The Post-SOX Evolution of the Client Portfolio of the Second Tier: A Focus on Restatement and Internal Control Risk

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SUMMARY

The Post-SOX era coincides with the rise of the Second Tier auditing firms. Our study tests risk characteristics of new (and departing) clients versus continuing clients of the Second Tier to judge overall risks faced by this auditing tier. Because of the greater incidence of restatements in the post-SOX era and because SOX itself triggered disclosure of internal control weaknesses (ICW), we focus on these two risk indicators. We show that the new clients of the Second Tier indeed have higher levels of restatements and ICW, but we also note that departing clients also show a similar high risk profile. We confirm the widely held belief that the Second Tier is gaining market share, but this gain appears to be achieved in a controlled manner. We base this conclusion on the facts that (a) most of their new clients dismissed their previous auditors thereby dispelling the notion that the Second Tier is only gaining clients because the Big 4 are jettisoning high risk clients and (b) the Second Tier is letting go of high risk clients especially those with restatement risk. Finally, because we use a fairly long post-SOX sample period, we argue that our results reflect a persistent shift in the auditing market and not just an immediate reaction to SOX or Arthur Andersen.

Keywords: auditor switching; second tier audit firms; restatements; internal control weakness

Data Availability: The data used in this study are available from public sources.

1. Introduction

The Sarbanes-Oxley Act of 2002 (hereafter, SOX) is the direct or indirect cause of many noteworthy changes in the auditing market. One such change is the rise of the four so-called Second Tier auditors: Grant Thornton, BDO Seidman, McGladrey and Crowe. But this change has led to a concern: as the Big 4 auditors, partly in response to the Andersen supply shock and partly in response to the SOX demand shock, rationalize their capacity by shedding risky clients, are they creating excessive risk for the Second Tier? Two prominent studies have addressed this issue—Landsman, Nelson and Rountree (2009); Hogan and Martin (2009) —with the former focusing on Big 4 switches and the latter focusing more specifically on new clients in the Second Tier. Both studies, and especially the Hogan and Martin study, indicate that the Big 4 are indeed shedding risky clients who are then picked up by the Second Tier auditors. But, because of their limited post-SOX sample periods—2003-2005 in the case of Landsman, Nelson and Rountree and 2003-2004 in the case of Hogan and Martin—these studies are unable to fully address the impact of two important risk indicators: restatements and internal control weaknesses (ICW). Our study contributes by filling this gap in the literature. We focus on client changes in the Second Tier during a longer post-SOX period (2004-2008) which allows us to more comprehensively compare values of risk variables between new or departing clients on the one hand and continuing clients on the other.

The sampling period is important for evaluating risk for the following reasons. The number of restatements rose dramatically after SOX and persisted for a number of years. Academic articles (e.g., Plumlee and Yohn, 2010) and industry reports[1], confirmed by our own check of the

[1] A report issued by Audit Analytics titled "2008 Financial Restatements: An Eight Year Comparison" (February 2009) indicates a sharp rise in the number of restatements during 2005-2006. While the level is also quite high in

restatements dataset included in Audit Analytics, indicate a peaking of restatements in 2005-2006 and a continued level of higher than average annual restatements. Thus, a sample ending in 2004 or even 2005 would not capture many of these post-SOX restatements. Similarly, because compliance with Section 302 initiated in 2002 and that with Section 404 initiated in 2004, the number of firms disclosing ICW rose in the years following SOX. Prior to SOX, disclosure of ICW was only triggered by an auditor change (Krishnan, 2005). As with restatements, a sample ending in 2004 or 2005 would have no opportunity to capture the full impact of Section 302 and especially Section 404 related disclosures relating to internal control. Of the studies evaluating auditor switches and client portfolio risk, Hogan and Martin is closest in spirit to ours because of its focus on the Second Tier, but it gives no consideration to Section 404 disclosure, nor does it fully assess the impact of restatements. We use alternate measures of both restatements and ICW to examine their association with the Second Tier client shifts. This is the *primary* contribution of our paper.

Our key results pertain to restatements and ICW. We find that both new and departing clients of the Second Tier have a significantly higher rate of restatements compared to continuing clients. We use two types of restatement variables, an ex-post one and an ex-ante one. The ex-post restatement variable reflects an actual restatement during the current or previous year. The ex-ante restatement variable reflects the eventual restatement of the current or previous period earnings. Both variables arguably reflect audit risk. Both variables are statistically significant in the client switching models that compare characteristics of new or departing clients with those of continuing clients. The results concerning restatements are noteworthy for two reasons. *First*, the

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2007, it represents a fall from 2006. An even lower level of restatements in 2008 may suggest a trend. Overall, our sample period has a high number of restatements.

result indicating a higher level of restatements for new clients of the Second Tier differs from Hogan and Martin (2009) which mostly reports insignificant values for restatements; at the same time, it is similar in spirit to findings in Landsman, Nelson and Rountree (2009) that audit risk variables such as growth, receivables and issue of going concern opinion are related to Big 4 switches (from Big 4 to lower-tier auditing firms) after SOX[2]. Our result builds on the importance of audit risk as a consideration in switches from the Big 4 to the Second Tier. *Second*, our results also show higher levels of restatements for departing clients of Second Tier firms. This suggests that the evolution of the Second Tier firms is not fully explained by actions taken by the Big 4. As Second Tier firms service larger clients, they may grow in stature and stop responding passively to changes in the marketplace. Especially in light of their own capacity constraints, they may actively seek to optimize their client portfolios[3].

We also find our ICW variables significant in explaining downward switches and contribute to the recent and growing literature concern internal control. As with restatements, we use alternate variables to capture the effect of ICW. Our first ICW variable captures Section 302 related disclosure and our second and main variable captures Section 404 related disclosure. Both ICW variables are obtained from the Audit Analytics database. We find that both variables are highly correlated with auditor switches, especially downward switches into the Second Tier. Hogan and Martin used only the disclosures of internal control deficiencies made in 8-K statements reporting auditor changes (the pre-SOX 404 reporting regime), making their tests relating auditor

[2] There is also a stream of papers that solely focus on restatements and provide insights for the auditing context. For example, Abbott, Parker and Peters (2004) relate restatements to weaknesses in the auditing committee. This link suggests that restatements may be used as a proxy for poor controls and therefore is an indicator of audit risk.

[3] Furthermore, client firms may themselves play a role in auditor switches: there is a possibility that clients grappling with earnings restatements are active in searching for a new auditor. To test for this possibility, we also present tests based separately on dismissals (client initiated) and resignations (auditor initiated).

switches to ICW vulnerable to self-selection bias; our tests are not constrained in this manner. Additionally, our findings concerning ICW complements that reported by Elder, Zhang, Zhou and Zhou (2009) who note that Section 404 ICW disclosures are associated with audit changes overall but our tests are more specifically conducted to explain the evolution of the Second Tier.

We provide additional tests by dividing switches into resignations and dismissals and report the following results. *First*, contrary to the notion implied in the GAO reports and Hogan and Martin (2009) that the movement of high-risk firms from the Big 4 to the Second Tier is a consequence of portfolio decisions made by the Big 4, we find that the vast majority of the downward switches into the Second Tier are dismissals rather than resignations. This offers a new perspective on the phenomenon of downward switches away from the Big 4: this is not just a story about the Big 4, this is also a story about the desire of firms to switch to smaller auditors and the ability of the Second Tier to attract client firm. Our own interpretation is that the Second Tier is gaining momentum in the auditing market and is growing market share in a controlled manner. *Second*, we find no discernible differences in the switching models when run separately using resignations or dismissals. Both types of switches appear to be related to key risk factors including restatements and ICW.

