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**[Title]**

**Effects of Corporate Governance Reform on the Quality of Internal Controls: Evidence from Japan**

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# **Effects of Corporate Governance Reform on the Quality of Internal Controls: Evidence from Japan**

## **ABSTRACT:**

This study examines Japanese corporations that disclose significant deficiencies (SDs) in internal controls and analyses whether replacing the chief executive (CEO), enhancing the independence of boards of directors, and upgrading the financial expertise of corporate boards are followed by a remediation of SDs. This study demonstrates that Japanese companies which report SDs are more likely to replace their CEOs and to increase the independence of their board of directors. In addition, it finds that replacing CEOs and increasing the board's independence are unrelated to remediating SDs. However, upgrading the board's accounting expertise correlates positively with remediation of SDs.

**Keywords:** internal controls; significant deficiencies; executive turnover; corporate governance independence; corporate governance expertise

**Data availability:** Data used in this study are available from public sources.

**JEL classification:** M41; M42; J63; K2

# Effects of Corporate Governance Reform on the Quality of Internal Controls: Evidence from Japan

## 1. Introduction

The Financial Instruments and Exchange Act of 2006 (J-SOX) requires top managements of all listed Japanese companies to report their assessment of the company's internal controls and to present audit reports confirming the validity their assessment (Sections 24 and 193).<sup>1</sup> J-SOX also requires management to disclose all significant deficiencies (SDs) existing at fiscal year-end. This study examines the relation between the disclosure of SDs in internal controls and a corporation's decisions to replace its chief executive officer (CEO), augment the independence of its board of directors, and improve the qualifications of its board of directors. The US CEOs' responsibility for financial reporting process increased after passage of the Sarbanes-Oxley Act of 2002 (US-SOX) (Feldmann et al., 2009). Moreover, the passage also accelerated the movement toward more independent boards (Linck et al., 2008). J-SOX imposed a similar responsibility, calling for the CEO to be responsible for designing and operating internal controls (Business Accounting Council: BAC, 2007, I.4. (1)). Furthermore, the proportion of outside directors on board of Japanese listed

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<sup>1</sup> J-SOX does not require auditors to directly assess the effectiveness of companies' internal controls. Instead, auditors must judge the validity of management's assessment. That is, auditors must express their opinion of whether management's report is accurate based on evidence they gather themselves.

companies increases every year from 2005 to 2010 (Miyajima and Ogawa 2012). However, even after J-SOX enforcement, serious accounting scandals (e.g., Olympus, Daio Paper) are occurring frequently. By these cases, the social criticism was leveled against the effectiveness of corporate governance monitoring, and then Japanese Legislative Council of the Ministry of Justice began to reconsider provisions in the corporate law concerning the independence of corporate governance. A primary logic behind this movement is that if the independence of corporate governance is increased, top managements' reckless run can be controlled.

Disclosing an SD entails serious consequences. It damages the corporation's image in equity markets (Beneish et al., 2008; Hammersley et al., 2008), and triggers negative market reactions (De Franco et al., 2005; Hammersley et al., 2008). It raises the cost of capital (Ogneva et al., 2007; Ashbaugh et al., 2009) and audit fees (Raghunandan and Rama, 2006; Krishnan et al., 2008; Hoitash et al., 2008). To mitigate these consequences, firms must remediate their SDs immediately. To do so they might take drastic steps such as replacing the CEO and changing the composition of the board of directors. However, replacing the CEO does not necessarily improve the control environment (e.g., management policies, ethical values) because current and former CEOs of Japanese companies hold entrenched power and authority.

The current CEO also serves as chairman of the board at 78.5% of companies

listed on the Tokyo Stock Exchange (TSE) (Tokyo Stock Exchange, 2013),<sup>2</sup> and CEOs often remain board chairman after leaving office. Furthermore, some companies designate their president as chairman of the board, but presidents generally are previous CEOs. Including these companies in the count, the chairman of the board is an internal director at 98.8% of all TSE-listed companies.<sup>3</sup> In addition, even if Japanese firms remove the CEO, they normally fill top management positions by promotion from within. Under this situation, even if a corporation with SD disclosures changes its chief executive, the quality of internal controls does not necessarily improve, because the board's decision could simply be a way to allay investors' fears. The empirical result of this study shows that the disclosure of SD is positively correlated with executive turnover following SD disclosure. However, the executive turnover after SD does not affect the remediation of the SD. Thus, the board's decision (replacing the executive) is not effective at improving internal controls, and therefore, top management turnover has meaning in form but not in substance after SD disclosure.

Corporate governance studies focus on the foundation of agency theory and examine how boards' monitoring roles are used to protect stockholder rights (Cohen et al., 2008). However, in Japan, board roles cannot be discussed merely on the basis of agency

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<sup>2</sup> This study examines companies listed on the TSE on September 10, 2012 (2,275 companies).

<sup>3</sup> Chairmen of the boards of UK companies are barred from having any connection with the CEO position (UK Corporate Governance Code, A.3.1). In the US, 20% of companies in the S&P 500 Index have an outside chairman, far exceeding the percentage (12%) during 2007 (*Wall Street Journal Japan*, June 12, 2012).

theory. The U.S. SOX has a provision that states that an audit committee must be composed of independent directors (U.S. SOX Section 302), one of whom must be a financial expert (U.S. SOX Section 407).<sup>4</sup> In contrast, although Japanese Corporate Law (JCL) has provisions regarding the requirements for outside directors, companies are not forced to include independent directors on their boards. Moreover, no provision exists in either JCL or J-SOX concerning the expertise requirements of board members. Because the extent of a board's independence and expertise are at management's discretion, the board is not accountable for shareholder protection. Therefore, in Japan, even if the board changes its executive after disclosing SD to restore the stock market's confidence in its business, the quality of internal controls might not improve in the short term because former CEO's authority does not disappear easily.<sup>5</sup> Similarly, the corporate governance reform may not affect the improvement of SD. The result of this study indicates that upgrading the board's independence correlates negatively with remediating SDs. However, upgrading the board's financial and accounting expertise correlates positively with remediation of SDs.

