

Effects of CEO Turnover and Board Composition Reform on Improvements in the Internal Control Quality

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Abstract

Several serious accounting scandals have occurred in Japan in recent years (e.g., Olympus); however, the government, regulators, and auditing standard setters have struggled to identify new directions for corporate governance in listed companies, such as standard setting to address risks of fraud in an audit or the adoption of new corporate governance codes. The validity and effectiveness of monitoring by outside directors have received criticism within such a context. Nevertheless, in 2015, accounting fraud at Toshiba was discovered, which surprisingly involved upper management; the outside directors had failed to detect and prevent this fraud. Again, the monitoring function of the Japanese board of directors and outside directors was viewed with suspicion. Thus, this study examines Japanese corporations that disclose significant deficiencies (SDs) in internal controls over financial reporting (ICFR) and determines whether replacing the chief executive officer (CEO) and enhancing board members' independence and financial expertise are followed by SD remediation. The results indicate that Japanese companies that disclose SDs in ICFR are more likely to replace their CEOs and enhance board independence. In addition, this study finds that although these actions do not affect SD remediation, upgrading the board's accounting expertise does correlate positively with SD remediation. Moreover, if a company remediates a SD by increasing the number of accounting experts on the board, an increase in audit fees during the following term can be mitigated. These findings should be of interest to Japan's regulators, auditing standard setters, and financial statement users when considering improvements in the quality of internal controls. In particular, these individuals must realize that the control environment is not improved in Japanese firms merely by replacing the CEO and increasing board independence, particularly because new CEOs encounter difficulties in changing the environment established by their predecessors.

Keywords: corporate governance expertise, corporate governance independence, executive turnover, significant deficiencies, audit fees

1. Introduction

The Financial Instruments and Exchange Act of 2006 (J-SOX) requires that the upper management at all publicly traded Japanese companies report their assessment of the company's internal controls over financial reporting (ICFR) and present audit reports confirming the validity of their assessments (Sections 24 and 193) (Note 1). J-SOX also requires management to disclose all significant deficiencies (SDs) in ICFR at the fiscal year-end. However, after the introduction of J-SOX, major accounting scandals occurred (e.g., accounting fraud by Olympus and Toshiba), subjecting the chief executive officer's (CEO's) responsibility, the independence of corporate governance, and the effectiveness of monitoring by outside directors to severe criticism. After the scandals came to light, CEOs and boards of directors were replaced or reformed in each case. Within this context, a primary research question centered on whether replacing CEOs and reforming corporate governance in Japanese corporations affected the quality of financial reporting. This study examines the relation between the disclosure of SDs in ICFR and a corporation's CEO and the independence of its board of directors.

In the U.S., CEOs' responsibility for financial reporting increased after the passage of the Sarbanes-Oxley Act in

2002 (U.S.-SOX) (Feldmann, Read, & Abdolmohammadi, 2009), which accelerated the movement toward more independent boards (Linck, Netter, & Yang, 2008). Coates & Srinivasan (2014) argue that J-SOX is contained provisions equivalent to those in both section 302 and 404 of U.S.-SOX, and Eight Directive on securities disclosure that European Union adopted largely tracked much of the contents of U.S.-SOX. Moreover, U.K. law (the Companies Act of 2004) requires firms listed Main market of the London Stock Exchange to report whether firms can comply with Listing Rules that include voluntary application of the Turnbull Guidance on internal control on the Combined Code. Listed firms can comply by disclosing or by explaining why they do not comply. A core element of the Combined Code is its recommendation to compose at least half the board of independent non-executives. Another is the separation of the positions of board chairman and CEO (see, Hopt, & Leyens, 2004). On the other hand, German adopts the tow-tier corporate governance system. In the two-tier system, the management board is responsible for running the firm and a supervisory board that is responsible for the appointment and oversight of the management board (see, Ghoshray, 2004).

Although the proportion of outside directors on the boards of publicly traded Japanese companies rose every year from 2005 to 2010 (Miyajima & Ogawa, 2012), serious accounting scandals were frequent despite the J-SOX regulations. In such cases, the upper management was personally involved in the fraud (e.g., Olympus and Toshiba), which indicates that corporate governance monitoring may not be comprehensive. These incidents sparked public reservations regarding the internal monitoring at Japanese companies, and the Japanese Legislative Council of the Ministry of Justice reconsidered legal provisions concerning independent corporate governance because it reasoned that addition independence may restrain reckless managers (Note2).

Disclosing SDs in ICFR entails serious consequences; for example, SDs inspire less confidence in equity markets (Beneish, Billings, & Hodder, 2008; Hammersley, Myers, & Shakespeare, 2008). To mitigate these consequences, firms must remediate their SDs immediately, perhaps through drastic steps, such as replacing the CEO and changing the composition of the board of directors (e.g., Desai, Hogan, & Wilkins, 2006; Hennes, Leone, & Miller, 2008; Agrawal & Cooper, 2014). However, replacing the CEO in Japanese firms does not necessarily improve the control environment created through management policies, ethical values, and organizational culture because former CEOs hold entrenched power and authority after leaving their positions. Kawamoto (2009) and Tanikawa (2016) noted that there is a certain tendency in the promotion system of Japanese corporations for executives to be promoted internally. Moreover, in many corporations, the CEO and chairman of the board are the same person; thus, authority is concentrated in the CEO. For example, Japanese corporations normally fill upper management positions by promoting from within, which occurred for 97% of Japanese CEOs in 2013 (Note 3), and the former CEO selected a new CEO through his authority (Japanese Association of Corporate Directors, 2003) (Note 4). In addition, the current CEO serves as chairman of the board at 78.5% of the companies listed on the Tokyo Stock Exchange (TSE) (Tokyo Stock Exchange, 2013) (Note 5), and CEOs often remain as the board chairman after leaving office. Furthermore, certain companies designate their presidents as chairmen of the board, although presidents are generally previous CEOs (Note 6). Dong, Girardone, & Kuo (2016) examined the relationship between national culture and corporate governance structure based on Williamson's (2000) theoretical framework of the causal chain for formative processes of corporate governance, and they found that national culture affects incentives and choices in corporate governance. Many studies in which U.S. companies are used as the sample reveal that specific characteristics (independence) affect the quality of internal controls over financial reporting. However, if the shape of corporate governance depends on the national culture, then the results may differ from those of the previous U.S. studies. If so, CEO replacement and corporate governance reform may not have a positive effect on the mindset of an organization.

2. Literature Review and Hypothesis Development

2.1 Disclosure of Significant Deficiencies and Replacing the CEO

Many studies have suggested that financial performance (e.g., price earnings ratio, sales growth, return on asset) is the trigger for CEO turnover (Kang & Shivasani, 1995, 1996; Kaplan, 1994; Sheard, 1994), which means that negative consequences for corporations promote changes in upper management, and disclosing a SD destabilizes corporate governance and motivates firms to change upper management (Johnstone, Li, & Rupley, 2011). Agrawal & Cooper (2014) examine how accounting scandals lead to changes in corporate governance, particularly the replacement of the CEO, chief financial officer (CFO), and external auditor. Desai, Hogan, & Wilkins (2006) find that financial restatements relate positively to executive dismissals (Note 7). Moreover, studies have found that the disclosure of existing SDs is positively associated with CEO replacement (Geiger & Taylor, 2003; Johnstone, Li, & Rupley, 2011; Marden, Edwards, & Stout, 2003).

A material weakness is defined as a deficiency or a combination of deficiencies in ICFR such that there is a

reasonable possibility that a material misstatement of a company's annual or interim financial statements will not be prevented or detected on a timely basis (Public Company Accounting Oversight Board: PCAOB, 2007, AS5 Appendix A-7). According to this definition, it is clear that ICFR quality affects the credibility of financial statements because SDs in ICFR increase the risk of material misstatements in financial statements. In fact, many previous studies indicate that SD disclosures damage a company's image in equity markets (Beneish, Billings, & Hodder, 2008; Hammersley, Myers, & Shakespeare, 2008), trigger negative market reactions (De Franco, Guan, & Lu, 2005; Hammersley, Myers, & Shakespeare, 2008), raise the cost of capital (Ashbaugh-Skaife, Collins, Kinney Jr., & Lafond, 2009; Ogneva, Subramanyam, & Raghunandan, 2007) and control risk assessments by external auditors (Hoitash, Hoitash, & Bedard, 2008; Krishnan, Rama, & Zhang, 2008; Raghunandan & Rama, 2006) (Note 8). In addition, SDs indicate upper management's failure in its responsibility to design and operate effective ICFR, which in turn impacts the credibility of a firm's financial statements after Global Economic Crisis. The PCAOB discusses the potential negative impact of the economic crisis on internal controls in a Staff Audit Practice Alert (PCAOB, 2008). To maintain effective ICFR, it is necessary to invest human resource appropriately in the implementation of ICFR. If companies are eliminating staffs with internal control responsibilities, control strength may be deteriorating (Choi, Choi, Hogan, and Lee, 2013). Choi, Choi, Hogan, & Lee (2013) find that the proportion of internal control personnel (the ratio of the number of employees involved with the implementation of internal controls) is negatively associated with the disclosure of SDs.