While our analysis of the association between switches involving the Second Tier on one hand and restatements and ICW on the other is the primary contribution of our paper, our significantly long post-SOX sampling period allows us to make a *secondary* contribution: we provide evidence on persistent rather than temporary shifts in the post-SOX era. Thus we are able to complement the evidence presented in Hogan and Martin (2009). Our results show a continuation of the downshift phenomenon (acquisition of larger clients from the Big 4 and departure of smaller clients to smaller auditing firms) documented by Hogan and Martin.

However, there appears to be a deceleration of the exodus of firms from the Big 4 to the Second Tier. Our tests show that during 2005-2008, 243 firms (or 65 percent of the new clients of the Second Tier firms) shifted from the Big 4 to the Second Tier; this compares to a figure of 384 firms or 84 percent noted by Hogan and Martin during the 2001-2004 period. Correspondingly, we note a greater number of firms shifting from small auditing firms to the Second Tier, 82 in our time period versus 41 firms noted by Hogan and Martin. Overall, there is little change in the total number of clients serviced by the Second Tier firms but the average size of clients continues to grow significantly. These results are consistent with (a) client firms seeking better pricing and/or service from the Second Tier and (b) an enhanced ability of the Second Tier to control client portfolio risk. The latter result in particular should alleviate concerns shown by regulators that the Second Tier is passively acquiring high risk clients from the Big 4.

We add to a large and established literature on auditor switching. Much of this literature uses pre-SOX data and therefore employs more traditional client risk measures such as size, change in sales and inventory/accounts receivables. Our study uses data spanning a large number of post-SOX years and accordingly exploits the availability of data on restatements and internal control. By using restatements and ICW as explanatory variables we also contribute to well-developed literatures separately examining these phenomena. Above all, our study also contributes knowledge concerning the Second Tier auditing market. The gulf between the Big 4 and the Second Tier remains large, but there are indications that the Second-Tier is gaining traction with SEC clients[4]. A small and emerging literature study the Second Tier and we contribute to this literature.

[4] Dey and Robin (2010), in a descriptive study of the Second Tier, notes that between 2003 and 2008, the Big 4 lost 2041 SEC clients while the Second Tier gained 111 SEC clients.

2. Background and Hypotheses

Our paper focuses on shifts in the market for auditing services post-SOX and as such relates to four streams of literature. The first, auditor switching, analyzes decisions by firms/auditors to exit/enter relationships. This literature informs us that audit risks in particular motivate large auditing firms (Big-N) to terminate relationships with clients and perhaps move these clients downstream to smaller auditors who do not have as much reputational capital to lose or deep pockets susceptible to litigation. It is widely accepted that audit risks have increased post-SOX and hence this literature is relevant to our study. The second and third literature streams separately study restatements and internal control: the major theme in these literatures is that reporting quality is weakened or perturbed because of restatements and ICW; our takeaway, one supported by statements by practitioners, is that these "events" are associated with audit risks which in turn are related to auditor switches. The fourth literature concerns the market for Second Tier auditors. Major themes in this literature include the quality of auditing services and the evolution of the client portfolio. But there are only a handful of studies in this literature and we contribute with additional insights concerning the evolution of the Second Tier market.

2.1 Auditor Switching

Auditor switching is perhaps viewed best from the perspective of an auditing firm's portfolio. Johnstone and Bedard (2004) provides an illustration of how this portfolio changes over time. Changes occur when (a) clients discontinue and (b) when new clients are added. Clients may discontinue of their own volition (e.g., when they perceive fee levels as high and/or services as inadequate) or when the auditing firm perceives the client as value reducing (e.g., when risks are high and fees are inadequate to cover these risks). From the auditing firm's perspective, both

client discontinuance and client acceptance decisions are predicated on the following factors: financial risk, audit risk, auditor business risk and the present value of the future stream of expected audit fees. The first three factors are risks faced by the auditor as a consequence of client characteristics.

Financial risk relates to the financial position or economic condition of the client firm and is measured using variables such as leverage and ROA. Audit risk relates to risks arising from lack of controls, poor management or poor quality reporting; these risks increase the chance of the auditor not detecting a material misstatement. Auditor business risk refers to risks stemming from the public or private status of the client firm: if a client firm is public the auditor faces heightened litigation risk. Overall, many of these risks map to the litigation risk faced by the auditing firm. Ultimately, auditing firms are concerned about shareholder/investor litigation and loss of reputation. In a study of discontinuance/acceptance decisions made by a large auditing firm during a particular year, Johnstone and Bedard (2004) finds that it is audit risk variables that mostly influence the decision[5]. This result is of particular relevance to our study because we use more contemporary audit risk variables reflecting restatement and internal control risks; these variables have become important in the post-SOX era.

The importance of risk mitigation by Big N firms (prior to the demise of Arthur Andersen there were more than 4 so-called Big firms) is a theme found in earlier papers such as Krishnan and

5 An alternate way for auditing firms to deal with client risk is to increase fees or to charge "risk-adjusted" fees. Few studies compare the alternatives of fee increases and resignations. An exception is Elder, Zhang, Zhou and Zhou (2009) which studies auditor decisions in the context of internal control weaknesses. In fact, three possible responses are considered: a modified opinion, a fee increase or resignation. This choice is empirically modeled by using the ordered logit method (see Table 10). Nevertheless, the switching literature focuses on auditor change as opposed to fee increases (or modified opinions) while acknowledging this limitation (e.g., Johnstone and Bedard, 2004, see footnote 6).

Krishnan (1997). A good example of this literature stream is Shu (2000) which finds that auditor resignations are related to increases in clients' litigation risk (captured in variables such as inventory, receivables, size, stock volatility and whether the firm is a technological firm, delisted firm and received a qualified opinion). Shu confirms these results by using an event study method: stock returns are negative for resignations and related to changes in litigation risk. Shu also finds that resignations are motivated by auditor-client fit issues: fit is determined by relating the probability of being audited by a big auditor to firm characteristics such as size, acquisitions and new financing. A key result from Shu that is relevant to our study is the finding that discontinued firms switch to smaller auditors; furthermore, the greater the increase in litigation risk, the greater the tendency to switch to a smaller auditing firm. Shu explains that smaller auditors do not risk as much reputational capital as larger auditors and also do not have "deep pockets" that attract litigation. The phenomenon of client switches from Big N firms to smaller auditors was thus established even prior to Andersen and SOX. This implies that while SOX might have accelerated downward switches, the long-term post-SOX equilibrium might be characterized by a secular trend of downward switching albeit at a lower rate.

A recent effort, Landsman, Nelson and Rountree (2009) compares auditor switches (from Big N firms) in the pre and post-Enron eras. Since the post-Enron era is characterized by clients of Arthur Andersen seeking other (usually Big N) auditors, the resulting capacity constraint is hypothesized to change the sensitivity between switches and the twin influencing factors of client risk (financial risk, audit risk and auditor business risk variables) and client misalignment (size, acquisitions, new financing and so on). Specifically, with the new pool of potential clients following the Enron scandal, Big-N firms are perceived to look more closely at their current portfolios and prune out certain clients not aligned with their needs. This is the insufficient

capacity hypothesis. Landsman et al. (2009) in an analysis of client switches from Big N to other auditors show an increase in sensitivity to client misalignment but a decrease in sensitivity to client risk. These results largely support the insufficient capacity hypothesis.

2.2 Restatements in the Post-SOX Era

We now turn to a recently acknowledged measure of audit risk: restatements. To emphasize the prevalence and importance of restatements in the post-SOX era we provide a simple count of restatements from the Audit Analytics Restatements dataset. According to Figure 1, the number of restatements peaked during 2005-2007 and is double the number during 2002-2004. This is a well-known fact and has been reported in academic papers as well as in industry commentary. The high frequency of restatements triggered a number of research studies inquiring into its causes and consequences.