## **2. Hypothesis Development**

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<sup>4</sup> If an audit committee does not include a financial expert, a company must disclose a justifiable reason for such exclusion.

<sup>5</sup> Top management plays a symbolic role in organizations and serve as scapegoats; they are rewarded when things go well and fired when things go poorly (Pfeffer and Salancik, 1978). Schwartz and Menon (1985) argue that replacing CEOs may help change both internal and external perceptions of a company's images and restore confidence in its future.

## **2-1 Disclosure of Significant Deficiencies and Replacing the CEO**

Agrawal and Cooper (2007) and Desai et al. (2006) find that corporations which modified and restated their financial statements replace their CEO or chief financial officer (CFO) more frequently than corporations that did not.<sup>6</sup> Johnstone et al. (2011) find that disclosure of an SD is positively associated with replacing the CEO.<sup>7</sup> The disclosure of SD is a negative event for a corporation because the SD disclosure causes negative market reactions (De Franco et al., 2005; Hammersley et al., 2008), and is positively associated with the cost of capital (Ogneva et al., 2007; Ashbaugh et al., 2009). Moreover, audit fees increase after the disclosure of SD (Raghunandan and Rama, 2006; Krishnan et al., 2008; Hoitash et al., 2008). These negative events destabilize governance equilibrium, giving firms incentive to change top management. Examples of such incentives include reputational capital and the experience that a new CEO may bring to help remediate negative events (Agrawal and Cooper, 2007; Johnstone et al., 2011). These arguments lead to the first hypothesis.

Hypothesis 1a. *Disclosure of a significant deficiency in internal controls is positively associated with replacing the CEO.*

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<sup>6</sup> 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.

<sup>7</sup> Their result is supported by Geiger and Taylor (2003) and Marden et al. (2003).



Cohen et al. (2008) describe the implications of four corporate governance theories for auditing research (agency theory, resource theory, institutional theory, and managerial theory) (Carcello et al., 2011). Because disclosure of an SD bears serious consequences, corporations find it necessary to strengthen monitoring of managements (agency theory), aid management in setting strategy (resource dependence theory), or assure stakeholders that the change in governance is a genuine effort at improvement (institutional theory or managerial hegemony theory). These possibilities lead to the following hypotheses.

Hypothesis 1b. *Disclosure of a significant deficiency in internal controls is positively associated with the independence and expertise of the board of directors.*

## **2-2 Replacing the CEO and Remediation of Significant Deficiencies**

Hammersley et al. (2012) focus on consecutive disclosures of SDs and examine factors that interfere with remediating them the second time they occur. They employ both removal of the CEO and CFO as factors in remediating the deficiencies; however, as Johnstone et al. (2011) also indicate, research results show that replacing the CEO or CFO does not correlate significantly with remediation. However, they also 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.<sup>8</sup> This study assumes that replacing the CEO does not initiate remediation of SDs in Japan because the former CEO's influence might persist after the new CEO takes office. Some companies designate their presidents as the chairman of the board. In general, a president is either the most recent or a former CEO. Furthermore, most Japanese corporations normally fill their top management positions by promotion from within. For example, 97% of Japanese CEOs achieved the post through internal promotion (Booz & Company, 2013).<sup>9</sup> Therefore, in Japan, even if a company changes CEO, the control environment (management policy, ethical value, organizational culture, etc.) might not readily improve. The following null hypothesis tests this argument.

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

Although Japanese Corporate Law (JCL) has provisions for the requirements of

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<sup>8</sup> 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 the new CEO serve on one to three boards.

<sup>9</sup> In this investigation, the top 250 Japanese companies in terms of 2012 market value are used as a sample. On the other hand, only 78% of CEOs in the U.S. attained their roles via an internal promotion. Further, 25% (86%) of the CEOs in Japan (U.S.) are those with experience of outside employment.

outside directors, it does not mandate companies to include independent directors on their boards.<sup>10</sup> Moreover, J-SOX and JCL have no provisions specifying governance expertise. Therefore, the extent of the board's composition remains at the management's discretion. Given this situation, agency theory or resource independence theory suggests that SDs may be remediated promptly if a firm upgrades its governance immediately after disclosing an SD. On the other hand, even if the firm does so with the genuine intention of making required changes (institutional theory or managerial hegemony theory), the quality of internal controls does not improve in the short term. The next hypothesis tests those propositions.

Hypothesis 2b. *Enhancing the independence and expertise of corporate governance are positively associated with remediation of significant deficiencies.*

### **3. Research Method**

#### **3-1 Research Models**

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<sup>10</sup> If a company's board comprises committees, a majority of committee members should be outside directors (JCL section 400(3)). However, only 49 of the 2,275 companies listed on the TSE (2.15%) have committee boards. Moreover, JCL's requirements for independent directors are looser than those in the US. In the US, directors are not considered independent if they are employees or close relatives of the current executive officer of an organization that either made payments to or received payments from the listed company for property or services for an amount that, in any of the past three fiscal years, exceeded \$1 million or 2% of the company's consolidated gross revenues (*The NYSE Listed Company Manual*, 303A. 02). In Japan, directors who are employees of the parent or client company qualify as outsiders (JCL, 2. 15).

The following model to test Hypothesis 1a is based on Johnstone et al. (2011), Desai et al. (2006), Hennes et al. (2008), and Chou and Wang (2010).

$$\begin{aligned}
TO_{it+1} = & \beta_0 + \beta_1 SD_{it} + \beta_2 RESTATEMENT_{it} + \beta_3 M\&A_{it} + \beta_4 GC_{it} + \beta_5 ROA_{it} \\
& + \beta_6 CFO/A_{it} + \beta_7 GROWTH_{it} + \beta_8 DEBT_{it} + \beta_9 LNSIZE_{it} \\
& + \beta_{10} MTB_{it} + \beta_{11} BOARDSIZE_{it} + \beta_{12} OFFICE_{it} + \beta_{13} OUTSIDE_{it} \\
& + \beta_{14} EXPERT_{it} + \beta_{15} DIRECOWN_{it} + \beta_{16} BIGSHARE_{it} \\
& + \beta_{17} FOREIGNOWN_{it} + \beta_{18} BANKING_{it} + \beta_{19} TRUST_{it} \\
& + \beta_{20} INDUSTRY_{it} + \beta_{21} \sum_{t=2009}^{2011} \gamma_i + \varepsilon_{it}.
\end{aligned}
\tag{1}$$

The dependent variable (TO) is an indicator variable equal to 1 if the CEO changes between year t and t + 1 and 0 otherwise.<sup>11</sup> Disclosure of an SD in year t is an independent variable.<sup>12</sup> SD is expected to correlate positively with TO after controlling for other variables, thereby supporting Hypothesis 1a.

