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Auditor Conservatism, Abnormal Accruals,
and Going Concern Opinions

Katsuhiko Muramiya Tomomi Takada

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Auditor Conservatism, Abnormal Accruals, and Going Concern Opinions

Katsuhiko Muramiya

Kobe University, Research Institute for Economics and Business Administration

Tomomi Takada*

Kobe University, Graduate school of Business Administration

*Corresponding author

Email: takada@pearl.kobe-u.ac.jp

Abstract

We investigate the Japanese Big 4 auditors' conservatism. Recent increasing litigation risks and scrutiny from the public are likely to make the Japanese Big 4 auditors conservative. Our results indicate that the Big 4 are effective in deterring income-decreasing earnings management by clients. Their motive for doing so may be to avoid scrutiny by the authorities, since financial and tax accounting are strongly aligned in Japan. Furthermore, we show that among firms receiving going concern opinions, those audited by the Big 4 report less negative abnormal accruals than those audited by non-Big 4. This implies that they provoke accrual reversals to the firms whose financial condition is less distressed, when they issue going concern opinions.

Keywords

auditor conservatism; auditor size; earnings management; going concern opinion; litigation risk

1. Introduction

This study investigates the Japanese Big 4 auditors' conservatism in terms of auditors' reaction to clients' earnings management behavior and thresholds for issuing going concern opinions. Although a number of factors concerning auditor conservatism have been examined in previous studies, they generally focus on one aspect of auditors' conservatism. Furthermore, some researchers show evidence implying auditor conservatism, whereas others do not. Thus, auditor conservatism is an important issue that remains unresolved.

Given that many researchers have addressed auditor conservatism, it is obviously thought to be one of the most important topics in the area of auditing. Prior studies have exemplified that the level of auditor conservatism is influenced by litigation risk (e.g., Krishnan and Krishnan, 1997; Cahan and Zhang, 2006) or public scrutiny (e.g., Geiger et al., 2005; Fargher and Jiang, 2008). Although previous studies examine U.S. auditors in the American context, with their high litigation risk and high-profile cases of audit failures, it would be an interesting research question whether auditors' conservative behavior is observed in other internationally developed markets such as Japan's.

Several prior studies explore differences in the degree of auditor conservatism in terms of audit firm size (Feltham et al., 1991; Clarkson and Simunic, 1994; Jones and Raghunandan, 1998). Large audit firms are likely to be more conservative than small audit firms because of their deeper pockets or the potential loss of their reputations, even though all auditors are to some extent conservative. Our study also posits that larger audit firms are more conservative than smaller audit firms; thus, auditor conservatism is examined in the light of firm size.

The two perspectives to be examined include (1) auditors' reaction to clients' earnings management behavior, and (2) thresholds for issuing going concern opinions. The reason why we investigate the Japanese Big 4 auditors' conservatism from two perspectives is that we intend to clarify the relation between the auditors' conservatism and the firms' earnings management behavior in a comprehensive way. Abnormal accruals are often used by researchers as a proxy for earnings management; hence, we posit that if the Big 4 auditors are conservative and deter clients' earnings management behavior, the firms they audit are likely to report lower abnormal accruals than those audited by non-Big 4 firms. Since auditors face

asymmetric loss functions and have less incentives to prevent income-decreasing earnings management (Kim et al., 2003; Caramanis and Lennox, 2008), the Big 4 auditors are likely to deter income-increasing earnings management, whereas they might not be effective in preventing income-decreasing earnings management. Therefore, we separately investigate the impact of the Big 4 auditors' conservatism on the firms having equal to or more than zero abnormal accruals and those having negative abnormal accruals.

Furthermore, since conservative auditors are likely to have lower thresholds for issuing going concern opinions, abnormal accruals of going concern firms might be dissimilar between Big 4 and non-Big 4 clients. Rosner (2003), Ajona et al. (2008), and Arnedo et al. (2008) find that auditors' conservative behavior provokes reversals of accruals, which result in extremely negative abnormal accruals when they issue going concern opinions. These findings are justifiable since financially distressed firms are likely to engage in upward earnings management activities (Dechow et al., 1996) and overstated accruals are reversed in a future period (Guay et al., 1996; DeFond and Park, 2001). If auditor conservatism provokes reversals of accruals in issuing going concern opinions, such reversal effects might differ between the clients audited by the Big 4 and those audited by non-Big 4 because of Big 4 auditors' conservatism. The more firms are financially distressed, the more frequently they engage in earnings management to mask their poor performance. In addition, the reversal effect of accruals might be significant when the firms have repeatedly engaged in income-increasing earnings management. Therefore, we expect that going concern firms report relatively less negative abnormal accruals due to the reversal effect, if they are less financially distressed. Since the Big 4 auditors are expected to have lower thresholds for issuing going concern opinions than non-Big 4, Big 4 clients receiving going concern opinions are less financially distressed and supposedly have engaged less in earnings management. If so, the reversal effect in accruals for going concern firms audited by the Big 4 is less significant than for others. Stated differently, going concern firms audited by the Big 4 are expected to have less negative abnormal accruals than those audited by non-Big 4. However, large negative abnormal accruals for going concern firms might perhaps merely represent their serious distressed status (Butler et al., 2004) or the Big 4 auditors' behavior might have no impact on their going concern clients'

abnormal accruals. If such is the case, we will not find significant difference in abnormal accruals between Big 4 going concern clients and non-Big 4 going concern clients.

The results show that the presence of Big 4 auditors makes no difference regarding earnings management behavior for the full sample analysis. However, the sub-sample examinations indicate that auditors are effective in deterring income-decreasing earnings management, but not income-increasing earnings management. Since Japanese accounting practice is strongly aligned with tax practice, Japanese managers are likely to have strong incentives to decrease or smooth earnings in order to minimize taxable income (Hermann and Inoue, 1996; Darrough et al., 1998). Therefore, Japanese auditors may try to prevent income-decreasing earnings management so as to avoid scrutiny by the tax authority. Our results are contrary to prior studies in the U.S., which find that conservative auditors are more effective in deterring income-increasing earnings management. Nevertheless, our findings are reasonable under the Japanese setting in which management have strong incentives to decrease or smooth earnings. Thus, our findings contribute to prior literature on earnings management and auditor conservatism, because we show that Japanese Big 4 auditors' conservative reaction to earnings management is different from that of their U.S. counterparts. Different environments could render auditors conservative in different ways.

With respect to auditors' conservatism in issuing going concern opinions, the results support our hypothesis. Specifically, among firms receiving going concern opinions, those audited by the Big 4 report less negative abnormal accruals than those audited by non-Big 4. This indicates that going concern firms audited by the Big 4 report a less significant reversal effect of accruals. Since firms having severe financial problems have probably engaged in income-increasing earnings management more often, our results indicate that the Big 4 auditors issue going concern opinions for the clients whose financial conditions are relatively less distressed. In short, the Big 4 auditors issue going concern opinions and provoke accrual reversals to the firms whose financial problem is less severe. This implies that the Big 4 auditors have lower thresholds for issuing going concern opinions. Our study adds to the literature that seeks to identify the relation between clients' earnings management behavior and going concern issuance. The finding in this study is in line with the evidence provided by Rosner (2003),

Ajona et al. (2008), and Arnedo et al. (2008). They show that auditors' conservative behavior provokes reversals of accruals when they issue going concern opinions. Our research extends these studies by comparing the negative abnormal accruals of Big 4 and non-Big 4 going concern client firms, and we find that the Big 4 clients experience a smaller reversal effect because of their auditors' conservatism.