In Summary, because disclosing SDs seriously damages firms, decreases the reliability of financial statements, and decreases CEO reputations, it is difficult for CEOs to maintain their positions. These arguments lead to the following hypothesis.

Hypothesis 1a. *Disclosure of a SD in internal controls is positively associated with the replacement of the CEO.*

2.2 Disclosure of Significant Deficiencies and Reforming Corporate Governance

The disclosure of SDs also leads to a change in board composition. The board of directors monitors and assesses the validity of upper management's work and performance. When monitoring, if one of the components of internal control reaches a workable level and SDs are prevented or detected through the monitoring process, then the SDs are improved on a timely basis. Krishnan (2005) and Hoitash, Hoitash, and Bedard (2009) find that the quality of audit committee expertise is significantly negatively correlated with the disclosure of material weaknesses. In addition, Agrawal and Chadha (2005) find that the probability of restatement is lower in companies whose boards or audit committees have an independent director with financial expertise. Based on these results, shareholders of firms with SDs may claim that improving the independence and expertise of corporate governance improves the quality of ICFR. This argument leads to the following hypotheses.

Hypothesis 1b. *Disclosure of a SD in internal controls is positively associated with the independence of the board of directors.*

Hypothesis 1c. *Disclosure of a SD in internal controls is positively associated with the expertise of the board of directors.*

Replacing the CEO or Reforming Corporate Governance and Remediating Significant Deficiencies

Hammersley, Myers, & Zhou (2012) focus on consecutive SD disclosures and examine the factors that interfere with remediating them the second time they occur by employing both CEO and CFO removal as factors in addressing deficiencies. As Johnstone, Li, & Rupley (2011) also find, replacing the CEO or CFO does not significantly correlate with remediation (Note 9). However, these researchers do find that appointing a CFO with stronger accounting expertise and greater CFO-specific experience and appointing a new CEO with a superior reputation are positively associated with remediation (Note 10). In any case, the results from previous studies examining the relation between SD remediation and CEO turnover are mixed.

As discussed previously, Japanese corporate culture is very unique (Ahmadjian & Robbins, 2001; Ouchi, 1981), and even if a CEO is replaced after the disclosure of a serious problem, the former CEO's power, management policies, and ethical values may persist. The Japanese Association of Corporate Directors (2003) conducted a questionnaire survey to gain an understanding of the role, reward, and elective dismissal of CEOs. The results indicate that many CEOs take up posts as chairmen after relinquishing their roles as CEOs (60% and above), and the last CEO or former CEO decides on a new CEO at one's direction (60% and above). Under this situation, it is not difficult to see that the control environment does not change easily and immediately. In fact, in the case of Toshiba, the previous three CEOs were continuously involved in the fraud, which means that great authority is given to the CEO in Japan. Under this situation, how is corporate governance designed at Japanese companies? Dong, Girardone, and Kuo (2016) suggest that corporate governance mechanisms of U.S. companies are determined by equity markets. However, Japanese firms depend on institutional regulation to govern corporations (Hansmann & Kraakman, 2001) (Note 11). Cohen, Krishnamoorthy, & Wright (2008) suggests that the institutional theory perspective implies that governance entails a

ceremonial role that includes structures and processes that are important for symbolism as opposed to substantive purpose (Note 12). If Japanese corporations decide to arrange the independence of corporate governance based on this perspective, outside directors might have only a symbolic role.

However, Fama (1980) argues that the effort level of outside directors depends on competition among the team and the degree of maturity of the labor market. If the labor market for outside directors sufficiently reaches maturity and the market valuation of outside directors depends on their performance as monitors, then the effort level of outside directors increases and the effort is efficient. Abe & Oguro (2004) suggest that in Japan, a mutual monitoring system among team members rather than a monitoring system essential to monitoring by outside directors because the labor market for outside directors has not developed adequately. The above suggestions led to the expectation that the independence of the board of directors cannot affect the quality of ICFR.

Conversely, internal directors as experts may produce results that differ from those of outside directors. Burt (2016) finds that employees are likely to share more negative information on the ICFR with internal auditors than with external auditors. Japanese firms have a strong preference for collective responsibility and accountability, and they also have a culture defined by a strong groupthink mentality (Mroczkowski & Hanaoka, 1989). These arguments mean that employees report negative information on the effectiveness of ICFR to internal personnel or group members instead of to outside personnel. Moreover, if internal personnel have suitable responsibility and expertise, then information on the design and operation of the ICFR will be gathered from employees from the bottom up, and SDs will be remediated at the right time. Krishnan (2005) and Hoitash, Hoitash, & Bedard (2009) indicate that the expertise of audit committees affects ICFR quality, and Masulis & Mobbs (2011) find that firms with inside directors holding outside directorships have better operating performance, particularly when monitoring is more difficult. Furthermore, Mobbs (2013) suggests that certain inside directors strengthen board monitoring, and this result persists when accounting for the endogenous firm selection of talented inside directors. Studies also find that accounting expertise is positively associated with SD remediation (Hammersley, Myers, & Zhou, 2012; Johnstone, Li, & Rupley, 2011).

The next hypotheses to test these propositions are as follows.

Hypothesis 2a. *Replacing the CEO after the disclosure of a SD is associated with its remediation.*

Hypothesis 2b. *Improving the independence and expertise of corporate governance is positively associated with SD remediation.*

3. Methodology

3.1 Research Models

The following model testing of Hypothesis 1a is based on Johnstone, Li, & Rupley (2011), Desai, Hogan, & Wilkins (2006), Hennes, Leone, & Miller (2008), and Chou & Wang (2010):

$$\begin{aligned} \text{TOit+1} = & \beta_0 + \beta_1 \text{SDit} + \beta_2 \text{RISTATEMENTit} + \beta_3 \text{M\&Ait} + \beta_4 \text{GCit} + \beta_5 \text{ROAit} + \beta_6 \text{CFO/Ait} \\ & + \beta_7 \text{GROWTHit} + \beta_8 \text{DEBTit} + \beta_9 \text{LNSIZEit} + \beta_{10} \text{MTBit} + \beta_{11} \text{BOARDSIZEit} \\ & + \beta_{12} \text{OFFICEit} + \beta_{13} \text{OUTSIDEit} + \beta_{14} \text{EXPERTit} + \beta_{15} \text{DIRECOWNit} \\ & + \beta_{16} \text{BIGSHAREit} + \beta_{17} \text{FOREIGNOWNit} + \beta_{18} \text{BANKINGit} + \beta_{19} \text{TRUSTit} \\ & + \beta_{20} \text{INDUSTRYit} + \beta_{21} \text{Year Dummyi} + \varepsilon. \end{aligned} \quad (1)$$

The dependent variable (TOit+1) is an indicator variable that is equal to 1 if the CEO changes between year t and t + 1 and 0 otherwise (Note 13). Disclosure of a significant deficiency in year t (SDit) is an independent variable (Note 14). SD is expected to correlate positively with TO after controlling for other variables, thereby supporting Hypothesis 1a.