[Insert Figure 1]

Interestingly, much of the restatements literature focuses on its consequences rather than its causes. An exception is Plumlee and Yohn (2010) which analyzes corporate disclosures and outside news sources related to restatements to ascertain the causes attributed to restatements. A key finding is that a majority of restatements during 2003-2006 are attributable to internal company errors[6]. The authors state that this finding is consistent with the position that internal reviews related to SOX are working. This finding and conclusion appears to support the notion that restatements and ICW flagged by various SOX sections are connected, as confirmed by our own tests which are reported later in this paper.

[6] An increased level of auditor expertise can serve to reduce these internal errors. Chin and Chi (2009) use data on Taiwanese firms and demonstrate that an increased level of auditor expertise leads to a lower probability of restatement.

A large number of studies report on various consequences of restatements. The basic conclusion from this literature is that restatements matter and that they often have adverse consequences for investors, managers and directors. Specific findings include: stock prices react negatively to announcements of restatements (Palmrose, Richardson and Scholz, 2004); labor markets impose penalties on directors (Srinivasan, 2005) and managers (Desai, Hogan and Wilkins, 2006). A particularly interesting stream of research, one relevant to our work, connects restatements with information asymmetry as well as information risk. For example, Kravet and Shevlin (2010) finds that a restatement announcement increases the factor loading on the discretionary information risk factor and thus increases cost of capital for a firm. Thus restatements coincide with reporting weakness and have adverse consequences for firms and their stakeholders; this, in turn, supports the proposition that restatements increase client risk for auditors. This connection between restatements and risk for auditors is also supported by studies linking restatements with auditor change, but much of this evidence is preliminary[7].

2.3 Internal Control Weaknesses in the Post-SOX Era

We now turn to our next audit risk variable: internal control weakness (ICW). Disclosures of ICW increased dramatically in the post-SOX era (see figure 2). Although SOX has two important sections, 302 and 404, pertaining to internal controls, it does not elaborate on the meaning of internal controls. The prior literature on internal controls (e.g., Zhang, Zhou and Zhou, 2007) refers to the following definition provided by the Committee of Sponsoring Organizations

[7] In an earlier study, Wallace (2005) shows that the percentage of auditor changes is greater for restating firms when compared to non-restating firms. But this relation appears to be driven by client firms changing their auditor many times. Once the serial changers were removed, there appears to be no link between restatements and auditor changes. Despite this, there appears to be a belief among practitioners that restating firms will seek new auditors: for example, Linn and Diehl (2005) argue that the cost of "fixing" a restatement may drive some clients to the Second Tier. Tyranski (2008) also notes that restatement is one of the many reasons for auditor switches.

(COSO) of the Treadway Commission in their report published in 1992 titled Internal Control—Integrated Framework: it is a process, effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in (a) effectiveness and efficiency of operations (b) reliability of financial reporting and (c) compliance with applicable laws and regulations. Of particular relevance to our work is the reference to financial reporting.

[Insert Figure 2]

SOX Section 302 (title: Corporate Responsibility for Financial Reporting) requires top managers (the so-called "signing officers") to certify quarterly and annual reports and to take responsibility for establishing and maintaining internal controls; significantly, the signing officers are responsible for the disclosure of significant ICW in quarterly and annual filings. SOX Section 404 (title: Management Assessment of Internal Controls) is a more stringent requirement concerning internal controls. It requires each annual report to contain an assessment by the management of the effectiveness of internal control procedures for financial reporting. Furthermore, it requires the auditing firm to attest to and report on the assessment made by managers. Because compliance with Section 404 is perceived as costly and onerous, only accelerated filers (essentially large firms, with market capitalization of at least $75 million) have thus far been subject to it[8]. While compliance with Section 302 started in 2002 (for all public firms), compliance with Section 404 started in 2004 (for accelerated filers). This is why a study of internal controls should have a significant sampling period beyond 2004.

[8] The Dodd-Frank Act of 2010 has indefinitely postponed and therefore essentially eliminated the need for small firms (market capitalization below $75 million) to comply with SOX 404.

Both SOX Sections 302 and 404 deal with ICW. However, there are nuanced differences between the two. Managers have more discretion with Section 302 disclosures because the disclosure rules are less specific. Therefore, even though in principle it applies to a larger set of firms, it is a less onerous requirement. Ashbaugh-Skaife, Collins and Kinney (2007) provide a discussion and analysis of firms making Section 302 disclosures. Significantly, they report that firms changing auditors were more likely to have made Section 302 disclosures of internal control deficiencies.

Because the rules for SOX 302 disclosures are less specific, there remains some confusion between the content of SOX 302 and SOX 404 disclosures. One perspective is that the former refers to disclosure control while the latter refers to internal control. An article in Compliance Week (authored by Christine Dunn, May 9, 2006) quotes the following statement concerning Section 302 versus Section 404 disclosure by David Richards, president of the Institute of Internal Auditors: "I liken it to the fact that disclosure controls are focused on those actions within the organization that are taken to ensure the accuracy of the preparation of the [financial statements]—not the accuracy of the data going into the financial statements, which is the focus of the 404 review." Nevertheless, the accounting literature (e.g., Ashbaugh-Skaife, Collins and Kinney, 2007) uses the label "internal control" to refer to Section 302 as well as Section 404 disclosures. In our analysis, we consider both SOX 302 and SOX 404 disclosures.

What have we learned about the disclosure of ICW disclosures from the prior literature and how does this evidence connect with our own analysis? The literature focuses on two aspects: the nature of firms making these disclosures and the effects of these disclosures. Zhang, Zhou and Zhou (2007) reports that deficiencies are negatively related to financial expertise in the audit committee and positively related to auditor independence. While this result does not imply

causality, it is quite suggestive: the lack of financial expertise creates deficiencies while independent auditors encourage their disclosure. Also, this study finds a correlation between deficiencies and auditor change as did the Ashbaugh-Skaife, Collins and Kinney (2007) study. Another study in this genre, Doyle, Ge and McVay (2007) focuses only on disclosures of material weaknesses in internal control, and reports that disclosing firms are likely to be smaller, younger, financially weaker, more complex, growing rapidly or undergoing restructuring. Together, these results imply that firms disclosing ICW pose a high level of risk to auditors. This understanding, that ICW and auditing risks are related, leads us to insert ICW as an explanatory variable in our auditor switching models. Elder, Zhang, Zhou and Zhou (2009) is the first study to explicitly associate auditor switches and ICW, but we are the first to do so in the context of switches involving the Second Tier.

As there is a literature on the consequences of restatements, there is a literature focusing on the consequences of ICW. The finds are quite similar. Ashbaugh-Skaife, Collins and Kinney (2007) reports that firms disclosing ICW prior to SOX mandates have a more perturbed operating and reporting environment: they have more complex operations, recent organizational changes, greater accounting risk and more auditor resignations. Two studies by the same team of authors, Ashbaugh-Skaife, Collins, Kinney and Lafond (2008 and 2009) report that firms reporting SOX mandated ICW have higher idiosyncratic risk, systematic risk and cost of capital; these firms also have lower quality earnings because the accrual noise is higher (that is, they have larger positive and larger negative accruals). Overall, the literature suggests that ICW matters and that it is associated with reporting weaknesses.

2.4 The Second Tier Auditing Market

Our study focuses on new and departing clients of the Second Tier auditors. Although the Big 4 firms continue to audit most public firms, Second Tier firms like BDO and Grant Thornton audit an increasing number of these firms[9]. In particular, their share of small cap listed firms has risen in recent years. Regulators as well as market participants now attach considerable importance to the health of these auditing firms[10]. Despite the high level of regulatory and market interest in them, few studies have focused on Second Tier firms. One exception is Cassell, Giroux, Myers and Omer (2008) which examines the perceived quality of audits conducted by Second Tier firms by testing whether their clients suffer a cost-of-capital penalty; the results reveal the absence of a penalty and confirm the newfound status enjoyed by these auditing firms in the post-SOX era. Another study offering a similar conclusion is Boone, Khurana and Raman (2010) which reports no differences in actual audit quality between the Big 4 and the Second Tier.