Our study contributes to the literature that examines Big 4 auditors' conservative behavior in an international context. Lee et al. (2006) and Cano-Rodriguez (2010) show that Australian and Spanish Big 4 auditors are more conservative than non-Big 4, while Piot and Janin (2007) present that French Big 4 auditors are not more conservative than non-Big 4. For a large sample of firms from 42 countries, Francis and Wong (2008) show that earnings conservatism (quality) for Big 4 clients is greater than for non-Big 4 clients only in the countries where investor protection is strong, while they exclude Japanese companies due to the limited data collection. This result is robust even when excluding U.S. firms. These studies imply that the Big 4 auditors are likely to be more conservative than non-Big 4 even in countries other than the U.S. The recent changes in the Japanese audit environment have increased litigation risk and public scrutiny for Japanese Big 4 auditors¹, but the level of risk and scrutiny is much lower than that for the U.S. Big 4. Even so, the Big 4 auditors might be more conservative than non-Big 4 in Japan, given the prior results that non-U.S. Big 4 auditors are conservative. Our study indeed finds Japanese Big 4 auditors being more conservative than non-Big 4 despite the general belief that their litigation risk is low. This finding adds weight to the notion that Big 4 auditors are more conservative than non-Big 4 in non-U.S. countries, where litigation risk is generally not so high. However, it should be noted that different institutional backgrounds might make the Big 4 auditors conservative in different ways as our result shows that Japanese Big 4 auditors' conservative reaction to earnings management differs from those by their American counterparts. In addition, the evidence raises a potential issue in that relying on outdated research may yield wrong hypotheses; an apt example of this would be the fact that while our results show that the Japanese Big 4 auditors are conservative because of the recent increase in

¹ Details are expressed in Section 3.

the litigation risk, previous researchers have generally regarded as having low litigation risk.

The remainder of this paper proceeds as follows. Section 2 provides a literature review of auditor conservatism. Section 3 explains the Japanese auditing background, and Section 4 describes the hypotheses developed for this study and the empirical model. Section 5 presents the data and Section 6 reports and explores the empirical results. Section 7 provides the concluding remarks.

2. Related Literature

Previous accounting research has addressed the issue of auditor conservatism in various ways. These include deterring clients' earnings management behavior and having lower thresholds for issuing modified audit opinions (including going concern opinions)². Litigation risk and reputation have been regarded as the main factors causing auditor conservatism, since litigation against an auditor can damage its reputation by providing a negative signal about the quality of its audit service (Palmrose, 1988; Pratt and Stice, 1994). Moreover, litigation entails further costs associated with professional and regulatory sanctions; therefore, auditors are expected to be strongly motivated to reduce their litigation risk.

DeAngelo (1981) shows that auditors are likely to be sued when they fail to discover a breach in the client's financial statements (or when they fail to issue going concern opinions) to the firms that breach accounting rules (or later become bankrupt). Auditor conservatism has been explored from different perspectives because there are several ways in which auditors can avoid litigation and preserve their reputations³. In many cases, prior researchers have investigated auditor conservatism in the U.S. context, whereas we shed light on it in the Japanese context. Therefore, this section mainly reviews related literature with regard to auditor conservatism in the U.S. market.

² Except in these two respects, auditors' client portfolios are likely to relate to auditor conservatism. Specifically, conservative auditors may avoid risky firms. Whether Japanese auditors conduct their client portfolio management in a conservative way is an interesting question for future research.

³ Although prior studies (Lennox, 1999; Numata and Takeda, 2010) have sometimes differentiated the deep pocket (insurance) and the reputation hypotheses as explanations for Big 4 auditors' incentives to provide quality service, we regard both these auditor incentives as driving their quality services in this study.

The Big 4 auditors⁴ are likely to be more conservative than non-Big 4 auditors. This is because they have deeper pockets (Dye, 1993; Lennox, 1999) and have more to lose from an audit failure⁵. In general, the Big 4 account for a large percent of shares in the audit market (in Japan as well). Since one audit failure may result in the loss of most of their incumbent clients, the Big 4 auditors are likely to be sensitive to preserving their reputation⁶ (DeAngelo, 1981). Furthermore, outside stakeholders might believe that the Big 4 auditors not only have deeper pockets but also have higher insurance coverage, and thus they have more resources to recompense the plaintiffs through out-of-court settlements or court-awarded damages or costs (Kim et al., 2003). This means that the Big 4 auditors are more likely to be sued in comparison with others. In short, there are rational reasons for the Big 4 auditors to be conservative.

As stated above, auditors may be motivated to be conservative in order to reduce their litigation risk and to preserve their reputations; therefore several previous studies examine auditor conservatism in different ways. From these studies, we can identify two dimensions of auditor conservatism in this study: (1) auditors' reaction to earnings management behavior; and (2) thresholds for issuing modified audit opinions.

First, conservative auditors try to prevent management from engaging in income-increasing earnings management or to induce management to adopt conservative accounting. St. Pierre and Anderson (1984) examine cases that were filed against public accountants and find that none of the suits concerned errors in undervaluing assets, recognizing inadequate amounts of revenue, or recognizing excessive expenses. They conclude that a more rigid application of the conservatism doctrine may have reduced the accountants' risk of legal retribution. Lys and Watts (1994) also show that income-increasing accounting methods constitute one of the factors

⁴ The number of large audit firms varies depending on the period that researchers examine, but we consistently use "the Big 4" in this paper for the sake of shorthand.

⁵ It might enable them to spread the risk of litigation associated with clients through diversification, because the Big 4 audit firms have a larger client base (Raghunandan and Rama, 1999; Johnstone and Bedard, 2004). Yet, against the recent backdrop of Arthur Andersen's demise and higher litigation risks, the Big 4 auditors are likely to be more conservative, and recent studies have examined this conservatism (e.g. Rama and Read, 2006).

⁶ Indeed, when one of the Japanese Big 4 audit firms, *ChuoAoyama*, failed to uncover its client's material misstatements in financial statements and to issue qualified audit opinions, many of the remaining clients changed auditors. Although the audit firm was said to be involved in several accounting frauds, this is a good example of how the Japanese Big 4 auditors might damage their reputation and lose their clients because of fiduciary failures.

that increase the probability of lawsuits. Basu (1997) shows that asymmetric recognition of economic losses relative to gains, which is regarded as accounting conservatism, is more pronounced during the period when auditors' litigation exposure is higher. Hence, if auditors try to reduce litigation risk, they prevent clients from engaging in opportunistic earnings management.

Since the Big 4 auditors are more likely to be sued, their incentive to deter clients' earnings management will be stronger than that of non-Big 4 auditors. Becker et al. (1998) provide evidence that companies with non-Big 4 auditors report discretionary accruals that are significantly greater than those of companies with the Big 4 auditors. This result indicates that the Big 4 auditors deter clients from engaging in income-increasing earnings management. Kim et al. (2003) also show that when managers have the incentive to boost reported earnings, the Big 4 auditors are more effective compared with non-Big 4 auditors in deterring or monitoring opportunistic earnings management. They also find that the Big 4 auditors are less effective than non-Big 4 auditors when managers prefer income-decreasing earnings management. Basu et al. (2001) and Chung et al. (2003) show that Big 4 clients' earnings are more conservative than those of non-Big 4 clients, while Chung et al. (2003) find that such Big 4 clients' conservatism is observed only when the clients are performing poorly. In sum, previous research clearly shows that the Big 4 auditors prevent opportunistic earnings management and/or induce clients to adopt conservative accounting⁷.

With respect to Japanese auditors, Yoshida (2008) finds that the Big 4 auditors have no effect on accruals reported by their clients. Usui (2007) examines the governance effect of the Japanese Big 4 auditor on IPO firms and find that they prevent only income-decreasing earnings

⁷ Krishnan (2005a; 2005b) finds Big 4 auditors' conservatism using Basu's (1997) qualification model of accounting conservatism; but he sheds light on only the Big 4 auditors' conservatism, not on the relative differences in conservatism between the Big 4 and non-Big auditors. Moreover, Krishnan (2007) shows that former Arthur Andersen clients audited by other Big 4 auditors recognized earnings in more conservative ways than did non-Andersen clients. This result implies that the Big 4 auditors use earnings conservatism as a risk management strategy so as to restore financial reporting credibility, which had been reduced because of Andersen's failure. These results do not imply that the Big 4 auditors are more conservative as compared with non-Big 4 but indicate that the Big 4 auditors tend to induce clients to adopt conservative accounting.

management conducted by their clients. Thus, the results are mixed regarding the Japanese Big 4 auditors' conservative reaction to clients' earnings management behavior.