The control variables are as follows. The first is the number of financial restatements (RESTATEMENT). Agrawal and Cooper (2007), Desai et al. (2006), and Hennes et al. (2008) find that RESTATEMENT is positively related to TO. The second control variable is mergers and acquisitions (M&A). A company might change its CEO

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<sup>11</sup> The relation between disclosure of an SD and replacing executives is checked via cross tabulation. The result indicates that executives in corporations which have disclosed an SD are replaced substantially more often than executives of corporations which have not. Two methods are used to check the endogeneity of SD in this model. First, I adopt the bivariate probit method (which uses Model (1) and the SD model: SD is a dependent variable, and independent variables are the same as for (1)). The result indicates that  $H_0: \rho = 0$  is not rejected at a significant level (z-value of  $\text{atanh}\rho = 1.11$  ( $p = 0.254$ )). Second, we adopt the instrumental variable method (a probit model with an endogenous regression method), the results of which indicate that  $H_0: \rho = 0$  is not rejected at a significant level. Therefore, SD is treated as an exogenous variable in Model (1).

<sup>12</sup> 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 replacement of the top executive (CEO).

through an M&A transaction because such events provide rare opportunities to change the organization.

Other variables are related to a firm's operational risks. They include going concern reports (GC), profitability (ROA), and the ratio of operating cash flow to total assets (CFO/A). Desai et al. (2006), Hennes et al. (2008), and Chou and Wang (2010) also adopt these variables. ROA correlates negatively with TO in their studies, implying that corporations which recognize these risks are more likely to replace senior managers. Accordingly, we expect that ROA and CFO/A correlate negatively with replacing the CEO and that GC correlates positively with TO. Moreover, we expect that averages for sales growth (GROWTH) and debt ratio (DEBT) correlate negatively with TO because pressure from shareholders and bondholders to replace the CEO likely will be low for reasons stated in the Introduction.

The next variable concerns the company size (the natural log of total assets (SIZE)) and market value to book value of equity (MTB). Previous studies consider SIZE as a factor in replacing the CEO, but their results indicated no correlation (Jhonstone et al., 2011; Hennes et al., 2008).

This study employs four variables to measure corporate governance.

BOARDSIZE is the natural log of the number of board members. OFFICE denotes their average length of service in office. Control variables include the ratio of outside directors

(OUTSIDE) and the ratio of internal directors with accounting expertise (EXPERT) to the total number of directors.<sup>13</sup> Although previous studies show that BOARDSIZE relates positively with TO (Jhonstone et al., 2011), their empirical results show that there is no relationship between TO and other attributes of corporate governance. Model (1) includes a variable for average length of directors' service (OFFICE) because we expect that corporations are more likely to change the CEO if their directors have served shorter-than-average terms.

Corporate ownership variables include the shareholding ratios of the board of directors (DIRECOWN), large shareholders (BIGSHARE), foreign investors (FOREIGNOWN), financial institutions (BANKING), and investment trust funds (TRUST). These variables suggest that directors hold more power on the boards of corporations with a high proportion of shareholding directors. In contrast, corporations with a high proportion of large, foreign, and institutional investors face stronger external pressure (Morck et al., 1988; Shleifer and Vishny, 1989; Weisbach, 1989; Kaplan and Minton, 1994).

The model developed to test Hypothesis 1b is based on Linck et al. (2008) and

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<sup>13</sup> Hoitash et al. (2009) and Naiker and Sharma (2009) use audit committee (AC) variables as variables concerning the quality of corporate governance (AC size, AC expertise, multiple directorships of AC members). However, fewer than 2% of Japanese companies have such committees; instead, many empanel a board of corporate auditors. Elected by shareholders, corporate auditors are responsible for auditing the directors' operations. However, they have less organizational authority because they are not directors, and their legal authority is restricted. Therefore, this study's model includes only variables for board independence and expertise.

Boone et al. (2007). Model (2), which tests Hypotheses 1b, is as follows.

$$\begin{aligned}
 (\text{Board Composition})_{it+1} &= \beta_0 + \beta_1 SD_{it} + \beta_2 RESTATEMENT_{it} + \beta_3 M\&A_{it} + \beta_4 GC_{it} \\
 &+ \beta_5 ROA_{it} + \beta_6 CFO/A_{it} + \beta_7 GROWTH_{it} + \beta_8 DEBT_{it} \\
 &+ \beta_9 LNSIZE_{it} + \beta_{10} MTB_{it} + \beta_{11} BOARDSIZE_{it} + \beta_{12} OFFICE_{it} \\
 &+ \beta_{13} DIRECOWN_{it} + \beta_{14} BIGSHARE_{it} + \beta_{15} FOREIGNOWN_{it} \\
 &+ \beta_{16} BANKING_{it} + \beta_{17} TRUST_{it} + \beta_{18} R\&D_{it} \\
 &+ \beta_{19} INDUSTRY_{it} + \beta_{20} \sum_{t=2009}^{2011} \gamma_i + \varepsilon_{it}.
 \end{aligned} \tag{2}$$

Model (3) tests Hypotheses 2a and 2b using remediation of the SD

(REMEDiate) as a dependent variable and TO as an independent variable. It is based on

Bedard et al. (2012) and Hammersley et al. (2012).