The model developed to test Hypotheses 1b and 1c is based on Linck, Netter, & Yang. (2008) and Boone, Field, Karpoff, & Raheja (2007). The following model (2) tests Hypotheses 1b and 1c:

$$\begin{aligned} (\text{Board Composition}) \text{it+1} = & \beta_0 + \beta_1 \text{SDit} + \beta_2 \text{RISTATEMENTit} + \beta_3 \text{M\&Ait} + \beta_4 \text{GCit} + \beta_5 \text{ROAit} + \beta_6 \text{CFO/Ait} \\ & + \beta_7 \text{GROWTHit} + \beta_8 \text{DEBTit} + \beta_9 \text{LNSIZEit} + \beta_{10} \text{MTBit} + \beta_{11} \text{BOARDSIZEit} \\ & + \beta_{12} \text{OFFICEit} + \beta_{13} \text{DIRECOWNit} + \beta_{14} \text{BIGSHAREit} + \beta_{15} \text{FOREIGNOWNit} \\ & + \beta_{16} \text{BANKINGit} + \beta_{17} \text{TRUSTit} + \beta_{18} \text{R\&Dit} + \beta_{19} \text{INDUSTRYit} \\ & + \beta_{20} \text{Year Dummyi} + \varepsilon. \end{aligned} \quad (2)$$

Model (3) and (4) test Hypotheses 2a and 2b using SD remediation ($REMEDIAE_{it}$) as a dependent variable and TO as an independent variable and is based on Bedard, Hoitash, Hoitash, & Westermann (2012) and Hammersley, Myers, & Zhou (2012). If TO correlates positively with $REMEDIAE$, replacing the CEO affects SD remediation.

$$\begin{aligned} REMEDIAE_{it+1} = & \beta_0 + \beta_1 TO_{it} + \beta_2 ENVIRONMW_{it} + \beta_3 \Delta LNSIZE_{it} + \beta_4 \Delta LNSIZE_{it} + \beta_5 \Delta LNSEGMENTS_{it} \\ & + \beta_6 \Delta FOREIGNSALE_{it} + \beta_7 M\&A_{it} + \beta_8 \Delta MTB_{it} + \beta_9 \Delta GROWTH_{it} + \beta_{10} \Delta ROA_{it} \\ & + \beta_{11} \Delta CFO_{it} + \beta_{12} GC_{it} + \beta_{13} BIG4_{it} + \beta_{14} \Delta AUDNUMBER_{it} + \beta_{15} \Delta OUTSIDE_{it} \\ & + \beta_{16} \Delta EXPERT_{it} + \beta_{17} DIRECOWN_{it} + \beta_{18} \Delta BIGSHARE_{it} + \beta_{19} \Delta FOREIGNOWN_{it} \\ & + \beta_{20} \Delta BANKING_{it} + \beta_{21} \Delta TRUST_{it} + \beta_{22} \Delta INDUSTRY_{it} + \varepsilon. \end{aligned} \quad (3), (4)$$

Model (3) includes variables for changes in board expertise and independence ($\Delta EXPERT$ and $\Delta OUTSIDE$) to test 2a and 2b. Corporations with strong corporate governance structures are known for higher quality internal controls (Goh, 2009; Hoitash, Hoitash, & Bedard, 2009; Krishnan, 2005) (Note 15). However, this study also expects that the results will differ from those of previous studies. Moreover, Model (4) includes variables for the interaction between TO and $\Delta OUTSIDE$ and TO and $\Delta EXPERT$ as independent variables.

3.2 Sample and Data

Table 1 (Panel A) describes the sample selection procedure.

Table 1. Panel A: Sample selection procedure

	2009*	2010**	2011***	Total
Main Market				
Tokyo 1st	1,620	1,670	1,672	4,962
Tokyo 2nd	429	431	431	1,291
Osaka 1st	31	34	36	101
Osaka 2nd	198	211	209	618
Sapporo	12	14	15	41
Nagoya 1st	5	6	6	17
Nagoya 2nd	85	89	89	263
Fukuoka	19	23	26	68
Market for growing companies				
JASDAQ	824	891	898	2,598
Tokyo MA	170	179	176	525
Osaka HK****	82			82
Sapporo AT	5	7	6	18
Nagoya CR	12	14	14	40
Fukuoka QB	5	7	7	19
Others (foreign corp. etc.)	92	80	95	259
Total	3,497	3,561	3,585	10,917
Less:				
Companies in finance, securities, and insurance				(481)
Companies missing financial data				(359)
Companies missing corporate governance data				(529)
Final Sample				9,548

* 2009 period is from March 31 2009 to December 31 2010
 ** 2010 period is from January 1 2010 to December 31 2010
 *** 2011 period is from January 1 2011 to December 31 2011
 **** Osaka HK was integrated into JASDAQ in 2010

Our investigation documented 10,917 firm-year observations of publicly traded Japanese companies that disclosed management reports for fiscal years between March 31, 2009, and December 31, 2011 (Note 16). After excluding 481 observations for companies in the finance, securities, insurance, and other industries because their financial statements differ markedly from most other companies, with 359 observations excluded because there were missing financial data (Note 17) and 529 observations excluded for foreign firms and firms with no corporate governance information, the final sample contains 9,458 firm-year observations. Financial data are derived from NEEDS Financial QUEST. Data related to management's internal control reports, audit reports, and the number of business segments are derived from EDINET. Data for CEO replacements and boards of directors are derived from Directors' Quarterly Journals (*Toyo Keizai Shinposya*).

Table 1 (Panel B) reports the number of corporations that disclosed SDs during the sample period. In 2009, 117 corporations (3.34%) disclosed SDs (Note 18) and 15 could not report the results of their management's assessment. In 2010, 58 corporations (1.62%) disclosed SDs, seven issued disclaimers, and 31 companies disclosed SDs for the second consecutive year.

Table 1. Panel B: SD disclosure

	2009	% of listed companies	2010	% of listed companies	2011	% of listed companies	Total	% of listed companies
SD disclosure	117	3.34%	58	1.62%	27	0.75%	202	1.85%
Disclaimer	15	0.42%	6	0.16%	4	0.11%	25	0.22%
Two-year consecutive disclosure			31	0.87%	7	0.19%	38	0.34%
Three-year consecutive disclosure					11	0.30%	11	0.10%

Table 1 (Panel C) lists the markets on which companies that disclosed SDs or issued disclaimers are listed and reports their Nikkei industry middle classification codes (Panel D). Several companies that disclosed SDs trade on an emergent market (e.g., Tokyo Mothers). Service, energy, and financial services companies had the highest rate of SD disclosures in 2009 (Note 19).

Table 1. Panel C: Number of SD disclosure firms by stock market

Main market	2009				2010				2011			
	SD disclosure	Disclaimer	Total	% of listed companies	SD disclosure	Disclaimer	Total	% of listed companies	SD disclosure	Disclaimer	Total	% of listed companies
Tokyo 1st	28	2	30	1.83%	11	0	11	0.65%	3	0	3	0.17%
Tokyo 2nd	10	1	11	2.56%	3	0	3	0.69%	2	0	2	0.46%
Osaka 1st	3	0	3	9.60%	2	0	2	6.45%	1	0	1	2.77%
Osaka 2nd	9	0	9	4.54%	4	0	4	1.89%	3	0	3	1.43%
Sapporo	0	0	0	0.00%	0	0	0	0.00%	0	0	0	0.00%
Nagoya 1st	0	0	0	0.00%	0	0	0	0.00%	0	0	0	0.00%
Nagoya 2nd	0	0	0	0.00%	0	0	0	0.00%	0	0	0	0.00%
Fukuoka	0	0	0	0.00%	0	0	0	0.00%	0	0	0	0.00%
Market for growing companies												
JASDAQ	39	5	44	5.33%	23	2	25	2.85%	8	2	10	1.11%
Tokyo MA	10	3	13	7.64%	11	2	13	7.38%	4	2	6	3.40%
Osaka HK	10	1	11	13.4%								
Sapporo AT	2	2	4	80.00%	1	1	2	28.57%	0	0	0	0.00%
Nagoya CR	5	1	6	50.00%	3	1	4	28.57%	6	0	6	42.85%
Fukuoka QB	1	0	1	20.00%	0	0	0	0.00%	0	0	0	0.00%
Total	117	15	132	3.77%	58	6	64	1.79%	27	4	31	0.86%

