a switch in audit committee membership as shareholders generally perceive the act as evidence of the self-interested behavior of management.

There are several characteristics of the audit committee that may restrict the incentive of management to influence the appointment and thus affect the market response to audit committee appointments. We consider audit committee financial literacy and independence, topics that are generally discussed in many recent studies. First, the financial literacy of the audit committee has recently become an important issue, because the SOX requires firms to include at least one member who has accounting or financial management expertise, while the NASDAQ, the New York Stock Exchange, and the American Stock Exchange all require audit committee members to be financially literate. Korean regulation also requires that firms include at least one financial expert on their committees. We expect that the financial literacy of the appointed member is also appreciated in the market, because of his or her expertise in detecting potential management entrenchment. Much recent literature supports this viewpoint. For example, Davidson et al.

(2004) and Defond et al. (2005) find that the financial literacy of audit committee members positively impacts shareholder wealth surrounding the appointment.

As mentioned earlier, it is important to point out that we employ a broader definition of financial expertise than used in the U.S. The SEC requires audit committees to include financial experts following their specific definition after the SOX. Korean regulation also introduced categories for audit committee financial expertise, requiring the audit committees to consist of at least one financial expert. However, many argue that the conditions for financial expertise are problematic because they work in favor of former regulators or government employees who are not well-prepared for serving the audit committee (e.g., Kim 2007).¹⁵ We also find that many of our sample firms contain former government employees as their financial experts. Because the definition of financial expert is problematic in capturing members' accounting/auditing capabilities for Korean samples, we introduce another variable to measure the audit committee members' financial qualities – 'financial literacy.' We consider an audit committee member financially literate if he/she has an educational background in business (including finance, accounting, and management) or experience in a financial institution. Given that the categories for financial experts is problematic and many of the audit committee members do not have any finance or accounting-related backgrounds, we consider the member's financial literacy as a plausible measure for his/her ability to serve as an audit committee member. Further, we believe that the broader definition of financial literacy is well-suited for Korean audit committees that focus on operational audits rather than on financial reporting. Therefore, we do not expect that the effect of financial literacy is as strong as shown in U.S. literature.

Second, the independence of the audit committee seems to be a key factor in its monitoring

¹⁵ For example, the 'expert' category contains a problematic requirement: former employees of the government and the Financial Supervisory Service with at least five years of experience in activities related to finance and accounting. Kim (2007) casts doubts on such 'experts' serving on an audit committee. He suggests that it is widely suspected that this category has been inserted to help former regulators land decent second jobs in the private sector after their retirement.

performance. Recently, Pomeroy and Thornton (2008) reviewed 27 recent studies on audit committee independence and concluded that most studies consistently show that independence and performance (such as the quality of financial reporting) are positively related. Choi et al. (2007) find that board independence positively influences firm performance in a sample of Korean Stock Exchange (KSE) firms. They suggest that board independence is a crucial issue particularly in emerging markets, while it is not so significant in developed countries with greater market liquidity and good corporate governance. We expect that the market would respond differently to the appointment of audit committee members, depending upon the independence of the committee. If a firm's audit committee is independent and financially literate, management cannot easily control or manipulate the committee for their own purposes and thus the expected benefits of the audit committee may increase. In emerging markets especially, where the self-interested behavior of management is more prevalent, it would be interesting to see whether the financial literacy and independence of the audit committee become even more important.

In our empirical models, we include several corporate governance-related, firm-specific characteristics to control for the effects of other factors relating to the announcement effect of audit committee appointments. First, Bradbury (1990) and Firth and Rui (2006) view the voluntary formation of audit committees as a signal of strong corporate governance. We control for this by including an indicator variable for voluntary audit committee formation. Second, we control for firm transparency with an American Depository Receipt (ADR) cross-listing dummy variable, since recent studies consider international firms that are cross-listed on U.S. stock exchanges as more transparent (Charitou et al., 2007). Moreover, Mitton (2002) and Baek et al. (2004) report significantly higher stock returns for Asian firms during the financial crisis when the firm has issued a listed ADR. Furthermore, as much of the literature on diversification discounts suggests, diversified conglomerates may have unique governance problems.¹⁶ We also

¹⁶ See Berger and Ofek (1995) and Lins and Servaes (1999).

control for this effect. For firm-specific financial characteristics, we control for the size effect with the natural logarithm of total assets, profitability as measured by the return on equity (ROE: net income divided by total equity) and liquidity (current assets divided by current liabilities).

Overall, our results suggest that the corporate governance reform in Korea appears to be effective, even though it is still vulnerable to existing inefficient corporate structures, such as a firm's *chaebol* affiliation. By comparing our findings with earlier studies on ineffective corporate governance in emerging markets, such as in Gibson (2003), we argue that the effectiveness of corporate governance in emerging markets has improved after the financial crisis, a change largely induced by massive regulatory reforms. This view is consistent with Choi et al. (2007) who document the positive effects of board independence on firm performance in Korea after the crisis.¹⁷

3. Sample selection and summary statistics

We collected announcement data on audit committee appointments for KSE-listed, non-financial firms from the Data Analysis, Retrieval, and Transfer (DART) system. Panel A of Table 2 describes the sample selection process. The Korean Financial Supervisory Service¹⁸ (KFSS) compiles the DART system, where all listed Korean firms are required to post their appointment announcements.¹⁹ Most Korean audit committees were established around 2000, so we find all

¹⁷ Choi et al. (2007) conclude using Tobin's Q that firm performance and family holdings are negatively related.

¹⁸ The KFSS is a supervisory organization established in 1999 after the Asian financial crisis, under the *Act on the Establishment of Financial Supervisory Organizations*. This Act brought four supervisory bodies (banking, securities, insurance, and non-bank supervisory authorities) into a single organization. It has extended examination and supervision functions over securities, futures, financial services and financial institutions. The KFSS is a Korean version of the Security and Exchange Commission (SEC) in the U.S. and the DART is also a Korean version of the Electronic Data Gathering and Retrieval Database (EDGAR).