$$\begin{aligned}
 REMEDIATE_{it} &= \beta_0 + \beta_1 TO_{it} + \beta_2 ENVIRONMW_{it-1} + \beta_3 \Delta LNSIZE_{it} \\
 &+ \beta_4 \Delta LNSUB_{it} + \beta_5 \Delta LNSEGMENTS_{it} + \beta_6 \Delta FOREIGNSALE_{it} \\
 &+ \beta_7 M\&A_{it} + \beta_8 \Delta MTB_{it} + \beta_9 \Delta GROWTH_{it} + \beta_{10} \Delta ROA_{it} \\
 &+ \beta_{11} \Delta CFO/A_{it} + \beta_{12} GC_{it} + \beta_{13} BIGA_{it} + \beta_{14} \Delta AUDNUMBER_{it} \\
 &+ \beta_{15} \Delta OUTSIDE_{it} + \beta_{16} \Delta EXPERT_{it} + \beta_{17} DIRECOWN_{it} \\
 &+ \beta_{18} \Delta BIGSHARE_{it} + \beta_{19} \Delta FOREIGNOWN_{it} + \beta_{20} \Delta BANKING_{it} \\
 &+ \beta_{21} \Delta TRUST_{it} + \beta_{22} INDUSTRY_{it} + \varepsilon_{it}.
 \end{aligned} \tag{3}$$

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 (Krishnan, 2005; Hoitash et al., 2009).<sup>14</sup> Goh (2009) finds that companies are more likely to remediate SDs when their audit committees have accounting financial expertise and their boards are independent. Johnstone et al. (2011) show that companies are more likely to remediate if they hire new CFOs who are experienced certified public accountants. This model further includes disclosure of an SD in a control environment (ENVIRONMW) as a control variable. Disclosure in a control environment is the primary factor affecting other components of internal controls, and it seems to be difficult to remediate in the short term.<sup>15</sup>

Control variables related to size and complexity include changes in the natural log of total assets ( $\Delta\text{LN}\text{SIZE}$ ), the natural log of subsidiaries ( $\Delta\text{LN}\text{SUB}$ ), the natural log of business segments ( $\Delta\text{LN}\text{SEGMENTS}$ ), and foreign sales divided by total assets ( $\Delta\text{FOREIGNSALE}$ ). In addition, M&A, a change in the ratio of book value to market value of equity ( $\Delta\text{MTB}$ ), and sales growth ( $\Delta\text{GROWTH}$ ) are included in the model as complexity variables.<sup>16</sup> This model includes the size of a corporation's audit firm (Big4)

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<sup>14</sup> 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 restating financials is less likely to occur in companies whose boards or audit committees have an independent director with financial expertise.

<sup>15</sup> Hammersley et al. (2012) find that companies are less likely to remediate disclosed material weaknesses when they are pervasive (i.e., when they are described as occurring at the entity level).

<sup>16</sup> Previous studies show that size correlates negatively with SD (Ge and McVay, 2005; Doyle et al., 2007; Ashbaugh et al., 2007) and that complexity variables correlate positively with SD. Hammersley et al. (2012) show that companies are less likely to remediate SDs when operations are more complex (i.e., more segments and foreign operations).



and the change in number of auditors ( $\Delta$ AUDNUMBER). Previous studies show that the audit firm's size correlates positively with an SD (Ge and McVay, 2005).<sup>17</sup>

This model also includes changes in ownership structure as control variables ( $\Delta$ DIRECOWN,  $\Delta$ BIGSHARE,  $\Delta$ FOREIGNOWN,  $\Delta$ BANKING, and  $\Delta$ TRUST).<sup>18</sup>

## 4-2 Sample and Data

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

[Table 1 here]

Our investigation documented 10,917 firm-year observations of publicly traded Japanese companies that disclosed management reports for fiscal years ending March 31, 2009, to December 31, 2011.<sup>19</sup> From these, 481 observations were excluded for companies in the finance, securities, insurance, and other industries because the nature of their financial statements differs markedly from most companies. Also, 359 observations were excluded because financial data were missing,<sup>20</sup> and 529 observations for foreign firms and firms with no corporate governance data were excluded. The final sample contains 9,458

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<sup>17</sup> We hold two expectations for the relationship between remediation of SDs and audit firm size. The first is that auditors are detector of the SDs, in which case BIG4 correlates negatively with REMEDIATE. The second is that auditors are prompters to remediate SDs, meaning that BIG4 correlates positively with REMEDIATE.

<sup>18</sup> Financial deregulation in the late 1990s changed Japan's main bank system, altering the structure of corporate financing and reducing the main bank's role in corporate governance and monitoring. In this situation, if a bank perceives that disclosing an SD poses a risk to stock price, it might sell its holdings rather than help to remedy the deficiencies. Thus, corporations with high proportions of bank shareholders cannot remediate SDs immediately because they are more likely to become financially distressed. Therefore, we predict two results of the test for the relationship between  $\Delta$ BANKING and REMEDIATE.

<sup>19</sup> J-SOX came into force for all listed companies at the end of March 2009. Therefore, this study's sample period spans 2009–2011.

<sup>20</sup> We excluded 108 observations for outlying data identified by Tukey box plotting.

firm-year observations.<sup>21</sup>

Table 1 (Panel B) reports the number of corporations that disclosed SDs during the sample period. In 2009, 117 corporations (3.34%) disclosed SDs, 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. In 2011, seven companies made their second consecutive disclosure, and 11 made their third consecutive disclosure.

Table 1 (Panel C) lists the markets on which companies that disclosed SDs or issued disclaimers are listed. It also reports their industries as classified by the Nikkei industry middle classification code (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 percentage of SDs disclosures in 2009.<sup>22</sup>

## **Results**

### **5-1 Descriptive Statistics**

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

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<sup>21</sup> Financial data are from NEEDS Financial QUEST. Data related to management's internal control reports, audit reports, and number of business segments are from EDINET. Data for replacement of CEOs and directors are from Directors' Quarterly Journals (*Toyo Keizai Shinposya*).

<sup>22</sup> Although these results recapitulate those in Ge and McVay (2005), the number of Japanese companies that disclose serious deficiencies is declining every year across all industries.