Table 1. Panel D: Number of disclosure firms by industry type*

	2009				2010				2011			
	SD disclosure	Disclaimer	Total	% of listed companies	SD disclosure	Disclaimer	Total	% of listed companies	SD disclosure	Disclaimer	Total	% of listed companies
Electronics	8	1	9	2.69%	5	0	5	1.41%	4	0	4	1.46%
Machinery	4	1	5	2.11%	1	1	2	0.89%	1	0	1	0.43%
Precision Equipment	0	1	1	1.81%	0	0	0	0.00%	0	1	1	2.00%
Auto Equipment	4	1	5	4.16%	2	1	3	2.72%	1	1	2	1.98%
Chemical	5	0	5	1.77%	2	0	2	0.96%	1	0	1	0.46%
Nonferrous Metal	3	0	3	5.76%	0	0	0	0.00%	0	0	0	0.00%
Ceramic	3	0	3	4.34%	2	0	2	3.22%	0	0	0	0.00%
Pulp	2	0	2	7.69%	0	0	0	0.00%	0	0	0	0.00%
Fiber	0	1	1	0.90%	0	1	1	0.81%	0	0	0	0.00%
Gum	0	0	0	0.00%	0	0	0	0.00%	0	0	0	0.00%
Other Manufacture	5	1	6	5.98%	2	0	2	1.78%	0	1	1	0.82%
Construction	9	0	9	4.18%	4	0	4	2.19%	2	0	2	1.14%
Medicine	1	0	1	1.75%	2	0	2	3.44%	0	0	0	0.00%
Food	7	2	9	7.43%	4	1	5	3.91%	1	0	1	0.76%
General Trading	18	1	19	5.97%	9	1	10	2.77%	4	0	4	1.16%
Retail	8	1	9	2.80%	4	1	5	1.33%	3	1	4	1.15%
Telecommunication	5	0	5	1.53%	5	0	5	1.43%	3	0	3	0.83%
Service	22	2	24	8.02%	11	0	11	4.77%	5	0	5	1.39%
Real Estate	5	1	6	3.94%	1	0	1	1.02%	1	0	1	0.92%
Transportation	4	0	4	6.66%	2	0	2	2.83%	0	0	0	0.00%
Energy	2	0	2	13.21%	0	0	0	0.00%	0	0	0	0.00%
Other Finance	2	2	4	11.12%	2	0	2	7.14%	1	0	1	3.02%
Total	117	15	132	3.77%	58	6	64	1.79%	27	4	31	0.86%

* Listed companies are classified on the basis of the Nikkei industry middle classification code

4. Results

4.1 Descriptive Statistics

Table 2 presents descriptive statistics for the companies that reported SDs (disclosure group) and for those that did not (control group).

The disclosure group was more likely to change CEOs (TO, $\chi^2 = 5.51$, $p < 0.01$), issued more restatements (RESTATEMENT, $t = 2.18$, $p = 0.04$), and engaged in more M&As (M&A, $\chi^2 = 7.71$, $p < 0.01$) than the control group. The disclosure group also posed a greater risk than the control group (GC, $\chi^2 = 17.44$, $p < 0.01$; ROA, $t =$

-17.36; CFO/A, $t = -10.22$, $p < 0.01$, GROWTH, $t = -2.98$, $p < 0.01$; DEBT, $t = 11.98$, $p < 0.01$). The SD disclosure companies are smaller (LNSIZE, $t = -6.31$, $p < 0.01$), have fewer directors (BOARDSIZE, $t = -4.87$, $p < 0.01$) with less average service (OFFICE, $t = -4.69$, $p < 0.01$) and have a higher proportion of outside directors (OUTSIDE, $t = 4.15$, $p < 0.01$) (Note 20).

Table 2. Descriptive statistics of SD disclosure group and control group*

Variable	SD disclosure group (N=227)			Control Group (N=9,321)			Differences <i>t</i> or (χ^2)
	Mean	Median	Std.dev.	Mean	Median	Std.dev.	
TO	0.32	0.38	0.46	0.14	0.00	0.34	5.51***
RESTATEMENT	1.36	1.01	2.58	0.09	0.00	0.28	2.18**
M&A	0.12	0.00	0.32	0.07	0.00	0.25	7.71***
GC	0.25	0.22	0.42	0.03	0.00	0.16	17.44***
ROA	-22.08	1.81	20.35	1.72	1.03	1.28	-17.36***
CFO/A	-2.33	1.81	19.02	6.01	7.51	10.03	-10.22***
GROWTH	-4.59	-1.21	12.04	1.36	0.78	20.53	-2.98***
DEBT	57.61	58.36	38.67	49.18	49.91	21.09	11.98***
LNSIZE	9.32	9.34	1.89	10.47	10.31	1.71	-6.31***
LNSUB	1.65	1.61	1.22	1.88	1.79	1.31	-1.44
LNSSEGMENTS	1.29	1.22	1.17	1.67	1.69	0.74	-2.51**
FOREIGNSALES	8.99	0.88	20.32	9.76	4.78	18.42	-0.81
MTB	0.64	0.55	1.24	0.82	0.72	1.02	-5.92***
R&D	1.92	1.29	3.22	3.01	3.24	1.88	-2.92**
BOARDSIZE	9.47	8.88	3.55	12.65	11.99	4.22	-4.87***
OFFICE	5.04	4.52	3.02	6.51	5.54	3.44	-4.69***
OUTSIDE	12.77	11.25	14.85	9.88	4.48	12.16	4.15***
EXPERT	11.22	8.39	11.10	10.11	9.34	9.52	1.49
DIRECOWN	11.22	10.14	14.88	9.73	10.05	14.38	1.14
BIGSHARE	30.88	31.55	19.56	24.77	20.99	26.88	3.02***
FOREIGNOWN	3.62	1.41	5.26	7.59	3.95	6.38	-3.62***
BANKING	8.46	5.29	10.34	18.25	9.67	15.29	-7.26***
TRUST	0.92	0.00	1.99	1.95	0.89	3.57	-2.89**
BIG4	0.02	0.01	0.14	0.03	0.00	0.16	-25.91***
AUDITORS	11.39	9.22	8.63	14.22	12.01	11.74	-8.71***

Asterisks*, **, and *** indicate two-tailed significance at the 0.10, 0.05, 0.01 levels, respectively.

The correlation matrix in Table 3 shows that TO correlates positively with RESTATEMENT, DEBT, LNSIZE, and LNSEGMENTS and negatively with ROA, CFO/A, and GROWTH. Although TO correlates positively with OUTSIDE, it correlates negatively with EXPERT. In terms of ownership, TO correlates negatively with DIRECOWN and positively with BIGSHARE.

Table 3. Correlation matrix (Spearman | Pearson)*

	TO	RESTATEMENT	ROA	CFO/A	GROWTH	DEBT	LNSIZE	LNSUB	LNSSEGMENTS	FOREIGNSALE	MTB
TO	1.000	0.022*	-0.030**	-0.003**	-0.071**	0.040**	0.032**	0.018	0.037**	0.010	0.026**
RESTATEMENT	0.022**	1.000	-0.040**	-0.026*	-0.032**	0.071**	-0.088**	0.004	0.017	0.020**	0.015
ROA	-0.030**	-0.460**	1.000	0.528**	0.015	-0.459**	0.143**	0.010	0.024*	-0.012	0.224**
CFO/A	-0.030**	-0.026*	0.528**	1.000	-0.018	-0.248**	0.097**	0.003	0.010	0.010	0.031**
GROWTH	-0.070**	-0.032**	0.015	-0.018	1.000	0.065**	0.274**	0.197**	0.164**	0.732**	0.332**
DEBT	0.040**	0.071**	-0.459**	-0.248**	0.065**	1.000	0.110**	0.148**	0.159**	-0.050**	0.091**
LNSIZE	0.032**	-0.020	0.143**	0.097**	0.275**	0.110**	1.000	0.698**	0.632**	0.274**	0.567**
LNSUB	0.018	0.004	0.008	0.003	0.195**	0.148**	0.693**	1.000	0.698**	0.379**	0.221**
LNSSEGMENTS	0.034**	0.017	0.024*	0.010	0.164**	0.155**	0.635**	0.688**	1.000	0.370**	0.017
FOREIGNSALE	0.010	-0.002	-0.012	-0.001	0.732**	-0.050**	0.274**	0.381**	0.372**	1.000	0.192**
MTB	0.026**	0.017	0.224**	0.029**	0.332**	0.092**	0.567**	0.222**	0.019	0.192**	1.000
R&D	0.055**	0.005	0.018	0.011	0.224**	0.015	0.422**	0.331**	0.223**	0.155**	0.168**
BOARDSIZE	0.036**	-0.026*	0.058**	0.033**	0.055**	0.073**	0.575**	0.278**	0.465**	0.170**	0.058**
OFFICE	-0.146**	-0.012	0.048**	0.031**	-0.198**	-0.119**	-0.128**	-0.044**	-0.164**	-0.144**	-0.009**
OUTSIDE	0.050**	0.017	-0.039**	-0.025*	0.433**	0.021*	0.003	0.002	0.056**	0.055**	0.037**
EXPERT	-0.039**	0.001	0.014	0.016	-0.424**	-0.058**	-0.047**	-0.077**	-0.053**	-0.069**	-0.047**
DIRECOWN	-0.105**	0.023*	0.015	0.028**	-0.128**	-0.041**	-0.424**	-0.588**	-0.318**	-0.165**	-0.223**
BIGSHARE	0.038**	0.021*	-0.087**	-0.062**	0.111**	0.028**	-0.472**	-0.269**	-0.159**	-0.255**	-0.007
FOREIGNOWN	0.015	-0.004	0.260**	0.168**	0.243**	0.011	0.605**	0.588**	0.015	0.233**	0.008
BANKING	0.010	-0.054**	0.106**	0.111**	0.222**	0.145**	0.688**	0.298**	0.123	0.280**	0.017
TRUST	0.008	0.006	0.332**	0.234**	0.517**	0.033**	0.565**	0.447**	0.480**	0.236**	0.112**

Asterisks* and ** indicate two-tailed significance at the 0.05, 0.01 levels, respectively.