¹⁹ Press release announcements of audit committee members are uncommon in Korea. Moreover, the KFSS requires that firms post their decisions immediately, which makes the DART announcement reliable enough for our event study. The KFSS charges a penalty for the firms that do not post their announcements in a timely manner, which increases the credibility of our samples for the study.

available announcements for audit committee appointments after this year in the DART system. We collected four years of announcement data, from January 2001 to December 2004. To measure firm characteristics obtained from annual financial statements and to eliminate any effect of different fiscal year ends, we only used firms with fiscal year ending in December.²⁰

We initially collected 479 appointment announcement events. We consider multiple announcements for two or more members by one firm on the same date as a single event, thus removing 231 events. We also exclude two events because there are no audit committees operating in the annual report of that specific event year. We also remove 22 events for which we lack data in calculating the CARs because the event date was less than one year after public listing.²¹ We search the DART and the LexisNexis database for two days (-1 and 0) around the announcement date to eliminate any contamination from other news (such as earnings announcements). Finally, we obtain 182 events for our empirical study. Panel B in Table 2 details the annual frequency distribution of the appointment sample.

[Insert Table 2 here]

We gather stock returns and accounting data information from the Korea Investors Service-Value (KIS-Value) database and the DART system when the data are not available. We distinguish between *chaebol* and non-*chaebol* affiliated firms using the Korea Fair Trade Commission's *Annual Statistics* that tables the top-30 *chaebol* groups and their included companies. We consider an audit committee independent when it is fully comprised of outside directors. We classify a member as financially literate if he or she has a degree in business or economics or work experience in a financial institution. We obtain data about financial literacy

²⁰ We find that a firm whose fiscal end of year is not December makes only two announcements. Hence, differences in fiscal year-end only have a minor influence on our findings.

²¹ We use return data of 249 days [-258 to -10] in the regression for calculating expected return on the event date. We collect data from 258 days before the event date because this is the number of trading days in a year. We adopt the methodology of Mikkelsen and Partch (1986) to calculate the cumulative abnormal returns.

and audit committee member switches from the announcement data posted on the DART. We collect segment sales data from the *Worldscope* database for identifying single segment companies; otherwise, we collect these data from DART segment reports. Finally, we collect the list of cross-listed Korean companies from the ADR website.

Table 3 provides descriptive statistics and other characteristics of the 182 audit committee appointments. As shown, 63.73% of all announcements are by *chaebol* companies, and 64.84% are by companies with independent audit committees. In addition, 71.42% of announcements represent the appointment of financially literate members, and 68.13% relate to audit committee member switches. Finally, 21.14% of all announcements are by ADR cross-listed companies. We divide the full sample into two sub-samples based on a firm's *chaebol* affiliation (Panel A of Table 3) and a firm's audit committee independence (Panel B of Table 3).

In Panel A, we compare *chaebol* and non-*chaebol* firms and report statistics of the two groups based on the percentage of audit committee independence, percentage of member switches, percentage of voluntarily established audit committees, percentage of diversified firms, the logarithm of total assets, and the liquidity ratios. Specifically, *chaebol* firms tend to have more independent audit committees, while they have less audit committee member switches than the full sample. Approximately the same percentage of financially literate members was appointed to both groups. In Panel B, we compare firms with independent and non-independent audit committees. As shown, *chaebol* and diversified companies tend to have more independent audit committees. In addition, firms with voluntarily established audit committees and firms with greater assets appear to have more independent audit committees.

[Insert Table 3 here]

4. Audit committee appointments and shareholder wealth

4.1. Univariate analysis

Our full-sample test rejects the null hypothesis that the CAR[-1,0] of audit committee appointments is equal to zero at the 5% level of significance.²² This suggests that on average there are significant positive effects of audit committee appointments on shareholder wealth (the mean CAR is 1.03% with a p-value of 0.027). This is consistent with Rosenstein and Wyatt's (1990) finding of a positive wealth effect surrounding the announcement of outside director appointments. However, our abnormal return is higher than Rosenstein and Wyatt's (1990) return of 0.13%; this may suggest differences in the governance environments of emerging and developed countries, or a stronger shareholder wealth effect from appointments of audit committee members rather than outside directors.²³ However, Mak et al. (2003) find an insignificant market reaction to the appointment of directors in Singapore (an economy which also suffered from the financial crisis and has a corporate governance environment similar to Korea's). The significant wealth effect of the audit committee appointments documented here affirms Klein's (1998) argument that the impact of directors is manifested more clearly in the way the directorship is utilized in audit committees rather than in their mere existence.

[Insert Table 4 here]

Table 4 presents our findings from the univariate comparison of the four main governance variables including *chaebol* affiliation (CHB), financial literacy of appointed audit committee member (FIN), member switches (SWCH), and independent audit committees (ACIND). For the firm's *chaebol* affiliation, our results suggest that audit committee appointments by non-*chaebol* firms have significant positive stock returns around the date of the announcement. In contrast, audit committee appointments by *chaebol* firms do not have any significant effect on shareholder wealth. The mean difference between the two groups (*chaebol* and non-*chaebol* firms) is

²² We had similar results for subsequent regression analyses with CAR (-1, 1) and did not report them here.

²³ An alternative explanation may be that financial reporting quality in developed countries is higher compared to emerging markets. However, we emphasize serious management entrenchment in emerging markets for the differential results.

significant (at the 10% significance level). These findings are consistent with our hypothesis that shareholders of *chaebol* firms do not benefit from appointing new audit committee members because the market anticipates management's interference in selecting new committee members. These results are also similar to the finding in Choi et al. (2007) that strong *chaebols* dominate over market discipline functions in Korea.

Our result also suggests that firms that appoint financially literate members produce significant positive shareholder wealth, while other cases show insignificant results. Based on this finding, we argue that financial literacy of the committee is generally expected to bring about greater shareholder benefits, while investors do not expect much from the appointment of members without financial literacy. Our result in Table 4 is similar to those of many previous studies (see Davidson et al. 2004; Defond et al. 2005). However, we cannot find a statistically significant difference between the samples of financial and non-financial literacy.

We also find that member switches (e.g., replacements) in the audit committee is associated with insignificant CARs, while retention of a previous committee member produces significantly positive shareholder wealth. The mean difference between the two groups is also significant, suggesting that the retention of an existing audit committee member has greater benefits for shareholders than a member switch. Similar to the argument suggested by Klock (1994), our result supports the hypothesis that investors are not favorable to switching audit committee members since the change may arise from the opportunistic behavior of management (replacing problematic members as well as providing an implied threat of dismissal to the other committee members). Finally, we find no evidence of better stock performance upon member appointments by firms of an independent audit committee. Moreover, we find significantly positive CARs for the appointment announcements of non-independent firms. This suggests that the apparently advantageous nature of appointments (e.g., financial literacy and member switches) is not as favorable for the independent committee as for the dependent committee.