Our study is closely related to another study of the Second Tier, Hogan and Martin (2009) which also evaluates client characteristics for Second Tier firms following SOX. In particular, HM examine (a) client portfolio changes for the Second Tier firms (how clients are acquired and lost,

[9] A number of articles in the popular press has remarked on this phenomenon. A majority of these articles appeared around 2005-2006 and focused on the SOX-related movement of clients from the Big 4 to the Second Tier. One example is Byrnes (2005) which describes how BDO won the contract to audit a public firm with more than $1 billion in sales. Another example is Reilly (2006). The market share of the Big 4 continues to be big however: Tyranski (2008) notes that the share of publicly listed clients had only fallen from a high of 98% to 94% despite many clients shifting to non-Big firms.

[10] Regulators remain concerned about concentration in the auditing market. This is a recurring theme in various Government Accountability Office (GAO) reports on the auditing market, the most recent of which, dated January 2008 (GAO 2008), identifies concentration as a problem that has not yet adversely affected prices or quality but has the capacity to do so in the future. Considerable concern is shown in the report concerning the constraints faced by Second Tier firms in auditing large listed firms. Some of the constraints identified in this report include (a) the ability to hire and retain employees (b) lack of reputation (c) lack of capabilities in multiple countries to service multinationals and (d) the ability to deal with the litigation risk arising from large clients.

with a special focus on clients acquired from the Big 4 firms) and (b) changes in the risk characteristics of portfolio firms. A key finding in this paper is that new clients accepted by Second Tier firms are riskier than their continuing clients. But there are also indications that the Second Tier firms are shedding some risky clients. Overall, however, it appears that some risks faced by Second Tier auditing firms are rising. This result appears to vindicate the concern shown by regulators regarding risks faced by Second Tier firms. But as we argued earlier, because the HM sample ends in 2004, it does not capture the importance of restatements or ICW. Our study, because it uses a longer post-SOX sampling period, is able instead to address these issues. Additionally, our study is able to address the persistent rather than the temporary post-SOX equilibrium.

2.5 New and Departing Clients of the Second Tier and Restatement/ICW Risks

At a general level, our study assesses the evolution of the client portfolio of the Second Tier: we focus on the risk characteristics of the new and departing clients of the Second Tier in comparison to those of continuing clients. At a specific level, ours is a study of how restatement and ICW risks affect client switching concerning the Second Tier. Below, we list and briefly discuss the three hypotheses tested in our study.

Hypothesis 1: *Clients who switch to the Second Tier (and especially those from the Big 4) have higher levels of auditing risks as measured by the prevalence of restatements and disclosures of ICW compared to continuing clients of the Second Tier.*

This hypothesis flows mostly from the literature on auditor switching (e.g., Johnstone and Bedard, 2004) in which the switching decision is related to audit risks. While the extant literature focuses on traditional variables such as firm size, accounts receivables and inventory, we focus

on restatements and ICW which have been made more prominent in the post-SOX era. Implicit in this hypothesis is the assumption that the switches to the Second Tier are a consequence of the Big 4's desire to shed risky clients. This assumption is discussed in the prior literature (e.g., Hogan and Martin, 2009) and is connected to the demand shock of SOX and the supply shock of Andersen (e.g., Landsman, Nelson and Rountree, 2009). The desire of the Big 4 to control portfolio risk is more directly reflected in client firms switching from the Big 4 to the Second Tier, but it may also be indirectly reflected in other switches to the Second Tier: one might argue that these firms are potential clients of the Big 4 but turned to the Second Tier because of a lack of interest on the part of the Big 4 to pursue them. Thus, this hypothesis is not restricted to switches from the Big 4 only.

The assumption that the Big 4 is shedding (or avoiding) risky clients and that these clients move to the Second Tier may not be true for two reasons. First, the post-SOX push by the Big 4 to shed risky clients may have exhausted itself toward the end of our sample period: that is, the effect may only have been a temporary and not a persistent one. Second, because of learning (audit firms becoming more efficient) and because of the relaxation of regulations (e.g., Auditing Standard No. 2), the Big 4 may no longer feel the need to offload risky clients to the Second Tier. Thus, it is an empirical question whether client firms that switch are associated with higher auditing risks (restatements and ICW).

Hypothesis 2: *Clients who switch from the Second Tier (and especially those who move to smaller auditing firms) have higher levels of auditing risks as measured by the prevalence of restatements and disclosures of ICW compared to continuing clients of the Second Tier.*

Hypothesis 2 is similar to hypothesis 1 and could possibly be considered its corollary. Just as the Big 4 has incentives to offload risky clients to the Second Tier, the Second Tier may have incentives to offload risky clients to smaller auditing firms. Such downward shifting from the Second Tier will depend on (a) the additional risks posed by the larger and riskier clients acquired from the Big 4 and (b) capacity constraints faced by the Second Tier. If the Second Tier takes in a large number of risky clients from the Big 4 they may face increased pressure to offload other risky clients to balance risks. This pressure will be intensified if the Second Tier faces capacity constraints. In some respects therefore, the propensity of the Second Tier to shed risky clients could be indicative of its market power and especially its control over growth. Thus, this hypothesis in essence tests whether the Second Tier is on a path of controlled growth and whether it is actively controlling the client portfolio.

We do however recognize the potentially reduced relevance of the ICW variable (especially the one related to Section 404) in tests of hypothesis 2. This is because of the higher likelihood that clients switching from the Second Tier to smaller auditing firms are small firms. As explained earlier, firms with a market capitalization of less than $75 million are deemed as "non-accelerated" filers and are yet to be required to comply with Section 404.

Hypothesis 3: *Resignation firms (firms whose previous auditors resigned) will indicate* a *higher sensitivity to auditing risks as measured by the prevalence of restatements and disclosures of ICW compared to continuing firms of the Second Tier; in contrast, dismissal firms (firms who dismissed their previous auditors) will not show this higher sensitivity.*

The process by which firms change auditors is complex and it is usually difficult to definitively state whether a certain change is initiated by the client firm or by its auditor. Nevertheless,

information is available in the Audit Analytics database that allows us to categorize changes into resignations and dismissals. The former is more likely to represent action initiated by auditing firms and the latter is more likely to represent action by client firms. Accordingly, the link between client switches and auditing risk variables (restatements and ICW) is likely to be more pronounced in the resignation sample compared to the dismissals sample.

3. Sample and Variables

We obtain our sample for the period 2004-2008 by using the following steps. We use the Audit Analytics Audit Opinions database to identify all firms audited by Second Tier auditors (Grant Thornton, BDO, McGladrey, Crowe). We then obtain relevant audit-related data from the following Audit Analytics databases: Auditor Change, Disclosure Control, Internal Controls and Restatements. We then obtained financial data from Compustat. Our final sample is made up of firms with non-missing data.

(Insert Table 1 Here)

Table 1 provides the number of clients serviced by the Second Tier firms each year during 2004-2008. For each year, the table provides the number of *new* clients in the current year (A), those continuing from the previous year (B_{t-1}), total clients during the current year ($C = A + B_{t-1} = D + B_t$), those *departing* before next year (D) and clients continuing to next year (B_t). Since our data start from 2004, items A and B_{t-1} are missing for 2004. Although the turnover rate is around 20 percent, overall, the number of clients appears to be stable at around 600 firms. Roughly 20 percent of the overall client base departs each year and a similar number of new clients are acquired. The stability in the number of clients is consistent with the GAO report (GAO 2008)

indicating capacity constraints for the Second Tier firms also[11]. Our main tests involve the comparison of new clients with those continuing from the previous year (that is, we compare A with B_{t-1}) and departing clients with those continuing to the next (D with B_t).