[Table 2 here]

The disclosure group was more likely to change CEOs than the control group (TO,  $\chi^2 = 5.51$ ,  $p < 0.01$ ). The disclosure group also issued more restatements (RESTATEMENT,  $t = 2.18$ ,  $p = 0.04$ ) and engaged in more M&A (M&A,  $\chi^2 = 7.71$ ,  $p < 0.01$ ). The disclosure group posed 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,  $t = 11.98$ ,  $p < 0.01$ ).<sup>23</sup>

[Table 3 here]

The correlation matrix in Table 3 reveals that TO correlates positively with RESTATEMENT and negatively with ROA, CFO/A, and GROWTH. TO also correlates positively with DEBT, LNSIZE, and LNSEGMENTS. Although TO correlates positively with OUTSIDE, it correlates negatively with EXPERT. With respect to ownership, TO correlates negatively with DIRECOWN and positively with BIGSHARE.

## 5-2 Regression Analysis

### Disclosure of Significant Deficiencies and Replacing the CEO

Table 4 (Panel A) shows the results of the binary probit regression for Model

(1).

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<sup>23</sup> Disclosure group 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,  $t = 4.15$ ,  $p < 0.01$ ). Corporations disclosing SDs also have relatively high proportions 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,  $t = -2.89$ ,  $p = 0.03$ ).

[Table 4 here]

Results indicate that SD has a statistically significant positive correlation with TO ( $z = 3.772, p < 0.001$ ). This result suggests that disclosure of an SD is a factor in replacing the CEO. Among variables related to corporate governance, EXPERT ( $z = -2.135, p = 0.043$ ) correlates negatively with TO, but OUTSIDE has no relationship 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. The next question arising from these results is whether replacing the CEO and enhancing the independence of the board of directors prompt remediation of SDs.

### **Remediation of Significant Deficiencies**

Table 5 (Panel A) shows the results of the logistic regression for Model (3).

[Table 5 here]

Results suggest that TO is not significantly correlated with REMEDIATION (Wald = 2.294,  $p = 0.141$ ). Although the change in a board's independence correlates negatively with REMEDIATION (Wald = 3.975,  $p = 0.046$ ), a change in the board's expertise ( $\Delta$ EXPERT) correlates positively with REMEDIATION (Wald = 7.451,  $p = 0.007$ ). These results suggest that corporations that enhance the board expertise are more likely to remediate SDs in the short term. However, even if a corporation increases the

independence of corporate governance after reporting an SD, the change does not bring about remediation of its deficiencies in the next reporting period.

Table 5 (Panel B) presents the relationship between REMEDIATION and TO following enhancements to the board's independence and expertise. Interactions between TO and  $\Delta$ OUTSIDE and TO and  $\Delta$ EXPERT are not significantly correlated with REMEDIATION. The results indicate that replacing the CEO does not affect remediation of SDs regardless of whether a firm reforms its corporate governance.

### **5-3 Additional Analysis**

#### **Replacing the CEO and Changes in Audit Fees**

Several empirical studies link fees with auditors' perceptions of clients' control risks (Hay et al., 2006). Munsif et al. (2011) show that firms that remediate SDs have lower audit fees than those that continue to report them. Hoag (2011) shows that audit fees decline for companies that remediate SDs. Feldmann et al. (2009) find that replacing the CFO moderates subsequent increases in audit fees<sup>24</sup>

In short, previous research suggests that disclosure of an SD increases audit fees and that the auditors moderate fee increases if they believe that replacing the CEO and

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<sup>24</sup> Arthand 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.

board members reduces control risks (Feldmann et al., 2009). However, this study's results suggest that replacing the CEO does not inherently remediate SDs by improving internal controls. The question then arises whether auditors perceive that replacing the CEO in itself reduces control risk as reflected in auditing fees. Models (5) and (6) test this question as follows.<sup>25</sup>

$$\begin{aligned}
CHANGEFEE_{it} = & \beta_0 + \beta_1 TO_{it} + \beta_2 REMEDIATE_{it} + \beta_3 \Delta OUTSIDE_{it} \\
& + \beta_4 \Delta EXPERT_{it} + \beta_5 \Delta RESTATEMENT_{it} + \beta_6 \Delta LNSIZE_{it} \\
& + \beta_7 M\&A_{it} + \beta_8 \Delta GROWTH_{it} + \beta_9 \Delta LNSEGMENT_{it} \\
& + \beta_{10} \Delta FOREIGNSALE_{it} + \beta_{11} \Delta INVENTORY_{it} + \beta_{12} GC_{it} \\
& + \beta_{13} \Delta ROA_{it} + \beta_{14} \Delta DEBT_{it} + \beta_{15} BIG4_{it} \\
& + \beta_{16} \Delta AUDNUMBER_{it} + \beta_{17} INDUSTRY_{it} + \varepsilon_{ti}.
\end{aligned}
\tag{5}$$

$$\begin{aligned}
CHANGEFEE_{it} = & \beta_0 + \beta_1 TO_{it} + \beta_2 REMEDIATE_{it} + \beta_3 REMEDIATE_{it} * TO_{it} \\
& + \beta_4 REMEDIATE_{it} * OUTSIDE_{it} + \beta_5 REMEDIATE_{it} * EXPERT \\
& + \beta_6 \Delta OUTSIDE_{it} + \beta_7 \Delta EXPERT_{it} + \beta_8 \Delta RESTATEMENT_{it} \\
& + \beta_9 \Delta LNSIZE_{it} + \beta_{10} M\&A_{it} + \beta_{11} \Delta GROWTH_{it} \\
& + \beta_{12} LNSEGMENT_{it} + \beta_{13} FOREIGNSALE_{it} + \beta_{14} \Delta INVENTORY_{it} \\
& + \beta_{15} GC_{it} + \beta_{16} \Delta ROA_{it} + \beta_{17} \Delta DEBT_{it} + \beta_{18} BIG4_{it} \\
& + \beta_{19} \Delta AUDNUMBER_{it} + \beta_{20} INDUSTRY_{it} + \varepsilon_{ti}.
\end{aligned}
\tag{6}$$

[Table 6 here]

Table 6 describes the results of ordinary least squares regression for Models (5)

<sup>25</sup> These models are based on Hammersley et al. (2012) and Feldmann et al. (2009).

and (6).<sup>26</sup> Results suggest that REMEDIATE correlates negatively with CHANGEFEE ( $t = -2.285$ ,  $p = 0.025$ ). Variables TO,  $\Delta$ OUTSIDE, and  $\Delta$ EXPERT are not significantly correlated with CHANGEFEE. However, interactions between REMEDIATION and  $\Delta$ EXPERT correlate significantly and negatively with changes in audit fees ( $t = -1.750$ ,  $p = 0.084$ ). These results conclude that the change in audit fees moderate only when remediation is coupled with a change in corporate governance expertise.