4.2. Multivariate cross-sectional analysis

In order to explore the impact of various aspects of the audit committee on shareholder wealth, we construct several multiple regression models. To test the effects of audit committee appointments on shareholder wealth, we specify CARs around the date of announcement as our dependent variable. We introduce the *chaebol* affiliation dummy (CHB); which we set to one if a firm belongs to *chaebol* group; the financial literacy dummy (FIN),²⁴ which is one if the new member is financially literate; the audit committee member switch dummy (SWCH),²⁵ which is one if there is a change in membership; and the audit committee independence dummy (ACIND), which is one if the firm has an independent audit committee.

We control for other factors related to corporate governance by including dummy variables for diversified firms (DIV) (1 for diversified firms; 0 otherwise), ADR cross-listing (ADR) (1 for ADR listed; 0 otherwise). Refer to Charitou et al. (2007), Mitton (2002) and Baek et al. (2004) for a rationale for the ADR dummy as a proxy for transparency, and voluntarily established audit committees (VOL) (1 for voluntary audit committee formation; 0 otherwise). Refer to Bradbury (1990) and Firth and Rui (2006) for a discussion of voluntary audit committees. All these variables may have some effect on shareholder wealth around the time of the appointment of the audit committee. We also control for the firm's liquidity ratio (LIQ), return on equity (ROE), and the natural logarithm of total assets (LNTA) to eliminate the effect of the firm's financial characteristics on our results. Table 5 provides the results of our multivariate cross-sectional

²⁴ For multiple appointments, the FIN dummy becomes one when there are one or more financially literate appointments on a single event day. This means that the FIN dummy is zero only when there is absolutely no financially literate appointment on the announcement day. When we used a dummy variable for the multiple appointments, we found similar results.

²⁵ SWCH is equal to one if one or more existing AC members are replaced by the appointment. We recognize that AC member changes occurred when the name of the newly appointed member was not in the firm's previous annual report. If the firm's appointed members are the same as in the previous year's annual report, we assign zero to the SWCH dummy.

analysis.

[Insert Table 5 here]

In model (1), we put all variables related to the types of the appointments (FIN and SWCH) and audit committee (ACIND), while in models (2), (3), and (4), we run the regressions with each of the three variables separately. In any case, the results are almost the same in terms of the coefficient estimates and their significance levels, implying that the three governance variables seem independent (or very weakly correlated). This point is worth emphasizing because this result resolves our concern about a potential compounding effect of FIN and SWCH on shareholder wealth. Suppose that in general the impact of FIN is positive, while that of SWCH is negative. When an event consists of a member change and the new member is financially literate, the impact of SWCH can be weakened (underestimated) by FIN if this combination is prevalent in our sample. The opposite is true in that the impact of SWCH may be amplified (overestimated) when the member change is also represented as a financially illiterate member in our sample. However, the fact that we do not observe any over- or under-estimation in Table 5 confirms that our sample does not face the above correlation problem between SWCH and FIN.

The results show significant negative effects of *chaebol* affiliation and audit committee member switches on shareholder wealth. The estimated coefficient on *chaebol* affiliation is -0.033, significant at the 1% level. This is consistent with our hypotheses and the results of the univariate analysis. That is, the market seems to expect management in *chaebol* firms to engage in self-interested behavior in selecting new members, while the benefit of new members in independent firms is expected to be positive. The negative estimated coefficient (-0.022, significant at the 5% level) of the audit committee member switch dummy suggests that the Korean market generally perceives member switches as indicative of the opportunistic behavior of management. This is also consistent with Fried and Schiff (1981) who find negative market reactions to CPA changes in the U.S. market. However, we fail to find significant effects for the

financial literacy of the appointed member or the independence of the audit committee in this analysis. Because some previous studies (for example, Pomeroy and Thornton (2008)) have argued for the importance of these factors, we further investigate these effects with more in-depth analyses.²⁶

5. Audit committee independence and financial literacy

In contrast to our earlier hypotheses, our results thus far provide no evidence of the direct effect of audit committee independence and financial literacy on shareholder wealth. Therefore, we explore the possibility of an indirect effect of these features on shareholder wealth.

5.1. Effect of audit committee independence on its monitoring function

Although we have failed to reject our hypothesis suggesting the direct effect of audit committee independence on shareholder wealth, previous literature suggests that the independence of audit committee is important in corporate governance. Hence, we investigate the possibility of the interaction of audit committee independence with its monitoring function and shareholder wealth through indirect effects. If the independence of the audit committee strengthens its monitoring role, we expect that the committee may weaken the management's adverse influence over the selection of audit committee members. For this purpose, we disaggregate the sample into two, based on the independence of the audit committee and run the regressions using the two separate sub-samples. Furthermore, we attempt to uncover any indirect effects of the independence audit committee on shareholder wealth using interaction terms in the regression with switches ($ACIND*SWCH$), *chaebol* affiliation ($ACIND*CHB$), and financial literacy ($ACIND*FIN$).

[Insert Table 6 here]

²⁶ Choi et al. (2007) find that board independence in Korea positively influences firm performance.

Table 6 details the clearly different interaction effects of the CHB, FIN, and SWCH variables on shareholder wealth as a function of the independence of the firm's audit committee. Interestingly, the negative effects of the firm's *chaebol* affiliation (relative to non-affiliated firms) on the stock price now become insignificant when the firm holds an independent audit committee (Models (1), (2), and (3)), while *chaebol* firms with non-independent audit committees experience significantly lower stock returns of about - 7% than do independent firms (Models (4), (5) and (6)). This suggests that the independence of the audit committees properly functions to help mitigate the negative effects of *chaebol* affiliation on shareholder wealth. The interaction term coefficient estimates in Models (7) through (9) also indicate the significantly better stock performance (by some 5%) of *chaebol* firms when they have independent audit committees. Alternatively, with dependent audit committees, the market perceives the announcement of audit committee member appointments as negative events when these firms are *chaebol*-affiliated.