Second, conservative auditors are likely to have lower thresholds for issuing going concern opinions, especially when they try to reduce litigation risk. Although issuing a going concern opinion prior to bankruptcy does not necessarily reduce litigation risk (Carcello and Palmrose, 1994; Blacconiere and DeFond, 1997), prior research suggests that some auditors believe that litigation related costs increase when they fail to issue going concern opinions prior to bankruptcy (Kida, 1980; Mutchler, 1984; Geiger et al., 2005). Since auditors are more likely to face litigation related costs when a client files for bankruptcy without a prior going-concern opinion (type II error) (Matsumura et al., 1997; Vanstrealen, 2002; Geiger and Rama, 2006), conservative auditors that try to reduce litigation risk have lower thresholds for issuing going concern opinions.

Regarding this type of auditor conservatism, prior studies have produced several results. Geiger et al. (2005) and Fargher and Jiang (2008) show that auditors are more likely to issue going concern opinions during the period they are intensively scrutinized by the market and government (such as right after the enactment of the Sarbanes Oxley Act. With regard to the relative frequency of issuing going concern opinions by the Big 4 and non-Big 4 auditors, Geiger and Rama (2006) provide that both type I (misclassification of a non-failing company as a failing company) and type II errors for the Big 4 auditors are significantly lower than those for non-Big 4.

Auditor conservatism in issuing going concern opinions has been sometimes examined in terms of the relation to earnings management behavior. Financially distressed firms have engaged in income-increasing earnings management so as to mask their poor performance (Argenti, 1976; DeAngelo, 1988; Dechow et al., 1996; Beneish, 1997; Rosner, 2003). If auditors detect such overstatements, they may provoke reversals of accruals when issuing going concern opinions. In keeping with this notion, Rosner (2003), Ajona et al. (2008), and Arnedo et al. (2008) find that firms report negative abnormal accruals when they receive going concern opinions. In contrast, Butler et al. (2004) argue that large negative abnormal accruals for going

concern firms are not because of auditor conservatism, but because of their distressed financial status.

3. Auditing in Japan

The audit environment in Japan has changed dramatically in the past several years. In this section, we introduce the audit practices and environment in Japan.

3.1 Audit Practices in Japan

After the bad debt problem and stock market slump that began in the 1990s, Japanese auditors were criticized for accepting window-dressed disclosure prepared by firms (especially banks) and thus issuing clean audit opinions. The criticism was directed largely at the big international accounting firms that had accepted the misleading opinions of the Japanese audit firms with which they were affiliated. In response, the Big 5 international audit firms at the time demanded that the major Japanese audit firms with which they had cooperation agreements include a warning in the audit report that accompanied the English-language version of their Japanese clients' financial statements. The warning would say that the financial statements were intended for users familiar with Japanese accounting principles and auditing standards; this warning became a requirement between March 1999 and February 2004 (Fuchida, 2006, pp. 17-18).

In order to restore the trust in Japanese audit quality and to discipline audit practices, the accounting system was reformed and the Auditing Standards in Japan were amended in 2002; as well, the Certified Public Accountants Law was amended in 2003. These amendments sought to discipline audit practices in Japan so as to make the audit quality comparable to that in the U.S.

Regarding the standard for going concern opinions, it was enacted in the reform of the Auditing Standards in 2002 and went into effect in March 2003. Before the enactment, auditors were not allowed to issue going concern opinions, even when there was substantial doubt about the client's going concern status. In terms of the institutional background of issuing going concern opinions, Japanese auditors' responsibilities are somewhat different from those in the U.S. In Japan, according to the rules, company management have to disclose their going

concern status if there is substantial doubt about their ability to continue as a going concern. Auditors are required to verify that the disclosure provided by management reflects the actual picture. Thus, management first evaluate their status as a going concern, and then auditors verify the fairness of the evaluation. In this sense, there is a difference between the U.S. and Japan, because U.S. rules require auditors to evaluate their clients' status as a going concern. However, management are often unwilling to note such negative information in financial statements in both the U.S. and Japan. Even if the firm is financially distressed and there is substantial doubt about its ability to continue as a going concern, management might not report such information. In order to maintain a high-quality financial statement, even Japanese auditors are likely to require management to note the going concern status if the firm is facing substantial doubt about its ability as a going concern, though management may be reluctant to note such negative information. Otherwise, auditors are subject to severe litigation risk because of audit failure. Hence, as long as Japanese auditors have an incentive to reduce their litigation risk, they are likely to be conservative in issuing going concern opinions in the same way U.S. auditors are.

3.2 Audit Environment in Japan

Japan is known as a country that is less subject to litigation risk than the U.S. (Wingate, 1997; Ball et al., 2000; Fukukawa et al., 2006), but the frequency of litigation against auditors has increased during the past decade. According to the media and/or prior studies regarding the litigation cases against Japanese auditors, the first case was filed in 1981. The plaintiff, the *Nihon Koppasu*, alleged that it suffered damages due to fraud committed by its former account manager, and that the defendant, *Meiwa Kansa Hojin*, neglected to carry out the normal audit procedures and therefore overlooked the fraud. At the first trial in 1991, the audit firm was ordered to pay about 48 million yen (about USD 320 thousand at the time) to the plaintiff, though about 60 million yen was sought. In other words, the court made a decision in the plaintiff's favor. Both the plaintiff and the defendant appealed the ruling and a second trial took place in 1995. This time the result quashed the verdict of the first trial and dismissed the plaintiff's claim.

Although this case resulted in the auditor paying no damages in reparation, the decision at the first trial had a major impact on auditors. Even after the verdict was handed down, not only audit scholars and practitioners but also law scholars put forward arguments about this case (Toba, 1997). Since then, Japanese auditors have tended to recognize litigation risk as being relatively higher than before the case⁸.

(Insert Table 1 about here)

Table 1 summarizes litigation cases involving auditors in Japan. A large number of Japanese firms went bankrupt in the late 1990s. After their bankruptcy, several cases of window-dressing that had occurred prior to bankruptcy were revealed, and this resulted in lawsuits against auditors. Consequently, from 1999 to 2004, there was at least one case a year wherein auditors were being sued because they had not qualified audit opinions for bankrupt firms before the bankruptcy. After bankruptcy, it was often found that such firms engaged in earnings manipulation or had off-balance liabilities. After the discovery of such fraud, auditors as well as the management of the firms were sued.

Several lawsuits filed in the 1990s began to be settled in the early 2000s. *Mita* was the first case where the audit firm, *Murai Kansa Hojin*, paid a settlement package (about 30 million yen) to the plaintiff, its trustee, although the firm was not a listed company and damages were sought under the Commercial Code in Japan⁹. Although the above two cases were against medium- or small-sized audit firms, for the first time in 2002, one of the large audit firms at the time, *Asahi Kansa Hojin*, paid a settlement package (about 20 million yen) to the plaintiff, the shareholders of *Jusen*. It was the first in which an auditor paid reparations for lapses in the audit of a listed company.

Thus, even though the accounting environment in Japan has not been as litigious as in

⁸ Japan has no class action system (West, 2001) and this may result in the relatively low incidence of litigation against auditors (or management); on the other hand, civil litigation and/or shareholder litigation had increased dramatically during the 1990s (Ginsburg and Hoetker, 2006; West, 2001).

⁹ Since both the Commercial Code and Securities Act express auditors' liability for damage in Japan, auditors may be sued under the Commercial Code for private firms.

the U.S., the number of lawsuits against auditors and the amount auditors pay have been increasing, especially over the past decade. Taking this trend into consideration, it is likely that auditors started to recognize their litigation risk, most likely, around 2002. In addition, the plaintiff's burden of proof was lessened by the revision of the Securities Exchange Act in 2004 (Kuronuma, 2004), and it probably resulted in the increase in litigation wherein damages were sought for misstatement (Ikeya and Kishitani, 2009). Hence, unlike the variation in auditor liability in the U.S. (Kothari et al., 1988; Holthausen and Watts, 2001), Japanese auditor liability seems to have increased constantly since 2002.

Furthermore, as in the U.S., one of the largest audit firms, *ChuoAoyama*, collapsed because it was discovered that several of the companies the firm audited was engaged in frauds. The frauds perpetrated by *Kanebo* (*ChuoAoyama*'s client) attracted much publicity in Japan and made the front page of the country's foremost financial newspaper (*NihonKeizaiShinbun*); after this fraudulent activity, Japanese auditors were scrutinized more closely by both authorities and investors. Accordingly, recent audit environmental changes were likely to make Japanese auditors more conservative.