## 6. Conclusion

Until recently, JCL addressed issues of fraud and substandard internal controls by attempting to enhance the independence of corporate boards.<sup>27</sup> However, this study indicates that the expertise of board members, 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, they should consider the following. First, they must realize that the control environment is not improved easily in Japanese firms, particularly because new CEOs face difficulties changing the

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<sup>26</sup> Model (6) addresses multicollinearity by including the products of the average deviations of REMEDIATE and TO. To assess the extent of multicollinearity in Models (5) and (6), variance inflation factors (VIF) are employed. The tests show that the highest VIF is 1.68 in Model (5) and 1.94 in Model (6).

<sup>27</sup> The Legislative Council of the Ministry of Justice attempted to enact a new law that required the inclusion of one or more outside directors on corporate boards of listed companies by the June 2012 meeting. However, JCL shelved the bill after resistance from the business community.

environment established by their predecessors. Second, they should understand the reason current Japanese law emphasizes independence in corporate governance, but they must pay greater attention to the board's expertise. Regulators should enhance legal authority of outside directors. Finally, although J-SOX imposes no requirements concerning corporate governance, requirements should be considered among reforms to Japanese corporate governance.



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**TABLE 1**

**Panel A: Sample Selection**

	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 belong finance, securities, and insurance				(481)
Companies missing financial data				(359)
Companies missing corporate governance data				(529)
<b>Final Sample</b>				<b>9,548</b>

\* 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

<b>Panel B: SD disclosure</b>	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 (Continued)

Panel C: Number of SD disclosure companies by stock 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
Main market												
Tokyo 1st	28	2	30	1.85%	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 (Continued)

Panel D: Number of SD disclosure companies 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%
Machine	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	5.50%	2	0	2	1.78%	0	1	1	0.92%
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	1.35%	3	1	4	1.15%
Telecommunication	5	0	5	1.53%	5	0	5	1.43%	3	0	3	0.85%
Service	22	2	24	8.02%	11	0	11	4.77%	5	0	5	1.39%
Real Estate	5	1	6	5.94%	1	0	1	1.02%	1	0	1	0.92%
Transportation	4	0	4	6.66%	2	0	2	2.85%	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

TABLE 2

Descriptive Statistics of SD disclosure group and control group

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

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

**TABLE 3**

**Correlation Matrices (Spearman | Pearson)**

	<i>TO</i>	<i>RESTATEMENT</i>	<i>ROA</i>	<i>CFO/A</i>	<i>GROWTH</i>	<i>DEBT</i>	<i>LNSIZE</i>	<i>LNSUB</i>	<i>LNSEGMENTS</i>	<i>FOREIGNSALE</i>
<i>TO</i>	1.000	0.022 *	-0.030 **	-0.003 **	-0.071 **	0.040 **	0.032 **	0.018 **	0.037 **	0.010
<i>RESTATEMENT</i>	0.022 **	1.000	-0.046 **	-0.026 *	-0.032 **	0.071 **	-0.088 **	0.004 **	0.017	0.020
<i>ROA</i>	-0.030 **	-0.460 **	1.000	0.528 **	0.015 **	-0.459 **	0.143 **	0.010 **	0.024 *	-0.012
<i>CFO/A</i>	-0.030 *	-0.026 *	0.528 **	1.000	-0.018	-0.248 **	0.097 **	0.003 **	0.010	0.010
<i>GROWTH</i>	-0.070 **	-0.032 **	0.015 **	-0.018	1.000	0.065 **	0.274 **	0.197 **	0.164 **	0.732
<i>DEBT</i>	0.040 **	0.071 **	-0.459 **	-0.248 **	0.065 **	1.000	0.110 **	0.148 **	0.159 **	-0.050
<i>LNSIZE</i>	0.032 **	-0.020	0.143 **	0.097 **	0.275 **	0.110 **	1.000	0.698 **	0.632 **	0.274
<i>LNSUB</i>	0.018	0.004	0.008	0.003	0.195 **	0.148 **	0.693 **	1.000	0.698 **	0.379
<i>LNSEGMENTS</i>	0.034 **	0.017	0.024 *	0.010	0.164 **	0.155 **	0.635 **	0.688 **	1.000	0.370
<i>FOREIGNSALE</i>	0.01	-0.002	-0.012	-0.001	0.732 **	-0.050 **	0.274 **	0.381 **	0.372 **	1.000
<i>MTB</i>	0.026 **	0.017	0.224 **	0.029 **	0.332 **	0.092 **	0.567 **	0.222 **	0.019	0.192
<i>R&amp;D</i>	0.055 **	0.005	0.018	0.011	0.224 **	0.015	0.422 **	0.331 **	0.223 **	0.155
<i>BOARDSIZE</i>	0.036 **	-0.026 *	0.058 **	0.033 **	0.055 **	0.073 **	0.575 **	0.278 **	0.465 **	0.170
<i>OFFICE</i>	-0.146 **	-0.012	0.049 **	0.031 **	-0.198 **	-0.119 **	-0.128 **	-0.044 **	-0.164 **	-0.144
<i>OUTSIDE</i>	0.050 **	0.017	-0.039 **	-0.025 *	0.433 **	0.021 *	0.003	0.002	0.056 **	0.055
<i>EXPERT</i>	-0.039 **	0.001	0.014	0.016	-0.424 **	-0.058 **	-0.047 **	-0.077 **	-0.053 **	-0.099
<i>DIRECOWN</i>	-0.105 **	0.023 *	0.015	0.028 **	-0.128 **	-0.041 **	-0.424 **	-0.588 **	-0.318 **	-0.165
<i>BIGSHARE</i>	0.038 **	0.021 *	-0.087 **	-0.062 **	0.111 **	0.028 **	-0.472 **	-0.269 **	-0.159 **	-0.255
<i>FOREIGNOWN</i>	0.015	-0.004	0.260 **	0.168 **	0.243 **	0.011	0.605 **	0.588 **	0.015	0.233
<i>BANKING</i>	0.010	-0.054 **	0.106 **	0.111 **	0.222 **	0.145 **	0.688 **	0.298 **	0.123	0.280
<i>TRUST</i>	0.008	0.006	0.332 **	0.234 **	0.517 **	0.033 **	0.565 **	0.447 **	0.480 **	0.236