Moreover, consistent with Defond et al. (2005), who argue that firms with better governance have more positive stock price reactions to the appointment of financially literate members,²⁷ we find that stock returns are about 6% higher on the appointment of financially literate members when the company has an independent audit committee, as suggested by the coefficient estimate of the interaction term, ACIND*FIN in Models (7) and (8). That is, with an independent audit committee, financial literacy plays a complementary monitoring role, as consistent with Defond et al. (2005). However, Model (5) indicates negative stock returns on the appointment of financial experts when the firm has a non-independent audit committee. This is consistent with market perceptions that financially literate members may not be independent.

Our findings also show that the negative effects of audit committee member switches become insignificant when the firms have independent audit committees, while firms with non-independent audit committees still report significantly negative returns of about 5% (see Models

²⁷ Because the G-index used in Defond et al. (2005) in part reflects audit committee independence, we expect our results to be similar.

(3) and (6) of Table 6). The interaction coefficients on the switch dummy variable (ACIND*SWCH) in Models (7) and (9) also suggest that audit committee independence acts against the firm's negative stock performance around the announcement of audit committee member switches. All these results above support that the independence of the audit committee can actually be effective in monitoring the opportunistic behavior of management by discouraging management-friendly member appointments on the committee.

In conclusion, audit committee independence mitigates the negative effects of a firm's *chaebol* affiliation and audit committee member switches on shareholder wealth, while it improves the stock returns from the appointment of financially literate members on the audit committee. This suggests that audit committee independence can improve the committee's monitoring function and hence weaken management's incentive to employ self-interested, opportunistic behavior that reduces shareholder wealth.

5.2. Audit committee financial literacy and operating complexity

Similar to the effect of audit committee independence, we explore the indirect effect of financial literacy on the abnormal returns at the announcement of audit committee members. According to our findings in Table 5, we have no evidence of a direct relationship between the financial literacy of appointed audit committee members and changes in shareholder wealth in our sample. However, as in Davidson et al. (2004) and Defond et al. (2005), we expect a more efficient governance structure in firms appointing financial experts to their audit committees. Because the results in Table 6 already show strong evidence of the effectiveness of financial literacy when the appointing firm has an independent audit committee, we investigate the possibility that the effect of financial literacy manifests in relation to other firm-specific factors. We mainly focus on those factors related to the complexity of the business operation in addition to *chaebol* affiliation. We expect that financial literacy becomes more important as a monitoring

device when firms operate in a more complex organization. Here we measure the organizational complexity in terms of the degree of diversification and the number of business segments within an organization. Using several tests, we find statistically significant effects of financial literacy of appointed audit committee members with respect to the aforementioned factors – diversification and the number of business segments listed in Table 7.

[Insert Table 7 here]

As far as the interaction effect of financial literacy with chaebol affiliation is concerned, we obtain mixed results. There seem to be two offsetting effects at work. On one hand, there is a possibility that investors suspect ‘financial expertise’ as defined in the requirement for the Korean audit committee. Kim (2007) casts doubts on such ‘experts’ serving on an audit committee (discussed in footnote 14). One controversial requirement is that he/she be a former employee of the government and the Financial Supervisory Service with at least five years of experience in activities related to finance, accounting, or supervisory activities in finance or accounting.²⁸ It is widely suspected that this category has been inserted to help former regulators secure second jobs in the private sector after their retirement. This negative sentiment toward financial experts may be reflected in some of the negative coefficient estimates on the financial literacy dummy variable in Model (1) and (4) of Table 7. We expect that although we use a different definition, our result still captures this negative sentiment.

On the other hand, there seems to be a positive effect of financial literacy on *chaebol* firms. According to the literature (e.g., Baek et al., 2006), *chaebol* firms tend to waste the corporate resources to maximize the owner’s personal benefits at the cost of individual firm’s interests. Such behavior (e.g. tunneling) may not be easy to identify because of the complex ownership structure and internal transactions. Financially literate members may investigate such behaviors better than illiterate members for the *chaebol* firms’ shareholders. This positive interaction is

²⁸ The Financial Supervisory Service is the non-governmental branch of the Korean principal regulator, the Financial Supervisory Commission.

reflected in the positive estimate on the interaction term, $a*b$ in Model (1). This positive influence is confirmed in the coefficient estimates on the diversification dummy, $a*c$, and the number of segment interaction term, $a*d$.

Regarding the impact of financial literacy under a different level of operation complexity, as shown in Model (2) of Table 7, the market highly values the addition of financial literacy to the audit committees when firms are diversified across several business segments. Also, as we can see in Model (3), the expected value of the financial literacy of the audit committee member for shareholders increases with the number of segments that the diversified firm holds. Complementing the work of numerous studies of the inefficiency of diversified conglomerates, including Berger and Ofek (1995) and Lins and Servaes (1999), this result provides evidence that financial literacy may increase the shareholder wealth of diversified firms otherwise discounted by the market.²⁹

We also examine the effectiveness of financial literacy on firms with *mandatorily* established audit committees compared to that of *voluntarily* established committees in order to assess whether the regulatory requirements for mandatory audit committee formation are effective following the financial crisis. Our evidence shows in Model (4) of Table 7 that shareholders of firms with mandatorily established audit committees benefits more from improving financial literacy. This appears reasonable because the voluntary formation of an audit committee probably reflects the firm's confidence in its corporate governance such that the benefit from this additional monitoring, if any, through financial literacy may be minor. It also suggests that mandatory regulations indeed benefit firms that need better monitoring and whose shareholders require more protection, such as through the financial literacy of the appointed audit committee member. In fact, this mirrors the result with *chaebol* firms in Model (1), which is not

²⁹ Lins and Servaes (2002) conclude that the corporate governance of a firm, as measured by industrial group affiliation or ownership concentration, reduces its market value.

surprising given the mandatory regulation applied to the majority of *chaebol*-affiliated firms. In sum, the financial literacy of the appointed audit committee members is also helpful in strengthening the monitoring function of audit committees and thus in mitigating potential management entrenchment.³⁰

6. Largest shareholders in *Chaebol* firms and the audit committee appointment

We further investigate the effect of the ownership structure of the largest shareholders in *chaebol* firms on shareholder wealth surrounding audit committee appointments because the largest shareholder of *chaebol*-affiliated firms is generally believed to have far more controlling power than their counterparts in non-affiliated firms. Lins and Servaes (1999) report an interesting result on the relationship between ownership structure and the value of diversification. Using German firm data, they find that insider ownership significantly improves the diversification value. However, they do not find a significant effect of insider ownership on firm value in Japanese data. They argue that one of the reasons for the different result may be the unique corporate structure in Japan, called *keiretsu*. The impact of the ownership structure on firm value in Japan may not be as strong as in Germany because group members in the *keiretsu* organization can monitor themselves without share ownership. Thus, we may also observe a weak relationship between insider ownership and firm value in our data because *chaebol* organizations are similar to *keiretsu* organizations.