(Insert Table 2 Here)

Table 2 provides further information about new and departing clients and allows an understanding of long-term trends. Specifically, we provide evidence on whether the new clients are from Big 4 or Small Firms (small auditing firms) or other sources. Similarly we provide evidence on whether departing clients go to Big 4 or Small Firms, or depart for other reasons. Table 2 Panel A shows the source of new clients. Note that the biggest source of new clients for the Second Tier firms is the Big 4. However, there is steady tapering off of clients from the Big 4. While there were 106 new clients from the Big 4 in 2005, there were only 28 in 2008. This is consistent with a settling down of the effects of SOX (and Andersen) and a new equilibrium in place toward the end of the data period.

Table 2 Panel B shows information concerning departing clients. In addition to client departures to the Big 4 and Small Firms, departures may also be induced by bankruptcy, M&A or deregistration. The two biggest categories are departures to Small Firms and departures because of deregistration; these account for almost three-fourths of all departures. Our result confirms the post-SOX pattern of deregistration (e.g., Leuz, Triantis and Wang 2008). A total of 152 firms (36 percent of departing clients) deregistered during the sample period. We also note that the post-

[11] According to the 2008 GAO report: "Approximately 90 percent of large public companies we surveyed cited lack of capacity as a reason why they would not consider using midsize or smaller firms as their auditor. As a result, many of these firms would have to greatly expand their staffing and geographic capabilities to serve such companies. However, the most frequent impediment to expansion cited by accounting firms responding to our survey was difficulty finding staff."

SOX deregistration movement appears to have accelerated: the highest value for deregistered departures as a percent of total departures is in 2007 (52 percent). Other than deregistration, departure of clients to Small Firms is a major category (160 firms, or 38 percent).

For this sample of Second Tier clients (organized by client years), we obtain various risk/characteristic variables. Following the prior literature, we obtain six traditional risk variables as follows:

- *Assets*: total assets in millions (Data6)
- *Leverage*: ratio of total liabilities to total assets (Data181/Data6)
- *ROA*: return on assets (Data18/Data6)
- *Loss*: binary variable, equals 1 if ROA < 0, and 0 otherwise
- *OCF*: cash flows from operating activities scaled by total assets (Data308/Data6)
- *ARInv*: ratio of accounts receivable and inventory to total assets (Data2 + Data3)/(Data6)
- *ΔSales*: percentage change in sales from prior year

Our main test variables measure restatement and ICW risk. Regarding restatements, since we are interested in capturing risks faced by the auditing firm, we consider both ex-ante (eventual restatement of current or previous year's earnings) and ex-post (actual restatement during the current or previous year) measures. Regarding ICW we consider both Section 302 and Section 404 disclosures. Below, we define our test variables:

- *ICW_302[period]*: if a weakness pursuant to SOX Section 302 is disclosed for the period.
- *ICW_404[period]*: if a weakness pursuant to SOX Section 404 is disclosed for the period.
- *RST_Exante[period]*: if earnings for the period is eventually restated
- *RST_Expost[period]*: if there is a restatement during the period

The *ICW_302* variable is obtained from the Disclosure Controls dataset in which there are three binary variables: Effective Disclosure Controls, Material Weakness and Other Deficiencies: it equals one if any of these three binary variables indicates a deficiency (NO, YES or YES

respectively). The *ICW_404* variable is obtained from the Internal Controls dataset and equals one when the binary variable Effective Internal Controls is NO. Our restatement variables make use of the restated period end date and the disclosure date from the Restatements dataset. *RST_Exante* equals one if the restated period end date falls in the specified period (the disclosure date may be in the same period or in a future period). *RST_Expost* equals one if the disclosure date falls in the specified period (the restated period may fall in the same period or may be in a prior period). For each of the four variables defined above, we try three different time periods: current year [0], previous year [–1] and current or previous year [–1, 0].

4. Results

Tables 3 and 4 provide means for our key test variables as well as tests of means between new or departing firms on the one hand and continuing firms on the other. Table 3 compares new clients with continuing clients while Table 4 compares departing clients with continuing clients. In both tables the first column provides values for continuing clients and the second and third columns provide values for new or departing clients. We report means and medians and indicate significance when values for new or departing clients differ from the values for continuing clients. Overall, the results show the significance of restatement and ICW variables.

(Insert Table 3 Here)

Table 3 indicates that the new clients of the Second Tier are somewhat larger than their continuing clients and especially so when they come from the Big 4. Among the traditional risk variables, we find that only two, assets and ARInv are significant, the former indicating higher risk and the latter indicating lower risk. Turing to ICW, we note that most specifications show a higher level of risk in new clients. For example, *ICW_404[-1]* has values of 0.07 for continuing clients compared to 0.18 for new clients. Similarly, most specifications of restatement risk show

a high level of risk in new clients. For example, *RST_Exante[-1]* has values of 0.11 for continuing clients compared to 0.19 for new clients. We also note that the results for all new clients (Big 4 and Small Firms) are similar to that for new firms from the Big 4 only.

(Insert Table 4 Here)

Table 4 provides a comparison of departing clients with continuing clients. Among the traditional risk variables, we note that with the exception of ARInv, the rest are significant. Departing clients are smaller, have greater leverage, lower profits (lower ROA and higher Loss) and greater change in sales. Turing to ICW, we note that values of *ICW_302* tend to be significantly higher for departing clients while values of *ICW_404* are lower and significantly for clients departing to smaller auditing firms. The latter result is probably explained by the threshold for Section 404 reporting: many departing clients are probably non-accelerated filers. Finally, we note that restatement risk is higher for departing clients. For example, *RST_Exante[-1]* has values of 0.11 for continuing firms and 0.19 for departing firms.

(Insert Table 5 Here)

The univariate tests suggest strong support for hypothesis 1 (new versus continuing clients) as well as hypothesis 2 (departing versus continuing clients. But more conclusive results are only possible using multivariate analysis. Before presenting our multivariate results, we provide evidence of correlations among key variables in Table 5. We note significant correlations between various specifications of the restatement and ICW variables. For example, *ICW_302[-1]* has correlations of 0.39, 0.19 and 0.28 with *ICW_404[-1]*, *RST_Exante[-1]* and *RST_Expost[-1]* respectively. Additionally, these risk variables also appear to be serially correlated with values for [-] correlated with values for [0]. For example, the correlation between *ICW_302[-1]* and *ICW_302[0]* is 0.48; similar values for *ICW_404*, *RST_Exante* and *RST_Expost* are 0.27, 0.08

and 0.11 respectively. Also, [0] and [-1] values are correlated across variable types: for example, *ICW_302[0]* has a correlation of 0.33 with *ICW_404[-1]*. All values cited previously are statistically significant. These results are consistent with the observation that restatement and ICW variables are in some general sense related to the auditing risk environment of client firms. Because of these high correlations, although they do not meet the threshold for inducing severe multi-collinearity problems, we choose to run cross-sectional models (reported below) using restatement and ICW variables one at a time.

(Insert Table 6 Here)

Our key results concerning hypothesis 1 and 2 are found in Table 6. We use logistic regressions as in the prior literature on auditor switching to determine the importance of restatement and ICW variables in explaining switches to and from the Second Tier. We use five model specifications, labeled 6A1-6A5 for the regressions in Panel A comparing new with continuing clients and another five models 6B1-6B5 for the regressions in Panel B comparing departing with continuing clients. The first model associates the switch with the 6 traditional risk variables. The next four introduce restatement and ICW variables one by one. Because of space constraints and also because of the significance indicated in earlier tests we chose to employ [–1] (that is, variables are measures in the year prior to the data year) versions of our risk variables[12]. Panel A indicates low R-squared for all specifications, ranging from 0.08 to 0.034. Firm size, measured by LnAssets, is the only traditional risk variable to indicate significance. However,

[12] As one would expect, regressions using the [–1,0] period for the restatement and ICW variables show a similar result. This is because the [–1,0] variables subsume the [–1] variables: by definition, for a particular risk variable, the value for [–1,0] equals the value for [–1] plus the value for [0]. However, results are weaker when using period [0]: in particular the restatement variables are not significant, perhaps because of its lagged effect on switching behavior. This is why it was important to consider multiple specifications of the restatement and ICW variables. Overall, considering all periods, one concludes that restatement and ICW variables are associated with auditor switching in the Second Tier.

three out of four of the restatement and ICW variables are highly significant. This evidence supports hypothesis 1.