In addition, the Certified Public Accountants and Auditing Oversight Board (CPAFOB) was established in 2004 to oversee JICPA's (Japanese Institute of Certified Public Accountants) quality control review process with the objectives of making the self-regulatory system more effective and enhancing and managing the quality control of audit practices at audit firms (Kaneko, 2004). This institution is a legally appointed administrative agency whose remit includes making recommendations to the Commissioner of the Financial Service Agency to take administrative dispositions and other measures when they find that quality control reviews are not properly conducted by JICPA. The establishment of this institution means that auditors have a higher probability of being investigated by the authorities.

4. Hypothesis Development and Research Design

According to the discussion in the previous section, Japanese auditors are likely to have some incentive to be conservative in order to reduce litigation risk and to preserve their reputations. Moreover, as stated in Section 2, the Big 4 auditors are expected to have more

incentives and to be more conservative than non-Big 4 auditors. Therefore, the Japanese Big 4 auditors are likely to be more conservative than others¹⁰. Accordingly, we develop the hypothesis regarding conservative behavior by the Big 4 auditors in Japan (in alternative form):

H1: The Big 4 auditors are more conservative than non-Big 4 auditors.

In this study, H1 is examined from two perspectives. The first is from the viewpoint of auditors' reaction to clients' earnings management behavior and the second is from the viewpoint of the threshold for issuing going concern opinions.

4.1 Auditor conservatism for clients' earnings management behavior

From the first perspective, we expect that the Big 4 auditors are likely to deter clients' earnings management. Although the previous results regarding the Japanese Big 4 auditors' reactions to clients' earnings management are mixed, we reexamine this hypothesis by focusing only on the sample period in which the litigation risk against auditors is high and by controlling for several influential factors on firms' earnings management behavior. In terms of the Big 4 auditors' reaction to earnings management, H1 can be stated as follows:

H1a: Firms audited by the Big 4 have lower abnormal accruals than those audited by non-Big 4 companies.

In order to estimate abnormal accruals, we utilize the CFO Jones model¹¹ (Kasznik, 1999).

¹⁰ During the sample period, there were four large audit firms: *Azsa*, *ChuoAoyama*, *ShinNihon*, and *Tohomatsu*. After a series of audit failure detections, *ChuoAoyama* was divided into *Misuzu* and *Aarata*. *Aarata* was established by PricewaterhouseCoopers to respond to the possible loss of clients in June 2006. Auditors who did not move to *Aarata* changed their firm name to *Misuzu* and worked to restore confidence, but additional failures were revealed. Finally, *Misuzu* folded up in July 2007.

¹¹ Suda and Shuto (2004) find that CFO-controlled models are a better fit for estimating Japanese firms' abnormal accruals among others. Furthermore, Chan et al. (2004) prove that the Jones model significantly underperforms the CFO Jones model in explaining cross-sectional accrual variability for American firms. Following these results, the CFO Jones model is utilized in this paper. To test the robustness of the results, we estimate Models (1) and (2) using abnormal accruals as suggested by Jones (1991) and confirm that the results are generally unchanged.

Accruals are calculated from the statement of cash flows (CFO is deducted from net income). We do this since Hribar and Collins (2002) argue that a more accurate measure of cash flows is obtained using this method. To examine H1a, we develop the regression model below. If the value of β_1 is negative and significant, it indicates support for H1a.

$$Abnacc_t = \alpha + \beta_1 Big4_t + \beta_2 COMP_t + \beta_3 LEV_t + \beta_4 SIZE_t + \beta_5 ROA_{t-1} + \beta_6 Abnacc_{t-1} + \beta_7 BOARD_{t-1} + \beta_8 FIN_{t-1} + \beta_9 CORP_{t-1} + \beta_{10} KEIRETSU_t + \beta_{11} SEC + \varepsilon \quad (1)$$

Since there are several conditions that give rise to earnings management (Schipper, 1989), those factors should be controlled. In this research, factors that are likely to induce earnings management (those which relate to compensation contract¹², debt contract, and political cost) are controlled in the model examining auditor conservatism, following Teshima and Shuto (2008) who examined Japanese firms' earnings management activities. In addition, we control for the effects of Japanese firms' governance structure in Model (1).

Teshima and Shuto (2008) show that board ownership has a negative relation to abnormal accruals to the extent that management's incentives are aligned with shareholders' interests. In addition, previous studies indicate that Japanese firms' management behavior can be influenced by financial institutions or corporate shareholders, who have roles in corporate governance (Aoki et al., 2007; Nitta, 2008). Teshima and Shuto (2008) hypothesize and find that financial institutions' and other firms' larger shareholdings decrease earnings management behavior, since management is closely scrutinized by shareholders in these businesses. Therefore, we include the percentage of shares held by boards (*BOARD*), by financial institutions (*FIN*), and by other corporations (*CORP*), and construct Model (1). All of these variables are measured at the beginning of the period.

¹² We use the change in cash compensation paid to the board of directors to control for their incentive that relates to compensation contracts. This is because (1) companies are not required to disclose any information with regard to the compensation for individual executives; (2) the lists of income tax amounts paid by the executives, which are used to estimate individual executives' compensation by Basu et al. (2007) and Kato and Rockel (1992), are available only up to 2005; and (3) Kaplan (1994) and Shuto (2007) use the change in cash compensation paid to the board of directors as a proxy for Japanese firms' executive compensation.

Furthermore, *keiretsu*, which is another well-known Japanese corporate governance structure, may influence firms' earnings management behaviors. Since firms have stronger ties to each other within a *keiretsu* group, there are expected to be several benefits, which include effective monitoring, mitigating information asymmetry, and reducing conflicts between related parties (Aoki and Patrick, 1994). In relation to earnings management behavior, Douthett and Jung (2001) show that abnormal accruals by *keiretsu* firms are smaller than those by non-*keiretsu* firms. Since *keiretsu* relationships seem to influence management's earnings management behavior, we include *KEIRETSU*¹³, which is equal to one if the firm belongs one or more Japanese *keiretsu* group, in Model (1). Furthermore, since cross-listed firms in the U.S. are exposed to relatively higher litigation risks (Lang et al., 2003; Hujigen and Lubbernk, 2005; Chung and Wynn, 2008), they may apply more conservative accounting as compared with others. To control for this, we include *SEC* in Model (1).

Given that abnormal accruals are expected to sum to zero over the periods, managers' ability to borrow or save earnings in the current period could be affected by the extent to which earnings were borrowed or saved in previous periods (DeFond and Park, 2001; Kim et al, 2003; Chan et al., 2004). Taking these factors into consideration, abnormal accruals in the previous period ($Abnacc_{t-1}$) and performance measure (*ROA*) are controlled in the model. Table 2 depicts the definitions of variables including those in Model (2).

(Insert Table 2 about here)

4.2 Auditor conservatism in issuing going concern opinions

When we examine auditor conservatism from the second viewpoint, the relations between abnormal accruals and going concern opinions for financially distressed firms are highlighted. Since the Big 4 auditors are expected to have lower thresholds for issuing going concern opinions than non-Big 4, their clients are less financially distressed when they receive such

¹³ Japanese corporate groups are known as *keiretsu*. There are two types of keiretsu groups, namely, horizontal- and vertical-keiretsu (Brown & Company, 2001), and we integrate these groups and measure *KEIRETSU*. We re-estimate Models (1) and (2) using horizontal- and vertical-keiretsu dummies. The results are qualitatively unchanged.

opinions. Although auditors are likely to provoke accrual reversals when they issue going concern opinions, the reversal effect for less financially distressed firms will be less significant, because such firms supposedly have engaged less in earnings management in previous periods. This leads to the hypothesis that the reversal effect for the going concern firms audited by the Big 4 indicates less than for those audited by non-Big 4. Therefore, H1 is stated below in terms of auditors' thresholds for issuing going concern opinions.

H1b: Going concern firms audited by the Big 4 have less negative abnormal accruals than those audited by non-Big 4 firms.