Table 3. (Continued)*

	R&D	BOARDSIZE	OFFICE	OUTSIDE	EXPERT	DIRECOWN	BIGSHARE	FOREIGNOWN	BANKING	TRUST
TO	0.054**	0.036**	-0.146**	0.050**	-0.039**	-0.105**	0.038**	0.015	0.010	0.009
RESTATEMENT	0.005	-0.032**	-0.012	0.068**	-0.025*	0.092**	0.021*	-0.005	-0.054**	0.006
ROA	0.017	0.058**	0.049**	-0.039**	0.014	0.015	-0.087**	0.261**	0.106**	0.322**
CFOA	0.011	0.033**	0.031**	-0.025*	0.016	0.028*	-0.062**	0.168**	0.111**	0.235**
GROWTH	0.243**	0.055**	-0.198**	0.433**	-0.424**	-0.128**	0.110**	0.243**	0.221**	0.517**
DEBT	0.009	0.073**	-0.119**	0.021*	-0.058**	-0.041**	0.028**	0.012	0.146**	0.034**
LNSIZE	0.422**	0.575**	-0.128**	0.005	-0.047**	-0.434**	-0.472**	0.605**	0.690**	0.565**
LNSUB	0.331**	0.278**	-0.046**	0.005	-0.077**	-0.553**	-0.266**	0.579**	0.298**	0.449**
LNSEGMENTS	0.212**	0.465**	-0.164**	0.056**	-0.053**	-0.319**	-0.159**	0.017	0.123**	0.482**
FOREIGNSALE	0.155**	0.172**	-0.164**	0.056**	-0.053**	-0.166**	-0.256**	0.233**	0.281**	0.236**
MTB	0.169**	0.055**	-0.007	0.034**	-0.046**	-0.022**	-0.003	0.008	0.015	0.124**
R&D	1.000	0.009	0.007	0.142**	0.007	-0.058**	-0.011	0.339**	0.003	0.124**
BOARDSIZE	0.009	1.000	-0.141**	0.030**	-0.085**	-0.278**	-0.281**	0.358**	0.508**	0.365**
OFFICE	0.007	-0.141**	1.000	-0.224**	0.156**	0.301**	-0.121**	-0.113**	-0.004	-0.009
OUTSIDE	0.144**	0.301**	-0.224**	1.000	0.001	-0.068**	0.223**	-0.087**	-0.344**	-0.171**
EXPERT	0.007	-0.085**	0.156**	0.001	1.000	0.151**	-0.022*	0.002	-0.015	-0.011
DIRECOWN	-0.058**	-0.276**	0.300**	-0.068**	0.152**	1.000	0.046**	-0.322**	-0.370**	-0.243**
BIGSHARE	-0.011	-0.280**	-0.121**	0.222**	0.002*	0.046**	1.000	-0.239**	-0.651**	-0.050**
FOREIGNOWN	0.443**	0.359**	-0.112**	-0.088**	0.002	-0.322**	-0.501**	1.000	0.228**	0.269**
BANKING	0.003	0.508**	-0.003	-0.345**	-0.015	-0.370**	-0.651**	0.228**	1.000	-0.050**
TRUST	0.122**	0.355**	-0.009	-0.171**	-0.012	-0.243**	-0.050**	0.269**	-0.050**	1.000

Asterisks* and ** indicate two-tailed significance at the 0.05,0.01 levels, respectively.

4.2 Regression Analysis

4.2.1 Disclosure of Significant Deficiencies and Replacing the CEO

Table 4 (Panel A) shows the results of the binary probit regression for Model (1). The results indicate a statistically significant positive correlation between SD and TO ($z = 3.772, p < 0.001$), which supports Hypothesis 1 and suggests that a SD disclosure in the ICFR is a factor in replacing the CEO. Among the variables related to corporate governance, EXPERT ($z = -2.135, p = 0.043$) correlates negatively with TO, whereas OUTSIDE has no relation with TO. Table 4 (Panels B and C) shows the results of the probit regression for Model (2). Although SD correlates significantly and positively with OUTSIDE ($z = 2.552, p < 0.037$), it has no correlation with EXPERT (Note 21).

Table 4. Probit Regression

Panel A: Model (1) DV=TO; Panel B: Model (2) DV=OUTSIDE; Panel C: Model (2) DV=EXPERT

	Panel A				Panel B				Panel C		
	Predicted sign	Coeff.	Std.Err.	Z-value	Predicted sign	Coeff.	Std.Err.	Z-value	Coeff.	Std.Err.	Z-value
CONSTANT		-0.633	0.160	-3.950***		-0.607	0.166	10.250***	-0.492	0.161	9.240***
SD _{it}	+	0.482	0.125	3.772***	?	0.139	0.198	2.552**	0.056	0.112	0.072
OUTSIDE _{it}	+	0.002	0.001	1.180							
EXPERT _{it}	?	-0.014	0.001	-2.135**							
RESTATEMENT _{it}	+	0.019	0.028	1.128	□	0.006	0.002	0.001	0.012	0.037	1.894**
M&A _{it}	+	0.039	0.049	0.772	□	0.069	0.127	2.949**	0.002	0.007	0.622
GC _{it}	+	0.297	0.089	2.711**	□	0.188	0.009	3.949***	0.152	0.031	3.692***
ROA _{it}	-	-0.017	0.052	-0.519	□	-0.002	0.002	-0.091	-0.003	0.017	-0.114
CFOA _{it}	-	-0.002	0.001	-0.117	□	-0.002	0.004	-0.104	-0.006	0.005	-0.229
GROWTH _{it}	-	-0.024	0.012	-0.774	□	-0.008	0.011	-0.441	-0.001	0.005	-0.694
DEBT _{it}	+	0.018	0.050	1.889*	□	0.007	0.044	1.169	-0.002	0.043	-0.247
LNSIZE _{it}	?	-0.094	0.111	-0.744	?	-0.014	0.022	-0.911	-0.022	0.092	-0.881
MTB _{it}	?	-0.021	0.033	-0.669	?	0.002	0.002	0.091	-0.001	0.007	-0.124
BOARDSIZE _{it}	+	0.026	0.120	1.042	□	0.082	0.172	4.112***	-0.029	0.055	-1.243
OFFICE _{it}	-	-0.055	0.005	-8.642***	□	-0.016	0.004	-0.092	0.041	0.012	2.122**
DIRECOWN _{it}	-	-0.009	0.002	-5.299***	□	-0.097	0.018	-3.241***	0.239	0.116	2.495**
BIGSHARE _{it}	+	0.003	0.001	1.128	□	0.018	0.002	1.677	0.002	0.001	0.321
FOREIGNOWN _{it}	+	0.002	0.001	0.455	□	-0.002	0.001	-0.362	0.001	0.001	0.319
BANKING _{it}	+	0.001	0.001	0.382	□	-0.068	0.112	-2.992**	-0.003	0.001	-0.195
TRUST _{it}	+	0.001	0.001	0.411	□	-0.014	0.003	-0.416	-0.002	0.002	-0.266
RU D _{it}					□	0.025	0.027	2.587**	0.102	0.003	0.367
Industry indicator		Included				Included				Included	
Year indicator		Included				Included				Included	
N=		9,458				9,458				9,458	
Prob > χ^2		0.000				0.000				0.000	
Log likelihood ratio		-3129.001				-3422.033				-3299.617	
Pseudo R ²		0.051				0.059				0.042	

Asterisks*, **, and *** indicate two-tailed significance at the 0.10,0.05,0.01 levels, respectively.