Further, recent empirical literature suggests that there is a nonlinear relationship between ownership concentration and firm value (Lins and Servaes 2002; Morck, Shleifer, and Vishny 1988; Short and Keasey 1999; Joh 2003; Bhabra 2007). Specifically, Lins and Servaes (2002)

³⁰ There is considerable research in accounting that suggests larger auditors do a better job of controlling earnings management than do smaller auditors. Announcements made by firms using smaller auditors may have a larger impact, either positive or negative, because the audit committee may be more important in this situation. We thank Wallace Davidson III for this insight. Our analysis indicates (not shown here) that the size of the independent auditor does not affect our results in any significant way.

find a nonlinear relationship between management ownership concentration and firm value in diversified conglomerates in emerging markets. In particular, they observe a significant value discount when the ownership concentration is in the 10% to 30% range. They argue that insiders become most entrenched in this intermediate ownership range. Therefore, to the extent that ownership affects corporate governance, we may observe a similar nonlinear relationship between the largest shareholdings and the expected benefits to shareholders from audit committee appointments.³¹

[Insert Table 8 here]

In fact, our results in Table 8 suggest that there is a nonlinear effect of ownership concentration on changes in shareholder wealth surrounding audit committee appointments. We follow the existing literature and use 10% and 30% as the ownership breakpoints. Using the full sample in Table 8, we find a significant positive coefficient on the interaction terms between the *chaebol* dummy variable and low or high ownership concentration [$CHB*(OWN<10\%)$ or $CHB*(OWN>30\%)$] dummy, suggesting that the announcement effect is greater when the largest owner of a *chaebol* firm holds less than 10% of total equity or more than 30% of the total holding ($-0.05 + 0.067 = 0.017$ for $OWN(<10\%)$ and $-0.03 + 0.047 = 0.017$ for $OWN(>30\%)$).

Alternatively, this means that the announcement effect of the appointed members in *chaebol* firms become significantly less than other ownership levels when the largest shareholder ownership ranges between 10% and 30%. This is consistent with the argument that the controlling shareholders with this intermediate level of ownership have an incentive to expropriate the wealth of the other shareholders for their private benefits possibly by appointing management-friendly committee members.³²

³¹ We use the largest shareholder ownership to measure ownership concentration, because several *chaebol* firms have significant amounts of shares cross-held by other group member firms, and this may distort the owner group's shareholdings.

³² Because management in most *chaebol*-affiliated firms has a very close relationship with the largest owners, the owners may act in favor of management when they fully separate the interests of other shareholders from

Interestingly, we find the opposite market responses toward the audit committee appointments for non-affiliated independent firms. Both low and high ownership dummy variables have significant negative coefficients (i.e., -0.054 and -0.033, respectively significant at the 5% and 10% level.) In other words, the announcement effect is significantly greater for the intermediate ownership range than for other ownership levels. This result initially seems puzzling given that most severe agency problems are expected in the intermediate ownership range. However, unlike in the case of *chaebol* firms, the market seems to expect the new audit committee appointments to enhance the monitoring function of the committee for independent firms. The benefits are particularly great for the intermediate ownership levels in comparison to other levels.

Finally, we explore the impact of the ownership structure in the subsample of independent (ACIND) and dependent (ACDEP) audit committees, given our results showing the effectiveness of the monitoring function of audit committee independence (see Table 6). Thus, we assess the impact of the independence of the audit committee and its interaction with the ownership structure by running the same regressions under independent and dependent audit committee subsamples. As shown in Table 8, the negative impact of *chaebol*-affiliation is mostly attributed to the dependent sub-sample (model 3), while the coefficient for *chaebol* becomes insignificant for the independent sub-sample (model 2). The impact of audit committee independence is striking. The independence of the audit committee makes almost all the coefficients on the ownership dummy variables and their interaction terms with *chaebol* affiliation insignificant. The interaction coefficients on CHB*OWN are at most weakly significant, again potentially due to the influence of the independence of the audit committee. And this further confirms the crucial importance of the independent audit committee as a governance device.

7. Summary and Conclusion

In this paper, we examine the effects of audit committee appointments on shareholder wealth in Korea. These effects generally appear to be related to the controlling power of owners and/or management who attempt to pursue their own self-interest over shareholders. Firms with *chaebol* affiliation and those that switch audit committee members do not experience any significant abnormal stock returns around the time of the appointment announcement. This indicates that audit committee membership is occasionally not aligned to the interests of shareholders. We argue that the management of these firms appears to weaken the function of the audit committee for self-interested benefit. The primary role of the Korean audit committee is to monitor business operations, rather than to review and improve financial report quality. Because the market reaction to the audit committee appointment is the ex ante market perception of future audit committee performance and since the Korean committee's role is focused on monitoring management behavior, we suggest that the differential market response is driven by opportunistic behavior in management of chaebol firms, rather than by differential financial reporting quality. In particular, our result supports the argument that management in chaebol firms influences the selection of audit committee members for its self-interest benefits, driven by strong management entrenchment in *chaebols*.

Furthermore, our evidence shows that the independence of the audit committee may be effective in discouraging management from opportunistic behavior in the audit committee selection process, especially in *chaebol* firms. As far as financial literacy is concerned, we have mixed results. The market shows negative sentiment toward financial literacy of the audit committee, while it shows a positive reaction to financial literacy in a complex organization. We also find that the announcement effect depends on the ownership structure of the controlling shareholders.