In order to examine H1b, we develop Model (2), whose dependent variable is a binary variable representing whether the firm receives going concern opinions or not. In evaluating the auditors' propensity for issuing going concern opinions, Model (2) should be estimated using only financially distressed firms (Hopwood et al., 1994; Reynolds and Francis, 2001; DeFond et al., 2002). We define financially distressed firms as firms that report (1) negative earnings, (2) negative operating cash flows, (3) negative working capital, or (4) negative retained earnings. Going concern firms are defined as the firms receiving first-time going concern opinions.

$$\begin{aligned}
 Prob(GC = 1) = & \alpha + \beta_1 Big4_t + \beta_2 Abnacc_t + \beta_3 Big4_t * Abnacc_t + \beta_4 SIZE_t + \beta_5 LEV_t \\
 & + \beta_6 CR_{t-1} + \beta_7 PRLOSS_t + \beta_8 RETAIN_t + \beta_9 CFO_t + \beta_{10} EQUITY_t + \beta_{11} BOARD_{t-1} \\
 & + \beta_{12} FIN_{t-1} + \beta_{13} CORP_{t-1} + \beta_{14} KEIRETSU + \varepsilon
 \end{aligned} \tag{2}$$

Since auditors' conservative reaction to going concern firms provokes reversals of accruals (Rosner, 2003; Ajona et al., 2008; Arnedo et al., 2008), the coefficient on *Abnacc* is supposed to have negative value when the cross term of *Big4* and *Abnacc* (*Big4*Abnacc*) is excluded from the model. If this relationship is not observed, the examination of H1b is no longer justified. Therefore, we first investigate whether the coefficient on *Abnacc* is negative or not where *Big4*Abnacc* is dropped. Our test variable is *Big4*Abnacc* for H1b. If the estimated value of β_3 is positive, it means that H1b is supported.

As in previous studies, the model controls for the effects of other factors that likely affect auditors' probability of issuing going concern opinions: client size, extent of financial distress, and clients' new financing. Moreover, we control for Japanese firms' governance structure in Model (2) as well as in Model (1).

In evaluating the auditors' propensity to issue going concern opinions, the Japanese corporate governance systems should be taken into account. The main bank system is one of the distinguishing features of Japanese firms. One of the main bank's roles is to rescue affiliated firms that face financial difficulty. Bankruptcy resolutions were rarely employed for Japanese firms having a main bank (Hoshi et al., 1990). Instead, existing debt is refinanced and some bridging finance is provided or a senior incumbent manager is demoted or displaced by a main bank¹⁴ (Sheard, 1994). Therefore, one might say that a firm closely affiliated with its main bank has a lower possibility of receiving a going concern opinion from its auditor, since its main bank will help it successfully recover from financial problems. Furthermore, Japanese firms generally cross-hold shares with their main banks, as well as with other corporations (Aoki and Patrick, 1994; Nitta, 2008). These cross-hold relationships may also facilitate the recovery of financially distressed firms. Therefore, firms' ownership structure might influence auditors' probability of issuing going concern opinions.

The above-mentioned role of the main bank in helping a financially distressed affiliated firm may also be observed if the firm belongs to *keiretsu*. Since firms have stronger ties with each other within a *keiretsu* group, there are expected to be several benefits. Prior studies have shown that a *keiretsu* relationship reduces the costs of financial distress (Hoshi et al., 1990; Prowse, 1990). In short, the *keiretsu* relationship is likely to reduce the auditors' probability of

¹⁴ The roles of the main bank were less observed after the mid-1990s. In other words, bank lenders were less likely to rescue failing borrowers than they were before the early 1990s (Hirota and Miyajima, 2001; Xu, 2004, 2007). The number of bankruptcies in Japan skyrocketed from 6,468 in 1990 to 19,164 in 2001, whereas it moderately decreased to 15,480 in 2009 (Tokyo Shoko Research Ltd., 2009). When the bubble economy burst, the roles of the main bank in the Japanese economy weakened. Therefore, even if a firm is closely affiliated with its main bank, it may not be reorganized privately, which might result in its being bankrupt during our sample period. Nonetheless, Japanese firms closely affiliated with a main bank may enjoy a lower possibility of facing bankruptcy, because many Japanese firms still have a main bank and their bank lending is much higher than those for American firms. Therefore, we take into account the possible effect of the intimate relationship between firms and financial institutions on issuing going concern opinions.

issuing going concern opinions. Hence, we include ownership variables as well as a dummy for *keiretsu* in Model (2).

5 Data

The sample period is from April 2003 to March 2006. Financial statements and going concern opinion data, auditor data, and *keiretsu* data were collected from *Nikkei NEEDS Financial Quest*, *Nikkei Kaisya Joho*, and Brown & Company (2001), respectively. Abnormal accruals are estimated cross-sectionally each year using all firm-year observations in the same two-digit *Nikkei* medium classification industry code. To estimate nondiscretionary components of accruals, we implement out-of-sample forecasts. Firms from the financial services industry are excluded from the analysis as in previous research. *ABNACC*, *COMP*, *LEV*, *SIZE*, *ROA*, *CR*, *RETAIN*, and *CFO* are winsorized at the 1 and 99 percentile. Table 3 reports industry distribution of the sample. The Big 4 auditors' clients are not concentrated in any particular industry, except for the air transportation industry. Therefore, the sample firm composition of the Big 4 is unlikely to affect our regression examinations.

(Insert Table 3 about here)

Table 4 provides the samples and descriptive statistics. The total sample of 7,198 is divided into two in two ways: whether or not a firm is audited by the Big 4, and whether or not it receives a going concern opinion. According to Table 4, 1,171 firms are audited by non-Big 4 companies, and this accounts for about 16.3% of the total sample. Of the total sample, 62 firms receive first-time going concern opinions.

(Insert Table 4 about here)

6. Results

6.1 Comparison between the Big 4 and non-Big 4 clients

Table 5 provides means of the variables for Big 4 and non-Big 4 clients, respectively.

Univariate *t*-tests indicate that the Big 4 auditors conduct audits less frequently on firms receiving going concern opinions. This result suggests that the Big 4 auditors try not to audit going concern firms that potentially relate to future concerns such as litigations. With respect to abnormal accruals, there is no difference between the Big 4 clients and non-Big 4 clients, which is inconsistent with H1a. Since H1b tests the abnormal accruals between going concern firms audited by the Big 4 and those audited by non-Big 4 companies, it cannot be tested in a univariate analysis in Table 5. Overall, Table 5 indicates that Big 4 clients are bigger and more profitable relative to non-Big 4 clients. These differences between Big 4 and non-Big 4 clients are similar to the findings of Becker et al. (1998) and Kim et al. (2003) regarding U.S. companies. Regarding other variables, the difference in board ownership and *keiretsu* participation between Big 4 clients and non-Big 4 clients is statistically significant.

(Insert Table 5 about here)

6.2 Regression Analysis

Table 6 presents the evidence of Model (1)¹⁵. Column (1) in Table 6 indicates that the coefficient on *Big4* is positive and insignificant. This result is contrary to our prediction and implies that the Big 4 auditors do not prevent clients from opportunistic earnings management. With respect to control variables, some of them have significant values. A positive coefficient on *COMP* is consistent with the bonus plan hypothesis (Watts and Zimmerman, 1986), which predicts that management have incentives to maximize their bonuses when their cash compensations are linked to reported earnings. However, a negative coefficient on *LEV* is inconsistent with the debt/equity hypothesis, which predicts that the higher the firm's debt/equity ratio (debt/asset ratio in this study), the more management use accounting accruals that increase income. However, leverage can relate to the degree of distress risk, whereby the negative coefficient might imply that firms with higher leverage may face severe financial

¹⁵ We report *t*-statistics based on standard errors clustered at the firm and year level, which are robust to both heteroskedasticity and within-firm serial correlation (Cameron et al., 2006; Thompson, 2006; Petersen, 2009) for all the regressions.

difficulty and may have negative abnormal accruals¹⁶.

(Insert Table 6 about here)

While Teshima and Shuto (2008) find negative associations between unsigned abnormal accruals and the percentages of shares held by (1) board, (2) financial institutions, and (3) other corporations, Table 6 indicates that all the coefficients are positive. We use signed abnormal accruals and, therefore, it is not clear whether these positive coefficients are contrary to Teshima and Shuto (2008). Our results are somehow different from those in Teshima and Shuto (2008), but the differences, which include sample periods and accounting variables definitions, probably cause the inconsistent results. Regarding other control variables, the negative coefficient on *SEC* is as we expected, whereas the positive coefficient on *Abnacc_{t-1}* is not. Kim et al. (2003) also show that the relation between abnormal accruals in a certain period and those in the previous period is positive in both their univariate and multivariate analyses. In sum, the results of Table 6 do not support H1a, though some control variables are statistically significant as we expected.