Variable	Definition
TO _t	an indicator variable equal to 1 if there is chief executive change in year $t + 1$, and 0 otherwise.
SD _t	an indicator variable equal to 1 if the firm discloses a material weakness in year t , and 0 otherwise.
OUTSIDE _t	the proportion of outside directors on board in year t .
EXPERT _t	the proportion of the sum of internal directors who are public accountants, tax professionals, and internal directors with experience in financial or accounting directors on board in year t .
OUTSIDE _{t+1}	the proportion of outside directors on board in year $t+1$.
EXPERT _{t+1}	the proportion of the sum of internal directors who are public accountants, tax professionals, and internal directors with experience in financial or accounting directors on board in year $t+1$.
RESTATEMENT _t	the number of financial restatements reported in year t .
M&A _t	an indicator variable equal to 1 if the firm is involved in a merger or acquisition in year t , and 0 otherwise.
GC _t	an indicator variable equal to 1 if the firm reports the explanatory notes regarding the going concern assumption in year t , and 0 otherwise.
ROA _t	the return on assets in year t .
CFO/A _t	the operating cash flow deflated by total assets in year t .
GROWTH _t	the three-year average sales growth for year $t-2$ through t .
DEBT _t	the total debt deflated by total assets in year t .
LNSIZE _t	the natural logarithm of total assets in year t .
MTB _t	the ratio of market value to book value of equity at the end of year t .
BOARD SIZE _t	the number of directors serving on the board in year t .
OFFICE _t	the average of the tenure of directors at year t .
DIRECOWN _t	the shareholding ratio of directors in year t .
BIGSHARE _t	the shareholding ratio of ten highest ranks of big shareholders in year t .
FOREIGNOWN _t	the shareholding ratio of foreign investors in year t .
BANKING _t	the shareholding ratio of financial institutes in year t .
TRUST _t	the shareholding ratio of trust funds in year t .
INDUSTRY _t	an indicator variable classified by Nikkei Industry Classification Code in year t .

5. Remediation of Significant Deficiencies

The next question arising from these results is whether replacing the CEO and upgrading the independence and expertise of corporate governance prompts SD remediation. Table 5 (Panel A) shows the results of the logistic regression for Model (3). The results suggest that TO is not significantly correlated with REMEDIATION (Wald = 2.294, $p = 0.141$). Although a change in the board’s independence correlates negatively with REMEDIATION (Wald = 3.975, $p = 0.046$), a change in the board’s expertise (Δ EXPERT) correlates positively (Wald = 7.451, $p = 0.007$), which suggests that corporations with expert board members are more likely to remediate SDs in the short term. However, even if a corporation increases the independence of the board after SD disclosure, the change does not induce remediation by the next fiscal year end. Instead, firms enhancing board independence are less likely to remediate SDs; therefore, this action appears to camouflage the situation, which makes it difficult to exclude the CEO’s influence.

Table 5 (Panel B) presents the relationship between REMEDIATION and TO following enhancements to the board’s independence and expertise (Model 4). The interactions between TO and Δ OUTSIDE and TO and Δ EXPERT are not significantly correlated with REMEDIATION, which indicates that replacing the CEO does not affect remediation regardless of whether a firm reforms its corporate governance.

Table 5. Logistic Regression

	Predicted sign	Panel A: Model (3)		Panel B: Model (4)	
		Panel A: DV=REMEDIATE	Wald	Panel B: DV=REMEDIATE	Wald
CONSTANT		4.523	6.880**	3.310	7.705**
TO	+/-	-2.703	2.276	-2.057	2.009
TO* Δ OUTSIDE	+			-0.073	0.211
TO* Δ EXPERT	+			0.451	0.619
ENVIRONMW	-	-2.477	4.882**	-2.025	5.011**
Δ LNSIZE	+	0.606	0.242	0.566	0.120
Δ LNSEGMENTS	-	-0.373	0.438	-2.158	0.225
Δ FOREIGNSALE	-	-0.116	1.446	-0.082	1.157
M&A	-	4.730	2.050	2.879	1.928
Δ ROA	+	0.143	2.989*	0.166	3.056*
Δ CFO/A	+	0.247	2.985*	0.157	2.849*
GC	-	-2.610	1.549	-3.754	3.575*
BIG4	+	5.893	3.293*	2.927	1.740
Δ AUDNUMBER	+	0.578	2.111	0.611	0.123
Δ OUTSIDE	+	-0.179	3.724**	-0.109	2.849*
Δ EXPERT	+	0.728	7.694**	0.655	4.961**
Δ DIRECOWN	-	-0.038	0.294	-0.074	0.544
Δ BIGSHARE	+	-0.369	2.063	-0.128	2.553
Δ FOREIGNOWN	+	0.024	0.036	0.019	0.024
Δ BANKING	+	-1.004	3.351*	-0.992	1.675
Δ TRUST	+	0.147	0.172	0.059	0.116
Industry indicator		Included		Included	
N=		165		165	
Remediation N=		127		127	
Prob > χ^2		0.000		0.000	
-2 Log likelihood ratio		28.984		19.508	
Pseudo R ²		0.347		0.402	

Asterisks *, **, ***, indicate two-tailed significance at the 0.10, 0.05, 0.01 levels, respectively

Variable	Definition
REMEDIA _{it}	an indicator variable equal to 1 if the firm reported remediation in year <i>t</i> , and 0 if the firm continues to report a material weakness in year <i>t</i> .
TO _{it}	an indicator variable equal to 1 if there is chief executive turnover in year <i>t</i> , and 0 otherwise.
ΔOUTSIDE _{it}	the change in <i>OUTSIDE</i> from year <i>t</i> - 1 to <i>t</i> .
ΔEXPERT _{it}	the change in <i>EXPERT</i> from year <i>t</i> - 1 to <i>t</i> .
ENVIRONS _{it}	an indicator variable equal to 1 if a firm disclosed a material weakness at the entity level in year <i>t</i> - 1, and 0 if none of the SDs were disclosed at the entity level.
ΔLNSIZE _{it}	the change in <i>LNSIZE</i> from year <i>t</i> - 1 to year <i>t</i> .
ΔLNSUB _{it}	the change in the natural log of (1 + the number of subsidiaries) from year <i>t</i> - 1 to <i>t</i> .
ΔLNSEGMENTS _{it}	the change in the natural log of (1 + the number of business segments) from year <i>t</i> - 1 to <i>t</i> .
ΔFOREIGNSALE _{it}	the change in the proportion the foreign sales on total sales from year <i>t</i> - 1 to <i>t</i> .
M&A _{it}	an indicator variable equal to 1 if a firm is involved in a merger or acquisition in year <i>t</i> , and 0 otherwise.
ΔMTB _{it}	the change in the ratio of market value to book value of equity from year <i>t</i> - 1 to year <i>t</i> .
ΔGROWTH _{it}	the change in <i>GROWTH</i> from year <i>t</i> - 1 to year <i>t</i> .
ΔROA _{it}	the change in <i>ROA</i> from year <i>t</i> - 1 to year <i>t</i> .
ΔCFOA _{it}	the change in <i>CFOA</i> from year <i>t</i> - 1 to year <i>t</i> .
GC _{it}	an indicator variable equal to 1 if a firm reports the explanatory notes regarding the going concern assumption in year <i>t</i> , and 0 otherwise.
BIG4 _{it}	an indicator variable equal to 1 if a firm is audited by a Big4 audit firm in year <i>t</i> , and 0 otherwise.
ΔAUDNUMBER _{it}	the change in the number of auditors from year <i>t</i> - 1 to <i>t</i> .
ΔDIRECOWN _{it}	the change in <i>DIRECOWN</i> from year <i>t</i> - 1 to <i>t</i> .
ΔBIGSHARE _{it}	the change in <i>BIGSHARE</i> from year <i>t</i> - 1 to <i>t</i> .
ΔFOREIGNOWN _{it}	the change in <i>FOREIGNOWN</i> from year <i>t</i> - 1 to <i>t</i> .
ΔBANKING _{it}	the change in <i>BANKING</i> from year <i>t</i> - 1 to <i>t</i> .
ΔTRUST _{it}	the change in <i>TRUST</i> from year <i>t</i> - 1 to <i>t</i> .
INDUSTRY _{it}	an indicator variable classified by Nikkei Industry Classification Code in year <i>t</i> .