Our evidence generally supports the effectiveness of the government-mandated audit

committee, which can contribute to shareholder wealth even in emerging markets where corporate governance is usually weak. However, strong indigenous factors that act against the interests of shareholders still exist and weaken the effect of these newly adopted governance devices. We conclude that these limitations can be overcome to some degree by strong corporate governance, such as audit committee independence and/or alignment between minority shareholders and controlling owners/management. Therefore, revamping *chaebol* structure in Korea may be an ideal way to improve corporate structure for shareholders in Korea. Unfortunately, this route may be unrealistic. A more practical but challenging solution would be to explore more effective governance devices and to optimize the balance of the existing governance devices within the current corporate structure to align the interests of the two classes of shareholders.

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Table 1
Governance reforms in Korea

Panel A. Introduction of Audit Committee by Governance Reforms in Korea		
Year.Month	Regulation	Regulatory Change
1999.12	Commercial Law	Introduced the audit committee system by law
2000.1	Securities Trading Act	Mandated audit committees to the firms with assets of two trillion or more KRW
		Mandated two-thirds of the audit committee members to be outside directors
		Enabled voluntary establishment of audit committee for the firms with assets less than two trillion KRW
Panel B. Criteria for outside directors in Korean Commercial Law		
		1. One who is not hired by the firm as of now
		2. One who quit the firm more than two years ago
		3. One who is not related to the dominant owner, director, or auditor of the firm
		4. One who is not the director or auditor of the firm's mother(or child) firm
		5. One who is not the director or auditor of the partner(transacting) firm
		6. One who is not the director or auditor of the other firm where the firm's other director or auditor is in charge of the same position

Table 2
Sample description

We collect data on firms' announcements of audit committee appointments from the DART database provided by KFSS for the period 2001 to 2004. Panel A describes our sample selection procedure. Initially, we find 479 announcements of audit committee appointments for non-financial KSE-listed companies. We consider more than two appointment announcements of the one company on the same day as a single event, and this reduces the sample to 248 events. Because we use end of year accounting data from the KIS-VALUE database, we remove two firms whose fiscal year end is not December. We remove another two companies, Tongbu Electronics and Pacific Glass, because they have no audit committee at the announcement date. Because we require stock return data for the previous year for our cumulative abnormal return (CAR) calculations, we remove 22 firms where this data is not available. Finally, we remove 42 events contaminated by some other news, i.e. earnings surprises, around the announcement date by searching the DART and Lexis-Nexis database. These procedures leave 182 events in our sample for analysis. Panel B describes the annual frequency distribution of the 182 events. The event year denotes the year of the announcement. The values in parentheses are the percentage of events for the year.

Panel A. Sample Selection Procedure

	<u>Number of events</u>
Initial sample	479
Duplicated announcements	(231)
No audit committee at the announcement date	(2)
Lack of data for CAR calculations	(22)
Contaminated events	(42)
Final sample	182

Panel B. Annual Distribution of Sample

Event Year	2001	2002	2003	2004
Number of observations	20	43	64	55
Independent audit committees	11 (55%)	23 (53.49%)	45 (70.31%)	39 (70.91%)
Financial literacy of appointed members	17 (85%)	31 (72.09%)	44 (68.75%)	38 (69.10%)
Audit committee member switches	14 (70%)	30 (69.77%)	42 (65.63%)	38 (69.10%)
<i>Chaebol</i> -affiliated firms	14 (70%)	29 (67.44%)	39 (60.94%)	34 (61.82%)
Firms voluntarily establish audit committee	4 (20%)	14 (32.56%)	22 (34.38%)	20 (36.36%)
Diversified firms	12 (60%)	28 (65.11%)	47 (73.44%)	35 (63.64%)
ADR-listed firms	4 (20%)	10 (23.26%)	15 (23.44%)	10 (18.18%)

Table 3
Descriptive statistics of announcement characteristics

We collect the firm's *chaebol* affiliation from the annual report of Korea Fair Trade Commission (KFTC) and audit committee-related data (independence of the committee, financial literacy of the appointed member, and member switches) from DART announcements and annual reports. We use KIS-VALUE for the control variables (total assets, return on equity measured as net income divided by total equity, and the liquidity ratio measured as current assets divided by current debt) and DART annual reports when the data is not available from the KIS-VALUE database. We consider an audit committee member financially literate if it has an educational background in business (including finance, accounting, and management) or experience in a financial institution. We define a firm as having a mandatorily established audit committee if it has total assets in excess of 2 trillion KRW (Korean won) in 2000 when required by Korean commercial law. We assume all other firms have voluntarily established audit committees. We identify stand-alone firms using Berger and Ofek's (1995) definition that a firm is stand-alone when its main line of business accounts for more than 90% of total sales. We collect segment sale information from the *Worldscope* database and DART annual reports when data is not available from the *Worldscope*. Panel A distinguishes between *chaebol* and non-*chaebol* firms and examine differences between the groups using a two-sample t-test assuming equal variances. Panel B separates independent and non-independent audit committees (we consider an audit committee independent if it is fully composed of outside directors and non-independent if the committee has more than one insider) and test the differences using the same method as for Panel A. For '†' marked items, the values are the means and asterisks denote significance at the 10% (*), 5% (**), and 1% (***) level.

	Total (N=182)	Panel A. By <i>chaebol</i> affiliation			Panel B. By audit committee (AC) independence		
		<i>Chaebol</i> (N=116)	Non- <i>chaebol</i> (N=66)	Mean diff. (p-value)	Indep. AC (N=118)	Non- indep AC (N=64)	Mean diff. (p-value)
% of <i>chaebol</i> -affiliated firms	63.7%	100%	–	–	79.7%	34.4%	–
% of firms with an independent audit committee	64.8%	81%	36.4%	–	100%	–	–
% of financial expert appointments	71.4%	71.6%	71.2%	–	71.2%	71.9%	–
% of audit committee member switches	68.1%	61.2%	80.3%	–	65.3%	73.4%	–
% of voluntary audit committee establishments	33%	12.9%	68.2%	–	15.3%	65.6%	–