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



**TABLE 3 (Continued)**

**Correlation Matrices (Spearman | Pearson)**

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

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

TABLE 4

Binary Probit Regression

Probit Regression

	Panel A: Model (1)				Panel B: Model (2)				Panel C: Model (2)			
	Predicted sign	Panel A: DV= $TO_{t+1}$			Predicted sign	Panel B: DV= $OUTSIDE_{t+1}$			Panel B: DV= $EXPERT_{t+1}$			
		Coeff.	Std.Err.	Z-value		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 <sub>t</sub>	▣	0.482	0.125	3.772 ***	?	0.139	0.198	2.552 **	▣	0.056	0.112	0.072
OUTSIDE <sub>t</sub>	▣	0.002	0.001	1.180								
EXPERT <sub>t</sub>	?	-0.014	0.001	-2.135 **								
RESTATEMENT <sub>t</sub>	▣	0.019	0.028	1.128	▣	0.006	0.002	0.001	▣	0.012	0.037	1.894 **
M&A <sub>t</sub>	▣	0.039	0.049	0.772	▣	0.069	0.127	2.949 **	▣	0.002	0.007	0.622
GC <sub>t</sub>	▣	0.297	0.089	2.711 **	▣	0.188	0.009	3.949 ***	▣	0.152	0.031	3.692 ***
ROA <sub>t</sub>	▣	-0.017	0.052	-0.519	▣	-0.002	0.002	-0.091	▣	-0.003	0.017	-0.114
CFO/A <sub>t</sub>	▣	-0.002	0.001	-0.117	▣	-0.002	0.004	-0.104	▣	-0.006	0.005	-0.229
GROWTH <sub>t</sub>	▣	-0.024	0.012	-0.774	▣	-0.008	0.011	-0.441	▣	-0.001	0.005	-0.694
DEBT <sub>t</sub>	▣	0.018	0.050	1.889 *	▣	0.007	0.044	1.169	▣	-0.002	0.043	-0.247
LNSIZE <sub>t</sub>	?	-0.094	0.111	-0.744	?	-0.014	0.022	-0.911	▣	-0.022	0.092	-0.881
MTB <sub>t</sub>	?	-0.021	0.033	-0.669	?	0.002	0.002	0.091	▣	-0.001	0.007	-0.124
BOARDSIZE <sub>t</sub>	▣	0.026	0.120	1.042	▣	0.082	0.172	4.112 ***	▣	-0.029	0.055	-1.243
OFFICE <sub>t</sub>	▣	-0.055	0.005	-8.642 ***	▣	-0.016	0.004	-0.092	▣	0.041	0.012	2.122 **
DIREOWN <sub>t</sub>	▣	-0.009	0.002	-5.299 ***	▣	-0.097	0.018	-3.241 ***	▣	0.229	0.116	2.495 **
BIGSHARE <sub>t</sub>	▣	0.003	0.001	1.128	▣	0.018	0.002	1.677	▣	0.002	0.001	0.321
FOREIGNOWN <sub>t</sub>	▣	0.002	0.001	0.455	▣	-0.002	0.001	-0.362	▣	0.001	0.001	0.319
BANKING <sub>t</sub>	▣	0.001	0.001	0.382	▣	-0.068	0.112	-2.992 **	▣	-0.003	0.001	-0.195
TRUST <sub>t</sub>	▣	0.001	0.001	0.411	▣	-0.014	0.003	-0.416	▣	-0.002	0.002	-0.266
R <sup>2</sup> Dt					▣	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 > $\chi^2$		0.000				0.000				0.000		
Log likelihood ratio		-3129.001				-3422.033				-3299.617		
Pseudo R <sup>2</sup>		0.051				0.059				0.042		

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

Panel D: Definitions for Model (1), (2)