Table 6 Panel B regressions have higher R-squared values mostly because of the high explanatory power of LnAssets: departing firms are likely to be smaller firms and the associated t-statistics exceed 50 in all cases. Departing firms are also more likely to have losses. Turing to restatement and ICW variables, as indicated earlier by the univariate tests, we find that all variables except *ICW_404[-1]* are significant. This result supports hypothesis 2.

(Insert Table 7 Here)

Table 7 provides further evidence on hypotheses 1 and 2. Here, we focus on the key subsets of new and departing clients: new from the Big 4 and departing to small auditing firms. Panel A compares risks of continuing clients with those of new clients from the Big 4. The R-squared values are higher in this panel compared to those reported in Table 6A principally because of the higher explanatory power of LnAssets. The results concerning restatement and ICW variables are virtually unchanged from that reported in Table 6A. Turning to Table 7 Panel B, we note a similar pattern: R-squared values are higher and the significance of restatement and ICW variables are unchanged when compared to results presented in Table 6 Panel B. Overall, Table 7 supports Table 6 in validating hypotheses 1 and 2.

(Insert Table 8 Here)

Our final table, Table 8, presents evidence on hypothesis 3. Although hypothesis 3 pertains to the departing versus continuing as well as the new versus continuing comparisons, because of space constraints we chose to focus on the new versus continuing comparisons. Panels A compares the "dismissals" sample of new firms with continuing firms and Panel B compares the "resignations"

sample of new firms with continuing firms. Significantly, we note that panel A contains 76 resignations and panel B contains 226 dismissals: the new clients of the Second Tier are more likely to have dismissed their auditors. According to hypothesis 3, restatement and ICW risks are more pronounced in the resignations rather than the dismissals sample. We do not find evidence consistent with this hypothesis. Both the dismissals and resignations samples show similar levels of significance for the restatement and ICW variables[13]. Both in panels A and B, we find that *ICW_404[-1]*, *RST_Exante[-1]* and *RST_Expost[-1]* are significant. Although we do not report it, our tests using departing firms produces the same conclusion.

6. Discussion and Conclusion

The Post-SOX era coincides with the rise of the Second Tier auditing firms. Since many of their new clients are larger firms from the Big 4, and since large firms are assumed to carry higher level of litigation risks with them, regulators have been concerned about client portfolio risks of the Second Tier. An earlier and influential study, Hogan and Martin (2009), evaluates the new and departing clients of the Second Tier against continuing clients and finds that (a) new clients, especially those from the Big 4 bring in additional risks mostly because of their larger size and (b) these risks are somewhat offset by the movement of other risky clients from the Second Tier to other auditors. But this earlier study, because of its sampling period, was unable to adequately assess the importance of restatement and ICW risks. Nor did this study take into account whether client switches resulted from resignations or dismissals. Our study fills this void. We explicitly formulate hypothesis relating the switching behavior of the Second Tier to these new risk factors and test the hypotheses using a sample that fully exploits the restatement and ICW disclosures in

[13] We confirm this finding by using a pooled regression using both dismissals and resignations and by interacting the independent variables with a dummy variable equaling one for resignations.

the post-SOX era. Our analysis also gives adequate consideration to whether switches result from dismissals or resignations.

We show that the new clients of the Second Tier have higher levels of restatements and ICW. This has two implications. First, this implies that the new clients acquired by the Second Tier are in some sense riskier than implied by an analysis of the traditional variables used in the literature. Second, we contribute to the large literature on auditor switching by demonstrating the importance of restatement and ICW risks; since most switching activity is downward in nature, our results have broad applicability. We also demonstrate a high correlation between various restatement and ICW measures and conjecture that these are indicators of a *perturbed* auditing environment which poses additional risks to the auditor. Thus, traditional variables like firm size, ROA, loss, accounts receivables and inventory may not fully explain auditing risk.

We also show that departing clients of the Second Tier are riskier than their continuing clients. Combined with the observation that the number of clients of the Second Tier has held steady in the post-SOX era this indicates a deliberate strategy on the part of the Second Tier to build their clientele and manage risks prudently. Our sample spans a number of years in the post-SOX era and therefore our results do not just indicate an immediate reaction to Andersen and SOX. Rather, our results seem indicative of a long-run equilibrium in the auditing market where the Second Tier is gaining market share in a steady and deliberate fashion. This conclusion is also supported by our results concerning resignations and dismissals. Not only do we find that most of the switches to the Second Tier are dismissals rather than resignations (that is, in most cases, the auditor is fired) we also find that the sensitivities of switches to restatement and ICW risks are no different between the resignation and dismissal samples. The previously held belief that the Big 4 are actively unloading risky clients to the Second Tier is not supported by our data.

REFERENCES

Abbott, L., S. Parker, and G. Peters. 2004. "Audit Committee Characteristics and Restatements." *Auditing: A Journal of Practice & Theory* 23 (1): 69-87.

Ashbaugh-Skaife, H., D. Collins, and W. Kinney. 2007. "The Discovery and Reporting of Internal Control Deficiencies Prior to SOX-Mandated Audits." *Journal of Accounting and Economics* 44 (1-2): 166-192.

Ashbaugh-Skaife, H., D. Collins, W. Kinney, and R. LaFond. 2008. "The Effect of SOX Internal Control Deficiencies and Their Remediation on Accrual Quality." *The Accounting Review* 83 (1): 217-250.

Ashbaugh-Skaife, H., D. Collins, W. Kinney, and R. LaFond. 2009. "The Effect of SOX Internal Control Deficiencies on Firm Risk and Cost of Capital" *Journal of Accounting Research* 47 (1): 1-43

Audit Analytics. 2009. *2008 Financial Restatements: An Eight Year Comparison*. Boston: Ives Group.

Boone, J., I. Khurana, and K. Raman. 2010. "Do the Big 4 and the Second-tier firms provide audits of similar quality?" *Journal of Accounting and Public Policy* 29 (4): 330-352.

Byrnes, N. 2005. "The Little Guys Doing Large Audits." Business Week, August 22, 2005.

Cassell, C., G. Giroux, L. Myers, and T. Omer. 2008. "The Emergence of Second Tier Auditors: Evidence from Investor Perceptions of Financial Reporting Credibility." Working paper, Texas A&M University.

Chin, C., and H. Chi, H. 2009. "Reducing Restatements with Increased Industry Expertise." *Contemporary Accounting Research* 26 (3): 729–765.

Desai, H., C. Hogan, and M. Wilkins. 2006. "The Reputational Penalty for Aggressive Accounting: Earnings Restatements and Management Turnover." *The Accounting Review* 81 (1): 83-112.

Dey, R. and A. Robin. 2010. "Second Tier Auditing Firms: Developments and Prospects." Working paper, Rochester Institute of Technology.

Doyle, J., W. Ge, and S. McVay. 2007. "Determinants of Weaknesses in Internal Control over Financial Reporting." *Journal of Accounting and Economics* 44 (1-2): 193-223.

Dunn, C. 2006. "When SOX 302, 404 Control Attestations Contradict." *Compliance Week*, May 9, 2006.

Elder, R., Y. Zhang, J. Zhou, and N. Zhou. 2009. "Internal Control Weaknesses and Client Risk Management," *Journal of Accounting, Auditing & Finance 24 (4): 543-579.*

GAO (Government Accountability Office). January 2008. *Audits of Public Companies: Continued Concentration in Audit Market for Large Public Companies Does Not Call for Immediate Action.* Report GAO-08-163, Washington, DC: GAO.