% of diversified firms	67%	75.9%	51.5%	–	73.7%	54.7%	–
% of ADR-listed firms	21.4%	21.6%	21.2%	–	24.6%	15.6%	–
Average equity ownership of largest shareholder † (% of total common equity)	20.3%	19.5%	21.8%	–2.3% (0.259)	21.8%	19.5%	2.3% (0.260)
Average foreign ownership † (% of total common equity)	16.4%	18.9%	12.1%	6.8%*** (0.009)	18.6%	12.4%	6.2%** (0.017)
Logarithm of total assets †	21.297	21.766	20.471	1.295*** (0.000)	21.763	20.437	1.325*** (0.000)
Return on equity †	0.009	0.068	–0.095	0.163 (0.235)	–0.033	0.085	–0.118 (0.394)
Liquidity Ratio †	0.307	0.285	0.346	–0.060** (0.015)	0.302	0.318	–0.016 (0.510)

Table 4
Cumulative abnormal returns [CAR[-1,0]] for audit committee appointments
around the announcement date: Univariate analysis

The sample consists of 182 non-financial KSE-listed firms during the period 2001 to 2004. The dummy variables for our study are CHB = *Chaebol* affiliation; FIN = financial literacy of appointed AC member; SWCH = AC member switch; and ACIND = firm with independent audit committee. In the case of multiple appointments, we define the FIN dummy variable to be 1 if one or more of the appointed AC members are financially literate. Similarly, we define the SWCH dummy to be 1 if one or more of the appointed AC members replace the old AC members. The definitions of the remaining variables are in Table 3. We calculate the mean CARs of the samples divided by the given dummy variables and test them with null hypothesis that CARs = 0. Mean differences are calculated with a two-sample t-test assuming equal variances. Asterisks denote significance at the 10% (*), 5% (**), and 1% (***) level.

Dummy Variables	Dummy = 1 (A)		Dummy = 0 (B)		A-B
	N	Mean (p-value)	N	Mean (p-value)	Mean diff. (p-value)
<i>Chaebol</i> affiliation (CHB)	116	0.004 (0.433)	66	0.022** (0.023)	-0.018* (0.064)
Financial literacy of appointed member (FIN)	130	0.010** (0.047)	52	0.011 (0.290)	-0.001 (0.918)
Audit committee member switch (SWCH)	124	0.005 (0.339)	58	0.022** (0.021)	-0.017* (0.095)
Independence of audit committee (ACIND)	118	0.006 (0.154)	64	0.017* (0.092)	-0.011 (0.260)

Table 5

Determinants of cumulative abnormal returns, CAR [-1, 0], for the announcement
of audit committee appointments

We use 182 non-financial KSE-listed firms during the period 2001 to 2004 for the OLS regression analysis. The variables used in the regression models are CHB = *chaebol* affiliation; FIN = financial literacy of appointed AC member; SWCH = AC member switching; ACIND = firm with independent audit committee; SSEG = single segment firm; ADR = firm cross-listed on ADR; MDT = firm with mandatorily established AC; LIQ = firm's liquidity ratio; ROE = firm's return on equity; LNTA = log of total assets. The numbers in parentheses below the estimated coefficient are p-values. We use LIQ, ROE, and LNTA as control variables. Asterisks denote significance at the 10% (*), 5% (**), and 1% (***) level.

Independent Variables	(1)	(2)	(3)	(4)
FIN	0.001 (0.932)	0.000 (0.999)		
SWCH	-0.022** (0.028)		-0.022** (0.026)	
ACIND	-0.004 (0.703)			-0.005 (0.670)
CHB	-0.033*** (0.008)	-0.030** (0.013)	-0.034*** (0.005)	-0.029** (0.019)
SSEG	-0.002 (0.870)	-0.000 (0.988)	-0.001 (0.897)	-0.001 (0.956)
ADR	-0.020 (0.127)	-0.018 (0.179)	-0.020 (0.129)	-0.018 (0.174)
MDT	0.014 (0.398)	0.013 (0.410)	0.012 (0.430)	0.014 (0.371)
LIQ	-0.042 (0.159)	-0.041 (0.167)	-0.043 (0.140)	-0.040 (0.182)
ROE	0.008 (0.124)	0.009* (0.098)	0.008 (0.111)	0.009 (0.109)
LNTA	0.001 (0.801)	0.001 (0.839)	0.001 (0.834)	0.002 (0.780)
Intercept	0.041 (0.737)	0.013 (0.906)	0.033 (0.763)	0.006 (0.960)
Adjusted R ²	0.033	0.016	0.044	0.017
F-statistic	1.62	1.36	2.03	1.39

Table 6

The effect of audit committee independence on cumulative stock returns [CAR[-1,0]] of the announcement of audit committee appointment

The dependent variable for the OLS regressions is cumulative abnormal returns around the announcement date, CAR[-1,0]. The CARs and all independent variables are described in Tables 2, 3 and 4. We introduce three new variables for testing the coefficient differences for the two groups. These interaction terms are ACIND*CHB (multiplication of AC independence dummy and *chaebol* affiliation dummy), ACIND*FIN (multiplication of AC independence dummy and financial literacy of appointed AC member dummy), and ACIND*SWCH (multiplication of AC independence dummy and AC member switching dummy). Models (1) through (6) are estimated with the subsample based on the independence of the audit committee, while models (7) through (9) are estimated using full sample with interaction terms for the audit independence dummy and other relevant variables. The numbers in parentheses below the estimated coefficient are p-values. Asterisks denote significance at the 10% (*), 5% (**), and 1% (***) level.