Table 7 presents the evidence of Model (2), which examines H1b. Column (1) indicates the results without the *Big4*Abnacc* variable, while column (2) indicates the results using all the independent variables. According to column (1) in Table 7, the coefficient on *Abnacc* is negative and significant at the 1% level. This result is consistent with our prediction that auditors provoke accrual reversals in issuing going concern opinions; therefore, our examination of H1b is justified. We then look at the result of the test variable for H1b in column (2). According to column (2) in Table 7, the coefficient on *Big4*Abnacc* is positive and significant. This result supports H1b.

(Insert Table 7 about here)

¹⁶ Butler et al. (2004) suggest that firms experiencing severe financial issues engage in liquidity-related transactions and record impairment charges to reflect economic declines in asset values. Since asset write-offs decrease accruals, negative abnormal accruals for firms facing financial difficulty may correspond to their poor performance (Kothari et al., 2005).

With respect to the coefficients on control variables, the estimated values are generally consistent with our predictions. All the significant coefficients on *LEV*, *CR*, *PRLOSS*, *RETAIN*, and *CFO* have signs as we expected, whereas some of the coefficients have insignificant values. We posit that firms' intimate relationship with financial institutions or other firms and *keiretsu* participation reduce the possibilities of receiving going concern opinions, but only *FIN* is negative and significant in Table 7. This result indicates that only when firms have an intimate relation to financial institutions do they reduce the probability of receiving going concern opinions.

In sum, we find that the Big 4 auditors are conservative when they issue going concern opinions, while they do not deter clients' earnings management behavior. As we discussed in Section 3.2, the litigations against Japanese auditors relate to firms' bankruptcy. Given this background, the Japanese Big 4 auditors have incentives to be conservative, especially when they make decisions on whether to issue going concern opinions. Although Japanese auditors were not sued because they had not issued going concern opinions prior to a bankruptcy in the litigation cases, the fact the litigations mostly relate to bankruptcy is likely to make Japanese auditors, especially the Big 4 auditors, conservative when they issue going concern opinions.

6.3 Sub-sample Analyses

6.3.1 The sign of abnormal accruals

Caramanis and Lennox (2008) find that the magnitude of income-increasing abnormal accruals is greater when audit hours are lower, whereas the magnitude of income-decreasing abnormal accruals has a weak or an insignificant association with audit hours. This implies that auditors have strong incentives to prevent earnings management only when such management is to increase earnings. If so, auditors' conservative reaction to earnings management behavior may be observed only when we focus on the firms reporting positive abnormal accruals.

Columns (2) and (3) in Table 6 present the results of Model (1) for firms reporting negative abnormal accruals and equal to or more than zero abnormal accruals, respectively. If auditors are more efficient only when they prevent income-increasing earnings management, the coefficient on *Big4* is not significant in column (2) but it has negative and significant value in

column (3). According to the results in Table 6, however, the coefficient on *Big4* is positive and significant in column (2), whereas it has insignificant positive value in column (3). These results indicate that auditors are effective when they deter income-decreasing earnings management, but they are not for income-increasing earnings management¹⁷.

This result, which is inconsistent with Caramanis and Lennox (2008), may be explained by the importance of tax laws for Japanese firms. Japan is one of the countries where accounting practice is strongly aligned with tax practice, and therefore Japanese managers are likely to have strong incentives to decrease or smooth earnings in order to minimize taxable income (Hermann and Inoue, 1996; Darrough et al., 1998). Japanese auditors may try to prevent income-decreasing earnings management so as to avoid scrutiny by the tax authority.

6.3.2 Management's incentives to manage earnings

Kim et al. (2003) reveal that external auditors act as an effective deterrent to opportunistic earnings management only when auditors' preferences concerning accrual choices conflict with management's preferences. This means that auditors' preferences for conservative accounting are likely to be prominent only when management have an incentive to increase accruals. For this reason, we construct a sub-sample consisting of financially distressed firms, following on from Kim et al. (2003). Management of financially distressed firms are likely to have incentives to increase earnings in order to conceal their deteriorating financial conditions. To investigate the relation between management's incentives and auditors' effectiveness in deterring income-increasing earnings management, we estimate Model (1) again using the same definition of financially distressed firms as used in estimating Model (2). Table 8 presents the result of Model (1) using financially distressed firms. Similar to the results in column (1) of Table 6, the coefficient on *Big4* is not significant, whereas the value is negative as we expect.

(Insert Table 8 about here)

¹⁷ This result is consistent with Usui (2007) that examines the effect of the Japanese Big 4 auditors on accruals reported by the IPO firms, while he does not discuss the reason why only income-decreasing earnings management is deterred by the Big 4.

In sum, our sub-sample analyses based on (1) the sign of abnormal accruals and (2) the management incentives to upwardly manage earnings do not support H1a. Our findings indicate that Japanese auditors have limited incentives to prevent income-increasing earnings management. Rather, they seem to have incentives to deter income-decreasing earnings management. Furthermore, they do not act as an effective deterrent to income-increasing earnings management, when firms are financially distressed and assumed to have incentives to upwardly manage earnings.

7. Concluding Remarks

In this study, Big 4 auditors' conservatism is examined from two perspectives using abnormal accruals. One is from the viewpoint of auditors' reaction to clients' earnings management behavior and the second is from the viewpoint of thresholds for issuing going concern opinions. The results indicate that the Japanese Big 4 auditors (1) are effective in deterring income-decreasing earnings management and (2) have a lower threshold for issuing going concern opinions. Although U.S. auditor's conservatism may deter income-increasing earnings management, Japanese auditors prevent income-decreasing earnings management. This difference might be caused by dissimilar backgrounds in these two countries. U.S. management seem to have incentives to increase earnings for several reasons, such as the pressure from the market or earnings-based compensation contracts. On the other hand, Japanese management have relatively strong incentives to decrease or smooth earnings so as to reduce taxable income, because accounting practice is strongly aligned with tax practice. Our findings imply that different auditing environments affect the Big 4 auditors' conservatism in different ways.

This study also indicates that abnormal accruals for receiving going concern opinions result in negative abnormal accruals. It implies that auditor conservatism provokes accrual reversals when they issue going concern opinions. Nevertheless, going concern firms audited by the Big 4 report less negative abnormal accruals than those audited by non-Big 4. The more financially distressed firms are, the more often they engage in earnings management. If firms receive going concern opinions even when they are less financially distressed, they are supposed

to have engaged less in earnings management; thereby they indicate a less significant reversal effect. Therefore, the result indicates that the Big 4 auditors issue going concern opinions to the firms whose financial status is less severe and supposedly have not engaged in heavy earnings management. In short, our finding supports that the Japanese Big 4 auditors have a lower threshold for issuing going concern opinions. This study extends prior literature clarifying that auditors' conservatism induces accrual reversals when auditors issue going concern opinions. We provide new evidence that the degree of such reversal effect is different between Big 4 and non-Big 4 clients due to their difference in conservative behavior.