5.1 Additional Analysis

Replacing the CEO and changes in audit fees. Munsif, Raghunandan, Rama, & Singhvi (2011) show that firms that remediate SDs have lower audit fees than firms that continue to report them, and Hoag & Hollingworth (2011) show that audit fees decline for companies that remediate SDs. Feldmann, Read, & Abdolmohammadi (2009) find that replacing the CFO moderates subsequent increases in audit fees for corporations that modified and restated their financials (Note 22). Several empirical studies link fees with auditors’ perceptions of clients’ control risks (Hay, Knechel, & Wong, 2006). In short, previous research suggests that the disclosure of a SD increases audit fees (Note 23) and that auditors moderate fee increases if they believe that replacing the CEO and board members reduces control risks (Feldmann, Read, & Abdolmohammadi, 2009). However, this study’s results suggest that replacing the CEO does not inherently remediate SDs by improving internal controls. The question then arises as to whether auditors perceive that replacing the CEO in itself reduces the control risk as reflected in auditing fees, which is tested using Model (5): (Note 24)

$$\begin{aligned}
 \text{CHANGEFEE}_{it} = & \beta_0 + \beta_1 \text{TO}_{it} + \beta_2 \text{REMEDIA}_{it} + \beta_3 \Delta \text{OUTSIDE}_{it} + \beta_4 \Delta \text{EXPERT}_{it} + \beta_5 \Delta \text{RESTATEMENT}_{it} \\
 & + \beta_6 \Delta \text{LNSIZE}_{it} + \beta_7 \Delta \text{M\&A}_{it} + \beta_8 \Delta \text{GROWTH}_{it} + \beta_9 \Delta \text{LNSEGMENTS}_{it} + \beta_{10} \Delta \text{FOREIGNSALE}_{it} \\
 & + \beta_{11} \Delta \text{INVENTORY}_{it} + \beta_{12} \text{GC}_{it} + \beta_{13} \Delta \text{ROA}_{it} + \beta_{14} \Delta \text{DEBT}_{it} + \beta_{15} \text{BIG4}_{it} \\
 & + \beta_{16} \Delta \text{AUDNUMBER}_{it} + \beta_{17} \text{INDUSTRY}_{it} + \epsilon.
 \end{aligned}
 \tag{5}$$

$$\begin{aligned}
 \text{CHANGEFEE}_{it} = & \beta_0 + \beta_1 \text{TO}_{it} + \beta_2 \text{REMEDIA}_{it} + \beta_3 \text{REMEDIA}_{it} * \text{TO}_{it} + \beta_4 \text{REMEDIA}_{it} * \text{OUTSIDE}_{it} \\
 & + \beta_5 \text{REMEDIA}_{it} * \text{EXPERT}_{it} + \beta_6 \Delta \text{OUTSIDE}_{it} + \beta_7 \Delta \text{EXPERT}_{it} \\
 & + \beta_8 \Delta \text{RESTATEMENTS}_{it} + \beta_9 \Delta \text{LNSIZE}_{it} + \beta_{10} \Delta \text{M\&A}_{it} + \beta_{11} \Delta \text{GROWTH}_{it} \\
 & + \beta_{12} \Delta \text{LNSEGMENT}_{it} + \beta_{13} \Delta \text{FOREIGNSALE}_{it} + \beta_{14} \Delta \text{INVENTORY}_{it} \\
 & + \beta_{15} \Delta \text{ROA}_{it} + \beta_{16} \Delta \text{DEBT}_{it} + \beta_{17} \text{BIG4}_{it} + \beta_{18} \Delta \text{AUDNUMBER}_{it} + \beta_{19} \text{INDUSTRY}_{it} + \epsilon.
 \end{aligned}
 \tag{6}$$

Table 6 describes the results of the ordinary least squares regression for Models (5) and (6) (Note 25). The results suggest that *REMEDIA* correlates negatively with *CHANGEFEE* (Wald = -2.285, p = 0.025). The variables *TO*, *ΔOUTSIDE*, and *ΔEXPERT* are not significantly correlated with *CHANGEFEE*. However, interactions between *REMEDIA* and *ΔEXPERT* correlate significantly and negatively with changes in audit fees (Wald = -1.750, p = 0.084). These results show that remediating SDs affects auditors’ assessment of the control risk and audit fees only when remediation is coupled with a change in corporate governance expertise.

Table 6. OLS Regression

	Predicted sign	Model (5)		Model (6)	
		Panel A: DV=CHANGEFEE		Panel B: DV=CHANGEFEE	
		Coeff.	t-value	Coeff.	Wald
CONSTANT		0.379	2.444**	0.795	2.583**
TO	-	0.062	0.593	0.060	0.557
REMEDiate	-	-0.245	-2.285**	-0.532	-2.551**
REME*ATO	-			0.173	1.617
REME*AOUSIDE	-			0.108	0.928
REME*AEExpert	-			-0.227	-1.750*
ΔOUSIDE	-	0.032	0.276	0.053	0.527
ΔEXPERT	-	-0.214	-0.449	-0.243	-0.229
ΔRESTATEMENT	+	-0.011	-0.119	-0.009	-0.194
ΔLNSize	+	0.291	2.914**	0.314	3.035**
M&A	+	0.037	0.707	0.054	0.554
ΔGROWTH	+	-0.085	-0.911	-0.080	-0.738
ΔLNSEGMENT	+	0.143	1.121	0.129	1.442
ΔFOREIGNSALE	+	0.199	1.928*	0.180	1.902*
ΔINVENTORY	+	0.025	0.721	0.045	0.423
GC	+	0.051	0.462	0.057	0.518
ΔROA	-	-0.117	-1.539	-0.159	-1.581
ΔDEBT	+	0.179	1.882*	0.152	1.268
BIG4	+	0.168	1.926*	0.164	1.595
ΔAUDNUMBER	+	0.198	2.081**	0.185	1.933*
Industry indicator		Included		Included	
N=		165		165	
Remediation N=		127		127	
Adjusted-R ²		0.144		0.148	
F-value		2.143(n=0.012)		1.994(n=0.016)	

Variable	Definition
CHNAGEFEE _t	the change in audit fees from year $t - 1$ to t .
TO _t	an indicator variable equal to 1 if there is chief executive turnover in year t , and 0 otherwise.
REMEDiate _t	an indicator variable equal to 1 if a firm reported remediation in year t , and 0 if a firm continues to reported a material weakness in year t .
ΔOUSIDE _t	the change in <i>OUTSIDE</i> from year $t - 1$ to t .
ΔEXPERT _t	the change in <i>EXPERT</i> from year $t - 1$ to t .
ΔRESTATEMENT _t	the change in the number of financial restatements reported from year $t - 1$ to t .
ΔLNSize _t	the change in <i>LNSize</i> from year $t - 1$ to year t .
M&A _t	an indicator variable equal to 1 if a firm is involved in a merger or acquisition in year t , and 0 otherwise.
ΔGROWTH _t	the change in <i>GROWTH</i> from year $t - 1$ to year t .
ΔLNSEGMENTS _t	the change in the natural log of (1 + the number of business segments) from year $t - 1$ to t .
ΔFOREIGNSALE _t	the change in the proportion of foreign sales on total sales from year $t - 1$ to t .
ΔINVENTORY _t	the change in the inventory / total assets from year $t - 1$ to t .
GC _t	an indicator variable equal to 1 if a firm reports the explanatory notes regarding the going concern assumption in
ΔROA _t	the change in <i>ROA</i> from year $t - 1$ to year t .
ΔDEBT _t	the change in <i>DEBT</i> from year $t - 1$ to year t .
BIG4 _t	an indicator variable equal to 1 if a firm is audited by a Big4 audit firm in year t , and 0 otherwise.
ΔAUDNUMBER _t	the change in the number of auditors from year $t - 1$ to t .
INDUSTRY _t	an indicator variable classified by Nikkei Industry Classification Code in year t .

6. Conclusions

This study examines Japanese corporations that disclose SDs in ICFR and determines whether replacing the CEO and enhancing board members' independence and financial expertise are followed by SD remediation. The results indicate that Japanese companies that disclose SDs in ICFR are more likely to replace their CEOs and enhance board independence. In addition, the results indicate that although these actions do not affect SD remediation, upgrading the board's accounting expertise correlates positively with SD remediation. The results have not consistently paralleled results that focus on firms in the U.S.