Independent Variables	AC independence = 1			AC independence = 0			Full Sample		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CHB	0.001 (0.971)	0.001 (0.932)	0.002 (0.898)	-0.074*** (0.002)	-0.069*** (0.005)	-0.073*** (0.002)	-0.060*** (0.000)	-0.055*** (0.001)	-0.060*** (0.000)
FIN	0.020** (0.049)	0.020** (0.048)		-0.036 (0.103)	-0.045** (0.049)		-0.031* (0.063)	-0.040** (0.018)	
SWCH	-0.003 (0.774)		-0.003 (0.742)	-0.054** (0.016)		-0.060*** (0.008)	-0.053*** (0.002)		-0.058*** (0.001)
ACIND							-0.108*** (0.000)	-0.073*** (0.001)	-0.074*** (0.002)
ACIND*CHB							0.048** (0.026)	0.045** (0.040)	0.051** (0.020)
ACIND*FIN							0.052** (0.012)	0.061*** (0.004)	
ACIND*SWCH							0.053** (0.012)		0.058*** (0.006)
SSEG	-0.001 (0.906)	-0.001 (0.931)	-0.001 (0.932)	0.004 (0.847)	0.004 (0.866)	0.005 (0.824)	0.001 (0.956)	0.000 (0.967)	0.002 (0.855)

ADR	-0.012 (0.331)	-0.011 (0.339)	-0.009 (0.444)	-0.034 (0.307)	-0.027 (0.433)	-0.033 (0.327)	-0.018 (0.156)	-0.016 (0.203)	-0.016 (0.204)
MDT	-0.009 (0.609)	-0.009 (0.631)	-0.015 (0.419)	0.039 (0.170)	0.033 (0.265)	0.045 (0.125)	0.017 (0.255)	0.014 (0.362)	0.015 (0.315)
LIQ	-0.043 (0.147)	-0.043 (0.148)	-0.049* (0.100)	-0.034 (0.590)	-0.040 (0.540)	-0.034 (0.596)	-0.044 (0.131)	-0.045 (0.129)	-0.047 (0.104)
ROE	0.008* (0.055)	0.008* (0.051)	0.008 (0.071)	-0.049 (0.339)	-0.059 (0.271)	-0.046 (0.375)	0.008 (0.107)	0.008 (0.121)	0.008 (0.141)
LNTA	0.001 (0.884)	0.001 (0.887)	0.003 (0.634)	0.009 (0.514)	0.008 (0.552)	0.003 (0.803)	0.002 (0.766)	0.002 (0.755)	0.001 (0.799)
Intercept	0.001 (0.995)	-0.002 (0.984)	-0.019 (0.865)	-0.061 (0.816)	-0.084 (0.761)	0.023 (0.930)	0.076 (0.483)	0.041 (0.711)	0.064 (0.559)
F-statistic	1.29	1.45	0.93	2.35	1.70	2.23	2.78	2.29	2.62
Adjusted R^2	0.022	0.030	-0.005	0.161	0.081	0.135	0.114	0.073	0.090
Number of obs.	118	118	118	64	64	64	182	182	182

Table 7
The effect of the financial literacy of appointed audit committee members
on cumulative stock returns [CAR[-1,0]]

The dependent variable for all OLS regressions is cumulative abnormal return around the announcement date, CAR[-1,0]. CARs and all of the independent variables are described in Tables 2, 3 and 4. We introduce several variables for testing the coefficient differences for the two different groups. These are ‘appointing firm is a diversified conglomerate dummy,’ ‘appointing firm’s number of segments,’ and ‘appointing firm’s AC is established by regulatory requirements dummy.’ We also conduct tests on the interaction terms between these new variables and the appointed member’s financial literacy dummy for measuring the effect of financial literate appointment on the AC. The numbers in parentheses below the estimated coefficient are p-values. Asterisks denote significance at the 10% (*), 5% (**), and 1% (***) level.

Independent Variables	(1)	(2)	(3)	(4)
Financial literacy (a)	-0.029* (0.093)	0.017 (0.170)	-0.027 (0.148)	-0.041** (0.020)
<i>Chaebol</i> -affiliated firm (b)	-0.055*** (0.005)			
Diversified firm (c)		-0.039** (0.035)		
Number of segments (d)			-0.009* (0.087)	
Mandatory AC formation (e)				-0.048** (0.028)
a*b	0.041* (0.051)			
a*c		0.055** (0.013)		
a*d			0.010* (0.086)	
a*e				0.062*** (0.004)
ROE	0.009* (0.076)	0.007 (0.167)	0.0078 (0.148)	0.008 (0.116)
LIQ	-0.044 (0.132)	-0.036 (0.217)	-0.038 (0.206)	-0.029 (0.331)
LNTA	0.003 (0.494)	-0.002 (0.583)	-0.002 (0.649)	-0.001 (0.889)
Intercept	0.000 (0.996)	0.052 (0.515)	0.082 (0.316)	0.067 (0.532)
Adjusted R^2	0.0344	0.0217	0.0052	0.0328
F-statistic	2.08	1.67	1.16	2.02
Number of obs.	182	182	182	182

Table 8

Largest shareholder ownership structure in *Chaebols* and the cumulative abnormal returns [CAR[-1,0]] of the announcement of audit committee appointments

The dependent variable for all OLS regressions is cumulative abnormal returns around the announcement date, CAR[-1,0]. The CARs and the independent variables are described in Tables 2, 3 and 4. This table reports the effects of the firm's ownership concentration on the largest shareholder on the shareholder wealth surrounding the audit committee appointments. We divide owner's shareholding into three categories, less than 10% (OWN(<10%)), between 10% and 30% (OWN(10–30%)), and more than 30% (OWN(>30%)) of the total number of shares outstanding. Interaction terms are also included. ACIND (ACDEP) indicates the independent (dependent) audit committee. The numbers in parentheses below the estimated coefficient are p-values. Asterisks denote significance at the 10% (*), 5% (**), and 1% (***) level.

	Full sample	ACIND	ACDEP
Independent Variables	(1)	(2)	(3)
CHB	-.0502897 (0.001)***	-.0339909 (0.120)	-.0629381 (0.026)**
OWN(<10%)	-.0539325 (0.022)**	-.0386924 (0.150)	-.0964215 (0.285)
OWN(>30%)	-.0330065 (0.060)*	-.0280465 (0.266)	-.0295399 (0.341)
CHB*OWN(<10%)	.0676797 (0.012)**	.0542159 (0.063)*	.0906663 (0.386)
CHB*OWN(>30%)	.0471469 (0.037)**	.046371 (0.104)	-.0010205 (0.985)
ROE	.0073817 (0.170)	.0081546 (0.063)*	-.0763691 (0.203)
LIQ	-.0534086 (0.071)*	-.0531863 (0.078)*	-.0717916 (0.289)
LNTA	.003163 (0.457)	.001637 (0.725)	.002156 (0.835)
Intercept	-.0068126 (0.939)	.0119355 (0.902)	.0325438 (0.882)
Adjusted R^2	0.0505	0.0264	0.0175
F-statistic	2.20	1.40	1.14
Number of obs.	182	118	64