Hogan, C., and R. Martin. 2009. "Risk-shifts in the Market for Audits: An Examination of Changes in Risk for "Second Tier" Audit Firms." *Auditing: A Journal of Practice & Theory* 28 (2): 93-118.

Johnstone, K., and J. Bedard. 2004. "Audit Firm Portfolio Management Decision." *Journal of Accounting Research* 42 (4): 659-690

Kravet, T., and T. Shevlin. 2009. "Accounting Restatements and Information Risk." Review of Accounting Studies 15 (2): 264-294.

Krishnan, J. 2005. "Audit Committee Quality and Internal Control: An Empirical Analysis." *The Accounting Review* 80 (2): 649-675.

Krishnan, J., and J. Krishnan. 1997. "Litigation Risk and Auditor Resignations." *The Accounting Review* 72 (October): 539-560.

Landsman, W., K. Nelson, and B. Rountree. 2009. "Auditor Switches in the Pre- and Post-Enron Eras: Risk or Realignment?" *The Accounting Review* 84 (March): 531-558.

Leuz, C., C. Triantis, and T. Wang. 2008. "Why Do Firms Go Dark? Causes and Economic Consequences of Voluntary SEC Deregistrations." *Journal of Accounting and Economics* 45 (2-3): 181-208.

Linn, E., and K. Diehl. 2005. "Financial Restatements Causes, Consequences, and Corrections." *Strategic Finance* 87 (3): 34-39.

Palmrose, Z., V. Richardson, and S. Scholz. 2004. "Determinants of Market Reactions to Restatement Announcements." *Journal of Accounting and Economics* **37** (1): 59–89.

Plumlee, M., and T. Yohn. 2010. "An Analysis of Underlying Causes Attributed to Restatements." *Accounting Horizons* 24 (1): 41-64.

Reilly, D. 2006. "Mid-tier Auditors Gain Traction in Quest for Large-cap Clients." The Wall Street Journal*,* November 14, 2006.

Shu, S. Z. 2000. Auditor resignations: Clientele effects and legal liability. *Journal of Accounting and Economics* 29 (2): 173-205.

Srinivasan, S. 2005. “Consequences of financial reporting failure for outside directors: Evidence from accounting restatements and audit committee members.” *Journal of Accounting Research* 43 (2): 291–334.

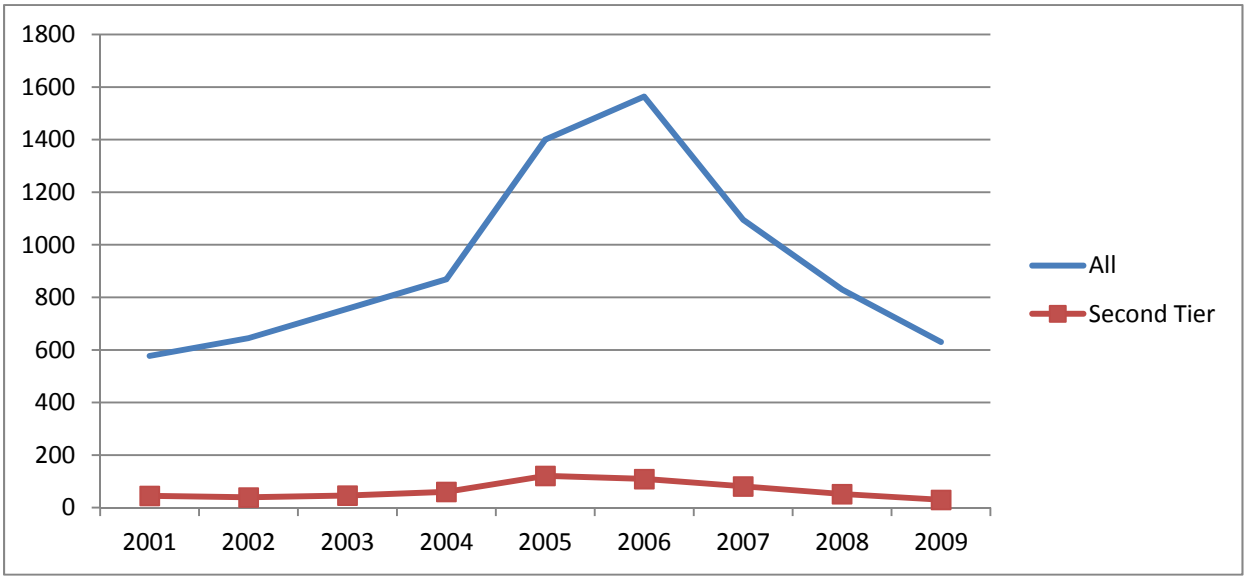
Tyranski, G. 2008. “Concentration and Competition in the Auditing Profession.” *The CPA Journal* 78 (10): 10-11.

Wallace, W. 2005. “Auditor Changes and Restatement.” *The CPA Journal* 75 (3): 30-33.

Zhang, Y., J. Zhou, and N. Zhou. 2007. “Audit Committee Quality, Auditor Independence, and Internal Control Weaknesses.” *Journal of Accounting and Public Policy* 26 (3): 300-327.

FIGURE 1

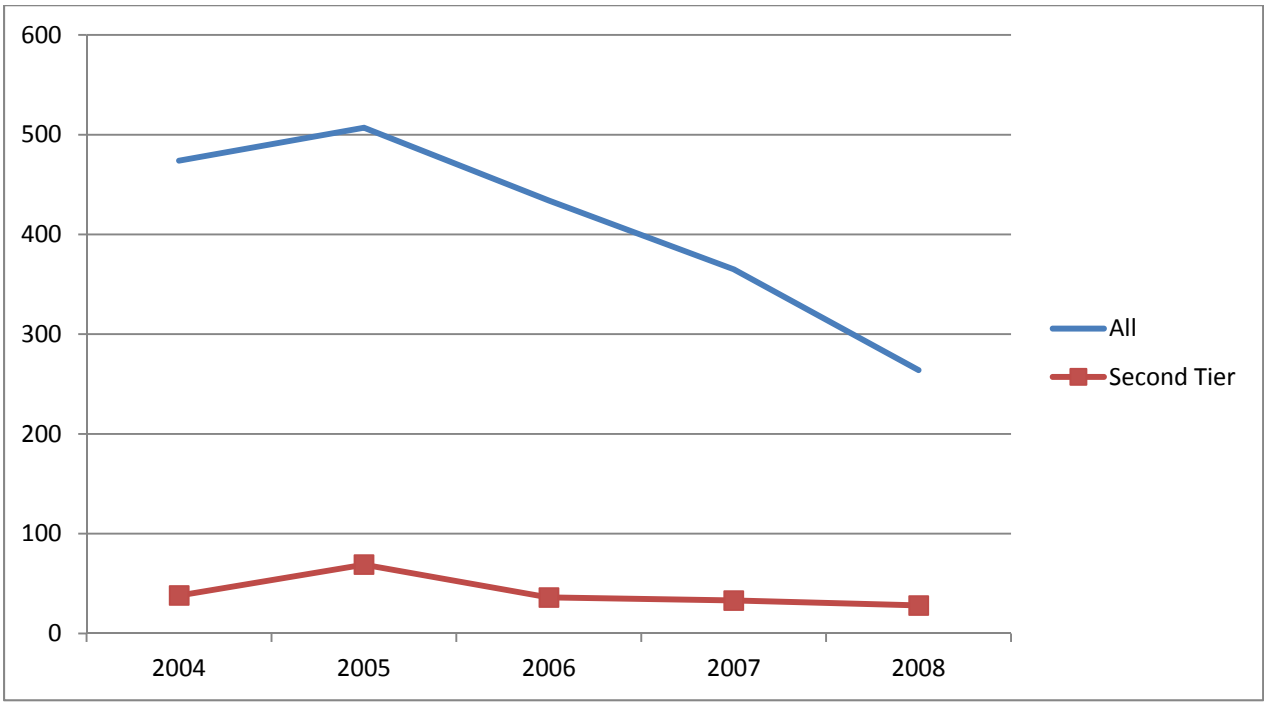
Number of Unique Firm Restatements by Year for All Clients versus Second Tier Clients



Note: This figure represents the number of unique firm restatements by year for all clients versus only second tier clients. Data source is Audit Analytics.