[2010.12.20 1014]

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Table 1 Cases of Litigation Involving Auditors

Firm name	Year filed	Damages sought	Auditor (whether or not the Big 4)	Plaintiff(s)	Outcomes		
					Resolution	Year	Damages awarded
<i>Nihon Koppasu</i>	1981	60	<i>Meiwa</i>	<i>Nihon Koppasu</i>	T	1991	48
					D	1995	
<i>Jusen</i>	1996	90	<i>Asahi (Big N) and Sanko</i>	Shareholders	S	2002	20
<i>Yamaichi</i>	1998	32	<i>Chuo (Big N)</i>	Shareholders	D	2008	
<i>Mita</i>	1998	500	<i>Murai</i>	Trustee	S	2000	30
<i>Yaohan</i>	1999	420	<i>Chuo (Big N)</i>	Shareholders and convertible bond holders	S	2004	109
<i>Chogin</i>	1999	90	<i>OtaShowa (Big N)</i>	Shareholders	NR		
<i>Yamaichi</i>	1999	6,000	<i>Chuo (Big N)</i>	Trustee	S	2003	166
<i>Nissaigin</i>	2000	42	<i>Century (Big N)</i>	Shareholders	NR		
<i>Sogo</i>	2001	30	<i>OtaShowa Century (Big N)</i>	Shareholders	D	2008	
<i>Nanaboshi</i>	2002	1,000	<i>Tohmatsu (Big N)</i>	Trustee	T	2008	17
					S	2008	40
<i>Chogin</i>	2002		<i>OtaShowa (Big N)</i>	<i>RRC</i>	S ^{*1}	2002	200
<i>FE</i>	2003	33	<i>Mizuho (Big N)</i>	Shareholders of <i>FI</i>	D	2006	
<i>Ashigin</i>	2004	1,575	<i>ChuoAoyama (Big N)</i>	Shareholders	D	2006	
					S	2007	265
<i>Livedoor (multiple cases)</i>	2006	23,067	<i>Koyo</i>	Shareholders and <i>Livedoor</i>	T	2009	7,600
					S ^{*2}	2006	6,500
<i>Yuniko</i>	2008	1,180	<i>Azusa (Big N)</i>	Credit Union (Creditors)	NR		

Notes: Data are current as of December 2009. The data have been taken from several sources, such as *Shoji-Homu*, *LEX/DB Internet* (TKC), and *Nihon Keizai Shinbun*. “Big N” indicates that the audit firm is one of the large audit firms when they were sued. Damages sought and damages awarded are in million yen. Some firm names are referred to in abbreviated form as follows: *Jusen-Jutaku Kinyu Senmon Gaishya*, *Yamaichi-Yamaichi Shoken*, *Mita-Mita Kogyo*, *Chogin-Nihon Choki Shinyo Ginko*, *Nissaigin-Nihon Saiken Shinyo Ginko*, *RRC-Resolution and Collection Corporation*, *FE-Footwork Express*, *FI-Footwork International*, *Ashigin-Ashikaga Ginko*. *FE* was one of the equity partners of *FI*, while *FE* was not the parent company of *FI*. T, D, S, NR on Resolution column stands for trial, dismissed, settlement, and not resolved.

*1 *RRC* filed for settlement in April 2002 and the auditor agreed on the settlement in July 2002.

*2 This settlement was proposed by *Livedoor*, which was one of defendants in this trial. The firm has filed litigation against the former president and auditor to seek compensation for this settlement.

Table 2 Variables Definition

Variables	Definitions
<i>ABNACC</i>	abnormal accruals estimated using the CFO Jones model
<i>Big4</i>	Big 4 dummy which is equal to one if the firm is audited by the Big 4 and zero otherwise
<i>GC</i>	Going concern dummy which is equal to one if the firm receives a going concern opinion and zero otherwise
<i>COMP</i>	change in managerial compensation deflated by the market values of equity at the beginning of the period
<i>LEV</i>	total debt divided by total assets at the end of the period
<i>SIZE</i>	natural logarithm of sales
<i>ROA</i>	net income in the previous year divided by the yearly average of total assets at the beginning of the period
<i>CR</i>	current assets divided by current liabilities at the end of the period
<i>PLOSS</i>	loss dummy which is equal to one if the firm reports negative net income in the previous period and zero otherwise
<i>RETAIN</i>	retained earnings divided by total assets at the end of the period
<i>CFO</i>	cash flow from operation deflated by the yearly average of total assets
<i>EQUITY</i>	equity dummy which is equal to one if the firm issues equity in the subsequent period
<i>BOARD</i>	the percentage of shares held by boards at the beginning of the period
<i>FIN</i>	the percentage of shares held by financial institutions at the beginning of the period
<i>CORP</i>	the percentage of shares held by other corporations at the beginning of the period
<i>KEIRETSU</i>	<i>keiretsu</i> dummy which is equal to one if the firm belongs to one or more Japanese <i>keiretsu</i> group
<i>SEC</i>	SEC dummy which is equal to one if the firm discloses financial statement complied with SEC standard and zero otherwise

Table 3 Industry Distribution

Industry	Non-Big4	Big4	Total	% of Big4
Foods	68	270	338	79.9%
Textile Products	27	145	172	84.3%
Pulp & Paper	11	46	57	80.7%
Chemicals	104	384	488	78.7%
Drugs	18	89	107	83.2%
Petroleum	3	23	26	88.5%
Rubber Products	14	48	62	77.4%
Stone, Clay & Glass Products	13	141	154	91.6%
Iron & Steel	34	114	148	77.0%
Non ferrous Metal & Metal Products	51	243	294	82.7%
Machinery	108	426	534	79.8%
Electric & Electronic Equipment	99	621	720	86.3%
Shipbuilding & Repairing	2	15	17	88.2%
Motor Vehicles & Auto Parts	29	175	204	85.8%
Transportation Equipment	15	21	36	58.3%
Precision Equipment	21	121	142	85.2%
Other Manufacturing	43	203	246	82.5%
Fish & Marine Products	5	15	20	75.0%
Mining	3	19	22	86.4%
Construction	70	396	466	85.0%
Wholesale Trade	139	727	866	83.9%
Retail Trade	69	379	448	84.6%
Real Estate	43	127	170	74.7%
Railroad Transportation	6	77	83	92.8%
Trucking	5	84	89	94.4%
Sea Transportation	6	44	50	88.0%
Air Transportation	0	12	12	100.0%
Warehousing & Harbor Transportation	15	88	103	85.4%
Communication Services	9	53	62	85.5%
Electric	3	28	31	90.3%
Gas	11	27	38	71.1%
Services	127	866	993	87.2%
Total	1,171	6,027	7,198	83.7%

Table 4 Samples and Descriptive Statistics

Panel A Sample distribution			
	Non-Big4	Big4	
Clean	1,155	5,981	7,136
GC	16	46	62
	1,171	6,027	7,198

Panel B Descriptive statistics									
	<i>ABNACC</i>	<i>BIG4</i>	<i>GC</i>	<i>COMP</i>	<i>LEV</i>	<i>SIZE</i>	<i>ROA</i>	<i>ABNACC_{t-1}</i>	<i>CR</i>
mean	0.001	0.837	0.009	0.000	0.541	24.588	0.020	0.002	1.776
sd	0.063	0.369	0.092	0.007	0.204	1.483	0.043	0.064	1.232
p5	-0.087	0.000	0.000	-0.010	0.185	22.395	-0.048	-0.087	0.602
p10	-0.048	0.000	0.000	-0.004	0.250	22.826	-0.016	-0.049	0.784
p25	-0.019	1.000	0.000	-0.001	0.389	23.540	0.006	-0.019	1.051
median	0.003	1.000	0.000	0.000	0.555	24.449	0.019	0.004	1.413
p75	0.023	1.000	0.000	0.001	0.697	25.492	0.038	0.025	2.067
p90	0.050	1.000	0.000	0.005	0.808	26.610	0.063	0.052	3.142
p95	0.079	1.000	0.000	0.009	0.860	27.377	0.084	0.082	4.208
	<i>PRLOSS</i>	<i>RETAIN</i>	<i>CFO</i>	<i>EQUITY</i>	<i>BOARD</i>	<i>FIN</i>	<i>CORP</i>	<i>KEIRETSU</i>	<i>SEC</i>
mean	0.153	0.222	0.013	0.189	0.085	0.221	0.277	0.275	0.000
sd	0.360	0.197	0.015	0.392	0.132	0.141	0.188	0.446	0.000
p5	0.000	-0.054	-0.011	0.000	0.000	0.029	0.038	0.000	0.000
p10	0.000	0.009	-0.003	0.000	0.001	0.053	0.062	0.000	0.000
p25	0.000	0.085	0.006	0.000	0.003	0.110	0.124	0.000	0.000
median	0.000	0.205	0.013	0.000	0.017	0.195	0.244	0.000	0.000
p75	0.000	0.348	0.021	0.000	0.121	0.314	0.395	1.000	0.000
p90	1.000	0.491	0.030	1.000	0.273	0.430	0.558	1.000	0.000
p95	1.000	0.578	0.036	1.000	0.376	0.485	0.642	1.000	1.000

Notes: The sample consists of Japanese listed companies having fiscal year end from April 2003 to March 2006. All variables are defined in Table 2. Panel A reports the sample distribution, which is divided in two ways: whether or not a firm is audited by the Big 4, and whether or not it receives a going concern opinion. Panel B presents descriptive statistics.