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

TABLE 5

Logistics Regression

	Predicted sign	Panel A: Model (3)			Panel B: Model (4)		
		Panel A: DV= <i>REMEDIA</i> <i>T</i> <sub><i>t</i>+1</sub>			Panel B: DV= <i>REMEDIA</i> <i>T</i> <sub><i>t</i>+1</sub>		
		Coeff.	wald		Coeff.	wald	
<i>CONSTANT</i>		4.523	6.880	**	3.310	7.705	**
<i>TO</i> <sub><i>t</i></sub>	□	█ -2.788	2.294		█ -2.147	1.963	
$\Delta$ <i>OUTSIDE</i> <sub><i>t</i></sub>	?	█ -0.181	3.975	**	█ -0.115	2.962	*
$\Delta$ <i>EXPERT</i> <sub><i>t</i></sub>	?	0.776	7.451	**	0.599	4.989	**
<i>TO</i> * $\Delta$ <i>OUTSIDE</i> <sub><i>t</i></sub>	?				█ -0.069	0.191	
<i>TO</i> * $\Delta$ <i>EXPERT</i> <sub><i>t</i></sub>	?				0.412	0.824	
<i>ENVIRONMW</i> <sub><i>t-1</i></sub>	□	-2.477	4.882	**	-2.025	5.011	**
$\Delta$ <i>LNSIZE</i> <sub><i>t</i></sub>	□	0.606	0.242		0.566	0.120	
$\Delta$ <i>LNSUB</i> <sub><i>t</i></sub>	□	█ -0.496	0.927		█ -0.604	1.228	
$\Delta$ <i>LNSEGMENTS</i> <sub><i>t</i></sub>	□	█ -0.347	0.422		-2.158	0.225	
$\Delta$ <i>FOREIGNSALE</i> <sub><i>t</i></sub>	□	-0.116	1.446		-0.082	1.157	
<i>M&amp;A</i> <sub><i>t</i></sub>	□	4.730	2.050		2.879	1.762	
$\Delta$ <i>MTB</i> <sub><i>t</i></sub>	□	-0.122	1.119		-0.189	1.922	
$\Delta$ <i>GROWTH</i> <sub><i>t</i></sub>	□	0.122	0.114		0.201	0.135	
$\Delta$ <i>ROA</i> <sub><i>t</i></sub>	□	0.143	2.989	*	0.166	3.056	*
$\Delta$ <i>CFO</i> / <i>A</i> <sub><i>t</i></sub>	□	0.247	2.985	*	0.157	2.849	*
<i>GC</i> <sub><i>t</i></sub>	□	-2.610	1.549		-3.754	3.575	*
<i>BIG4</i> <sub><i>t</i></sub>	□	5.893	3.293	*	2.927	1.740	
$\Delta$ <i>AUDNUMBER</i> <sub><i>t</i></sub>	□	0.578	2.111		0.611	0.123	
$\Delta$ <i>DIRECOWN</i> <sub><i>t</i></sub>	□	-0.038	0.294		-0.074	0.544	
$\Delta$ <i>BIGSHARE</i> <sub><i>t</i></sub>	□	-0.369	2.063		-0.128	2.553	
$\Delta$ <i>FOREIGNOWN</i> <sub><i>t</i></sub>	□	0.024	0.036		0.019	0.024	
$\Delta$ <i>BANKING</i> <sub><i>t</i></sub>	□	-1.004	3.351	*	-0.992	1.675	
$\Delta$ <i>TRUST</i> <sub><i>t</i></sub>	□	0.147	0.172		0.059	0.116	
<i>Industry indicator</i>		Included			Included		
<i>N</i> =		165			165		
<i>Remediation N</i> =		127			127		
<i>Prob &gt; x</i> <sup>2</sup>		0.000			0.000		
<i>-2 Log likelihood ratio</i>		27.442			20.002		
<i>Pseudo R</i> <sup>2</sup>		0.354			0.429		

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

Panel C: Definitions for Model (3), (4)

Variable	Definition
<i>REMEDIA</i> <i>T</i> <sub><i>t</i></sub>	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> .
<i>TO</i> <sub><i>t</i></sub>	an indicator variable equal to 1 if there is chief executive turnover in year <i>t</i> , and 0 otherwise.
$\Delta$ <i>OUTSIDE</i> <sub><i>t</i></sub>	the change in <i>OUTSIDE</i> from year <i>t</i> - 1 to <i>t</i> .
$\Delta$ <i>EXPERT</i> <sub><i>t</i></sub>	the change in <i>EXPERT</i> from year <i>t</i> - 1 to <i>t</i> .
<i>ENVIRONSD</i> <sub><i>t-1</i></sub>	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.
$\Delta$ <i>LNSIZE</i> <sub><i>t</i></sub>	the change in <i>LNSIZE</i> from year <i>t</i> - 1 to year <i>t</i> .
$\Delta$ <i>LNSUB</i> <sub><i>t</i></sub>	the change in the natural log of (1 + the number of subsidiaries) from year <i>t</i> - 1 to <i>t</i> .
$\Delta$ <i>LNSEGMENTS</i> <sub><i>t</i></sub>	the change in the natural log of (1 + the number of business segments) from year <i>t</i> - 1 to <i>t</i> .
$\Delta$ <i>FOREIGNSALE</i> <sub><i>t</i></sub>	the change in the proportion the foreign sales on total sales from year <i>t</i> - 1 to <i>t</i> .
<i>M&amp;A</i> <sub><i>t</i></sub>	an indicator variable equal to 1 if a firm is involved in a merger or acquisition in year <i>t</i> , and 0 otherwise.
$\Delta$ <i>MTB</i> <sub><i>t</i></sub>	the change in the ratio of market value to book value of equity from year <i>t</i> - 1 to year <i>t</i> .
$\Delta$ <i>GROWTH</i> <sub><i>t</i></sub>	the change in <i>GROWTH</i> from year <i>t</i> - 1 to year <i>t</i> .
$\Delta$ <i>ROA</i> <sub><i>t</i></sub>	the change in <i>ROA</i> from year <i>t</i> - 1 to year <i>t</i> .
$\Delta$ <i>CFO</i> / <i>A</i> <sub><i>t</i></sub>	the change in <i>CFO</i> / <i>A</i> from year <i>t</i> - 1 to year <i>t</i> .
<i>GC</i> <sub><i>t</i></sub>	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.
<i>BIG4</i> <sub><i>t</i></sub>	an indicator variable equal to 1 if a firm is audited by a Big4 audit firm in year <i>t</i> , and 0 otherwise.
$\Delta$ <i>AUDNUMBER</i> <sub><i>t</i></sub>	the change in the number of auditors from year <i>t</i> - 1 to <i>t</i> .
$\Delta$ <i>DIRECOWN</i> <sub><i>t</i></sub>	the change in <i>DIRECOWN</i> from year <i>t</i> - 1 to <i>t</i> .
$\Delta$ <i>BIGSHARE</i> <sub><i>t</i></sub>	the change in <i>BIGSHARE</i> from year <i>t</i> - 1 to <i>t</i> .
$\Delta$ <i>FOREIGNOWN</i> <sub><i>t</i></sub>	the change in <i>FOREIGNOWN</i> from year <i>t</i> - 1 to <i>t</i> .
$\Delta$ <i>BANKING</i> <sub><i>t</i></sub>	the change in <i>BANKING</i> from year <i>t</i> - 1 to <i>t</i> .
$\Delta$ <i>TRUST</i> <sub><i>t</i></sub>	the change in <i>TRUST</i> from year <i>t</i> - 1 to <i>t</i> .
<i>INDUSTRY</i> <sub><i>t</i></sub>	an indicator variable classified by Nikkei Industry Classification Code in year <i>t</i> .

TABLE 6

OLS Regression

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

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

Definitions for Model (5), (6)

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