Until recently, regulators (e.g., Japanese Legislative Council of the Ministry of Justice, Tokyo Stock Exchange) addressed issues of fraud and substandard financial controls by attempting to enhance the independence of corporate boards (Note 26). However, the results indicate that the board members' expertise and not their independence is the central factor in improving the quality of internal controls. These findings should interest Japan's regulators, auditing standard setters, and users of financial statements when they consider improvements in the quality of internal controls. In particular, these individuals must realize that the control environment is not easily improved in Japanese firms, particularly because new CEOs encounter difficulties in changing the environment established by their predecessors. Furthermore, these individuals should understand the reason current Japanese law emphasizes independence in corporate governance, but they must also evaluate the expertise of internal directors.

Prior studies argue that national culture influences the shaping of corporate governance (Note 27). The distinctive characteristics of organizational management as adopted by most Japanese firms adopt are bottom-up and group-oriented problem solving, and it is important for Japanese firms to create a corporate culture that promotes

group values and cooperation (Note 28). However, in U.S. firms, almost no attention is focused on group harmony (Note 29). The influences of the differences in national culture and organizational management on shaping corporate governance are by no means small. Naturally, institutions for corporate governance reform are focused on the independence of corporate governance around the world, which is commonly understood. However, if corporate governance reforms are carried out in defiance of any national culture, the change may fail. The effectiveness of corporate governance monitoring should be considered from various perspectives.

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Notes

Note 1. J-SOX does not require auditors to directly assess the effectiveness of companies' internal controls. Instead, auditors must assess the validity of management assessments. That is, auditors must express their opinion regarding whether management reports are accurate based on evidence the auditors gather themselves.

Note 2. Moreover, an audit standard to address risks of fraud in an audit was set in 2013 (Japanese Business Council, 2013).

Note 3. This investigation samples the 2,500 largest companies as measured by the 2012 market value. Only 78% of CEOs in the U.S. attained their positions through internal promotion. Furthermore, only 25% of Japanese CEOs worked for another company during their careers compared with 86% in the U.S. (retrieved April 20, 2017 from http://www.strategyand.pwc.com/media/file/140507_CEO-Data-Media-release-JP.pdf)

Note 4. This survey samples the 84 companies that are members of the Japanese Association of Corporate Directors. (retrieved April 20, 2017 from http://www.jpccd.jp/report/0.041_01_repo.pdf)

Note 5. This study examines companies listed on the TSE on September 10, 2012 (2,275 companies).

Note 6. Including these companies, the chairman of the board is an internal director at 98.8% of all TSE-listed companies. However, the board chairmen at U.K. companies are barred from having any connection with the CEO position (UK Corporate Governance Code, A.3.1). In the U.S., 20% of companies in the S&P 500 Index have an outside chairman, which far exceeds the percentage (12%) in 2007 (Wall Street Journal Japan, June 12, 2012); this reflects pressure from shareholders.

Note 7. Hennes et al. (2008) distinguish between error and fraud as causes of financial restatements and find that

financial restatements associated with fraud correlate significantly and positively with executive turnover.

Note 8. Several studies examine the negative consequences of internal control deficiencies. For example, Costello and Wittenberg-Moerman (2011) find that when a firm experiences a material internal control weakness, lenders decrease their use of financial covenants and financial-ratio-based performance pricing provisions and replace them with alternatives. Dhaliwal et al. (2011) find that a firm's credit spread on its publicly traded debt marginally increases if it discloses a material weakness. Moreover, Kim et al. (2011) show that the loan spread is higher for material weaknesses at firms that disclose than for those that do not.

Note 9. This factor shows that consecutive disclosures of material weaknesses are not significantly correlated with CEO and CFO turnover.

Note 10. The superiority of a CEO's reputation is measured by whether (a) a CEO who is not serving on one to three boards is replaced by a CEO who is serving on one to three boards; (b) there is no change in CEO; or (c) both the old and new CEOs serve on one to three boards.

Note 11. Cohen et al. (2008) provide four theoretical perspectives (agency theory, resource dependence, institutional theory, and managerial hegemony) to explain the form and substance of corporate governance. Their perspectives are a more comprehensive view of corporate governance than that considered by the traditional agency literature predominately employed in an auditing and accounting studies of governance (Carcello et al., 2011).

Note 12. Moreover, Cohen (2009) illustrates that an audit committee may consist of all independent members (symbolic) but in fact fail to vigorously challenge management over financial reporting quality issues (substantive).

Note 13. The relation between SD disclosure and replacing executives is checked via cross tabulation. The results indicate that executives at companies that have disclosed a SD are replaced substantially more often than executives at companies that have not. Two methods are used to check the endogeneity of SD in this model. The first is the bivariate probit method (which uses Model (1) and the SD model: SD is a dependent variable, and the independent variables are the same as for (1)). The results indicate that $H_0: \rho = 0$ is not rejected at a significant level (z -value of $\text{atanhp} = 1.11$ ($p = 0.254$)). Second is the instrumental variable method (a probit model with an endogenous regression method); the results indicate that $H_0: \rho = 0$ is not rejected at a significant level. Therefore, SD is treated as an exogenous variable in Model (1).

Note 14. Several previous studies (e.g., Hennes et al. 2008) treat replacing the CFO as a dependent variable. However, few Japanese corporations have a CFO and definitively identifying the CFO is difficult. Therefore, this study considers only CEO replacements.

Note 15. For example, Krishnan (2005) and Hoitash et al. (2009) find that audit committee expertise correlates significantly and negatively with disclosures of material weaknesses in internal controls. Agrawal and Chadha (2005) find that restatements are less likely to occur in companies whose boards or audit committees have an independent director with financial expertise.

Note 16. J-SOX came into force for all listed companies at the end of March 2009. Additionally, from 2012 on, few firms disclosed SDs in Japan (22 firms in 2012, 23 firms in 2013). Therefore, this study's sample period spans 2009-2011.

Note 17. We excluded 108 observations for outlying data identified by Tukey box plotting.

Note 18. The firms that disclosed SDs in correction reports in later years are included in the sample.

Note 19. Although these results restate those in Ge and McVay (2005), the number of Japanese companies that disclose SDs is declining annually across all industries.

Note 20. Corporations disclosing SDs have a relatively high proportion of large shareholders (BIGSHARE, $t = 3.02$, $p < 0.01$) and low shareholdings by foreign investors (FOREIGNOWN, $t = -3.62$, $p < 0.01$), banks (BANKING, $t = -7.26$, $p < 0.01$), and institutional investors (TRUST, $t = -2.89$, $p = 0.03$).

Note 21. I also created a matched sample based on ROA divided by total assets to ensure the robustness of the regression results. The results of the regression using the matched sample indicate that SD has a positive correlation with TO ($z = 3.516$, $p < 0.001$) and OUTSIDE ($z = 2.192$, $p = 0.049$) and has no correlation with EXPERT.

Note 22. Arthaud-Day et al. (2006) argue that restating financials damages organizational legitimacy. Menon and Williams (2008) argue that replacing senior executives signals that directors intend to restore reporting credibility following an auditor resignation.

Note 23. For the 2,437 corporations with fiscal years ending March 31, 2009, regression analysis was performed

based on the model used in Simunic (1980) and Simunic and Stein (1996). The results showed that corporations disclosing SDs in internal controls (66 corporations) experienced higher audit fees ($\beta = 0.322$, $t = 6.04$, $p < 0.001$). This result corresponds with those of Hoitash et al. (2008) and Hogan and Wilkins (2008).

Note 24. These models are based on Hammersley et al. (2012) and Feldmann et al. (2009).

Note 25. Model (6) addresses multicollinearity by including the products of the average deviations of REMEDIATE and TO. Variance inflation factors (VIF) are employed to assess the extent of multicollinearity in Models (5) and (6); the highest VIFs are 1.68 and 1.94, respectively.

Note 26. The Legislative Council of the Ministry of Justice attempted to enact a law requiring the inclusion of one or more outside directors on the corporate boards of listed companies at the June 2012 meeting; however, they shelved the bill after resistance from the business community.

Note 27. See Williamson (2000), Hansmann and Kraakman (2001), and Griffin et al. (2017).

Note 28. See Ohsawa (2010), Sagi (2015), and Hatvany and Pucik (1981).

Note 29. See Yooyanyong and Muenjohn (2010).