Table 5 Univariate Differences between the Big 4 and non-Big 4 Clients

	Big4	Non-Big4	<i>diff.</i>	<i>t</i> -stat.	<i>p</i> -value
<i>ABNACC</i>	0.001	0.001	0.000	-0.179	0.858
<i>GC</i>	0.008	0.014	-0.006*	-1.687	0.092
<i>COMP</i>	0.000	0.000	0.000	-0.966	0.334
<i>LEV</i>	0.541	0.541	0.000	-0.038	0.969
<i>SIZE</i>	24.643	24.304	0.339***	7.854	0.000
<i>ROA</i>	0.021	0.014	0.006***	4.560	0.000
<i>ABNACC_{t-1}</i>	0.002	0.003	-0.001	-0.237	0.813
<i>CR</i>	1.774	1.786	-0.012	-0.283	0.777
<i>PRLOSS</i>	0.148	0.180	-0.033***	-2.681	0.007
<i>RETAIN</i>	0.224	0.210	0.014**	2.208	0.027
<i>CFO</i>	0.014	0.011	0.002***	4.751	0.000
<i>EQUITY</i>	0.191	0.183	0.008	0.082	0.935
<i>BOARD</i>	0.087	0.077	0.010**	2.330	0.020
<i>FIN</i>	0.221	0.217	0.004	0.929	0.353
<i>CORP</i>	0.278	0.273	0.005	0.879	0.379
<i>KEIRETSU</i>	0.287	0.208	0.079***	5.973	0.000

Notes: This table reports mean values of variables for Big 4 and non-Big 4 clients. A two-sample *t*-test is used to test for significant differences in means between these groups. ***, **, and * indicate significance at the 0.01, 0.05, and 0.10 level (two-tailed), respectively.

Tale 6 Examination of Big 4 Auditor's Conservatism to Earnings Management

	Expected signs	column (1) Full sample	column (2) <i>Abnacc</i> <0	column (3) <i>Abnacc</i> >=0
<i>Constant</i>		0.034 (0.89)	-0.117*** (-4.01)	0.116*** (4.72)
<i>Big4</i>	(-)	0.000 (0.37)	0.002* (1.75)	0.001 (0.78)
<i>COMP</i>	(+)	0.220*** (2.77)	0.211*** (5.46)	0.387*** (2.95)
<i>LEV</i>	(+)	-0.024*** (-6.48)	-0.027*** (-5.22)	0.004 (0.60)
<i>SIZE</i>	(-)	-0.001 (-0.63)	0.003*** (3.52)	-0.003*** (-3.26)
<i>ROA</i>	(+)	-0.057 (-1.04)	0.219 (1.58)	-0.175*** (-8.42)
<i>ABNACC_{t-1}</i>	(-)	0.181*** (3.03)	-0.004 (-0.18)	0.097*** (2.58)
<i>BOARD</i>	(-/+)	0.018*** (3.87)	0.002 (0.091)	0.034*** (4.60)
<i>FIN</i>	(-/+)	0.010*** (2.69)	0.040*** (3.84)	-0.022* (-1.84)
<i>CORP</i>	(-/+)	0.005 (0.74)	0.019** (1.99)	-0.006 (-0.64)
<i>KEIRETSU</i>	(-/+)	-0.001 (-0.47)	0.000 (0.019)	-0.001 (-0.37)
<i>SEC</i>	(-)	-0.010*** (-3.20)	-0.019*** (-2.82)	0.027 (1.48)
Observations		7,198	3,328	3,870
Adjusted R-squared		0.0409	0.0607	0.0809

Notes: This table reports the parameter estimates and *t*-statistics from the OLS estimation of abnormal accruals (*Abnacc*) on Big 4 dummy (*Big4*) and other control variables (Model (1)). All variables are defined in Table 2. Column (1), column (2), and column (3) presents the results using full-sample, sample of firms reporting negative abnormal accruals, and sample of firms reporting equal to or more than zero abnormal accruals, respectively. *t*-statistics are provided in parentheses. They are based on standard errors clustered at the firm and year level. ***, **, and * indicate significance at the 0.01, 0.05, and 0.10 level (two-tailed), respectively.

Table 7 Examination of Big 4 Auditor's Conservatism in Issuing Going Concern Opinions

	Expected signs	column (1)	column (2)
<i>Constant</i>		-0.132 (-0.066)	-0.135 (-0.065)
<i>Big4</i>	(-)	-0.130 (-0.59)	0.025 (0.12)
<i>ABNAC</i>	(-)	-3.392*** (-2.91)	-5.499*** (-6.75)
<i>BIG4*ABNAC</i>	(+)		2.607** (2.51)
<i>SIZE</i>	(-)	-0.113 (-1.58)	-0.118 (-1.55)
<i>LEV</i>	(+)	1.241** (2.40)	1.218** (2.49)
<i>CR</i>	(-)	-0.125 (-1.63)	-0.124* (-1.70)
<i>PRLOSS</i>	(+)	0.253*** (2.85)	0.267*** (2.98)
<i>RETAIN</i>	(-)	-2.343*** (-4.73)	-2.364*** (-4.41)
<i>CFO</i>	(-)	-23.262*** (-8.82)	-22.783*** (-8.73)
<i>EQUITY</i>	(-)	0.527 (1.33)	0.525 (1.32)
<i>BOARD</i>	(-/+)	-0.399 (-0.73)	-0.413 (-0.81)
<i>FIN</i>	(-)	-0.864** (-2.18)	-0.936* (-1.81)
<i>CORP</i>	(-)	-0.346 (-0.91)	-0.326 (-0.88)
<i>KEIRETSU</i>	(-)	0.212 (0.81)	0.219 (0.82)
Observations		2848	2848
Pseudo R ²		0.4286	0.4331

Notes: This table reports the parameter estimates and z-statistics from a probit model of going concern dummy (*GC*) on Big 4 dummy (*Big4*), abnormal accruals (*Abnacc*), and cross term of Big 4 and abnormal accruals (*Big4*Abnacc*) and other control variables (Model (2)) for the sample of firms that report (1) negative earnings, (2) negative operating cash flows, (3) negative working capital, or (4) negative retained earnings. All variables are defined in Table 2. Column (1) presents the results dropping *Big4*Abnacc* from the independent variables and column (2) presents the results using all the independent variables. z-statistics are based on standard errors clustered at the firm and year level and provided in parentheses. ***, **, and * indicate significance at the 0.01, 0.05, and 0.10 level (two-tailed), respectively.

Table 8 Examination of Big 4 auditor's Conservatism to Earnings Management for Financially Distressed Firms

	Expected signs	
<i>Constant</i>		0.015 (0.27)
<i>Big4</i>	(-)	-0.000 (-0.13)
<i>COMP</i>	(+)	0.452*** (5.87)
<i>LEV</i>	(+)	-0.032*** (-4.23)
<i>SIZE</i>	(-)	-0.000 (-0.18)
<i>ROA</i>	(+)	-0.093 (-1.47)
<i>ABNACC_{t-1}</i>	(-)	0.234*** (2.66)
<i>BOARD</i>	(-/+)	0.043*** (3.07)
<i>FIN</i>	(-/+)	0.019** (2.02)
<i>CORP</i>	(-/+)	0.024 (1.19)
<i>KEIRETSU</i>	(-/+)	0.002 (0.45)
<i>SEC</i>	(-)	-0.049* (-1.95)
Observations		2848
Adjusted R-squared		0.0516

Notes: This table reports the parameter estimates and *t*-statistics from the OLS estimation of abnormal accruals (*Abnacc*) on Big 4 dummy (*Big4*) and other control variables (Model (1)) for the sample of firms that report (1) negative earnings, (2) negative operating cash flows, (3) negative working capital, or (4) negative retained earnings. All variables are defined in Table 2. *t*-statistics are provided in parentheses. They are based on standard errors clustered at the firm and year level. ***, **, and * indicate significance at the 0.01, 0.05, and 0.10 level (two-tailed), respectively.