FIGURE 2

Number of Internal Control Weaknesses (Section 404) by Year for All Clients versus Second Tier Clients



Note: This figure represents the number of internal control weaknesses, specifically SOX Section 404, by year for all clients versus only second tier clients. Data source is Audit Analytics.

TABLE 1

New, Continuing, and Departing Clients for Second Tier Audit Firms

	2004	*2005*	*2006*	*2007*	*2008*	*Total*
New in Current Year		131	96	105	42	374
		21%	16%	17%	7%	15%
Continuing from Prior Year		497	514	506	519	2036
		79%	84%	83%	93%	85%
Total during Current Year	607	628	610	611	561	2,456/2,410
	100%	100%	100%	100%		100%
Departing before Next Year	110	114	104	92		420
	18%	18%	17%	15%		17%
Continuing to Next Year	497	514	506	519		2,036
	82%	82%	83%	85%		83%

Note: New, continuing, and departing clients are determined using Compustat and Audit Analytics data, as described in the text, and include only publicly traded client firms. New clients are defined as firms previously audited by a non-Second Tier auditor and audited during the current year by a Second Tier auditor. Continuing clients are defined as those continuing with a Second Tier auditor from the prior year. Departing clients are defined as those departing before the next fiscal year-end to a non-Second Tier auditor. Second Tier audit firms include BDO Seidman; Crowe, Chizek and Company; Grant Thornton; and McGladrey & Pullen.

TABLE 2

Further Analysis of New and Departing Clients

***Panel A**: Sources of new clients*

	2005		*2006*		*2007*		*2008*		*Total*	
	Count	*%*	*Count*	*%*	*Count*	*%*	*Count*	*%*	*Count*	*%*
Big 4	106	81%	56	58%	53	50%	28	67%	243	65%
Small Firms	14	11%	16	17%	38	36%	14	33%	82	22%
Unknown	11	8%	24	25%	14	13%	0	0%	49	13%
Total	131	100%	96	100%	105	100%	42	100%	374	100%

***Panel B**: Destinations of departing clients*

	2004		*2005*		*2006*		*2007*		*Total*	
	Count	*%*	*Count*	*%*	*Count*	*%*	*Count*	*%*	*Count*	*%*
Big 4	7	6%	7	6%	16	15%	10	11%	40	10%
Small Firms	47	43%	44	39%	46	44%	23	25%	160	38%
Bankruptcy	1	1%	0	0%	5	5%	3	3%	9	2%
M&A	11	10%	10	9%	6	6%	4	4%	31	7%
Deregistered	40	36%	37	32%	27	26%	48	52%	152	36%
Unknown	4	4%	16	14%	4	4%	4	4%	28	7%
Total	110	100%	114	100%	104	100%	92	100%	420	100%

Note: This table categorizes new and departing clients. For a description of the sample, see Table 1.

TABLE 3

New versus Continuing Clients

	Continuing Clients	*New from Big 4 and Small Firms*	*New from Big 4*
Variables	*Mean (Median)*	*Mean (Median)*	*Mean (Median)*
Assets	308.74	250.91	290.92
	(86.08)	(117.35)***	(140.24)***
Leverage	0.67	0.53	0.51
	(0.44)	(0.45)	(0.45)
ROA	-0.17	-0.11	-0.07
	(0.01)	(0.00)	(0.01)
Loss	0.46	0.49	0.44
	(0.00)	(0.00)	(0.00)
ARInv	0.30	0.27**	0.28
	(0.27)	(0.22)**	(0.22)
ΔSales	32.60	23.50	13.15
	(8.31)	(10.09)	(8.02)
ICW_302[0]	0.29	0.41***	0.41***
	(0.00)	(0.00)***	(0.00)***
ICW_302[-1]	0.30	0.32	0.33
	(0.00)	(0.00)	(0.00)
ICW_302[-1, 0]	0.59	0.72***	0.74***
	(0.00)	(0.00)***	(0.00)***
ICW_404[0]	0.06	0.13***	0.14***
	(0.00)	(0.00)***	(0.00)***
ICW_404[-1]	0.07	0.18***	0.20***
	(0.00)	(0.00)***	(0.00)***
ICW_404[-1, 0]	0.13	0.31***	0.34***
	(0.00)	(0.00)***	(0.00)***
RST_Exante[0]	0.08	0.10*	0.09
	(0.00)	(0.00)*	(0.00)
RST_Exante[-1]	0.11	0.19***	0.18***
	(0.00)	(0.00)***	(0.00)***
RST_Exante[-1, 0]	0.19	0.30***	0.28***
	(0.00)	(0.00)***	(0.00)***
RST_Expost[0]	0.09	0.14***	0.13**
	(0.00)	(0.00)***	(0.00)**
RST_Expost[-1]	0.13	0.19***	0.19***
	(0.00)	(0.00)***	(0.00)***
RST_Expost[-1, 0]	0.21	0.33***	0.32***
	(0.00)	(0.00)***	(0.00)***
N	*2036*	*325*	*243*

*, **, and *** denote two-tailed significance at the 10, 5, and 1 percent levels, respectively.
Note: We use the two-sample t-test to test the differences in mean and the Wilcoxon rank sum test to test the differences in median. Variables are defined as follows:

Assets: total assets in millions (Data6)
Leverage: ratio of total liabilities to total assets (Data181/Data6)
ROA: return on assets (Data18/Data6)
Loss: binary variable, equals 1 if ROA < 0, and 0 otherwise
OCF: cash flows from operating activities scaled by total assets (Data308/Data6)
ARInv: ratio of accounts receivable and inventory to total assets (Data2 + Data3)/(Data6)
ΔSales: percentage change in sales from prior year
ICW_302[period]: if a weakness pursuant to SOX Section 302 is disclosed for the period.
ICW_404[period]: if a weakness pursuant to SOX Section 404 is disclosed for the period.
RST_Exante[period]: if earnings for the period is eventually restated
RST_Expost[period]: if there is a restatement during the period

TABLE 4
Departing versus Continuing Clients

	Continuing Clients	*Depart to Big 4 and Small Firms*	*Depart to Small Firms*
Variables	*Mean (Median)*	*Mean (Median)*	*Mean (Median)*
Assets	263.57	133.11***	34.52***
	(78.48)	(19.67)***	(15.38)***
Leverage	0.61	3.05***	3.69***
	(0.42)	(0.53)***	(0.64)***
ROA	-0.15	-1.17***	-1.43***
	(0.01)	(-0.11)***	(-0.16)***
Loss	0.45	0.66***	0.68***
	(0.00)	(1.00)***	(1.00)***
ARInv	0.30	0.29	0.31
	(0.27)	(0.28)	(0.29)
ΔSales	35.74	408.76***	504.00***
	(9.90)	(5.58)**	(2.91)***
ICW_302[0]	0.30	0.36*	0.36*
	(0.00)	(0.00)*	(0.00)*
ICW_302[-1]	0.22	0.32***	0.32***
	(0.00)	(0.00)***	(0.00)***
ICW_302[-1, 0]	0.52	0.68***	0.68***
	(0.00)	(0.00)**	(0.00)**
ICW_404[0]	0.08	0.06	0.04
	(0.00)	(0.00)	(0.00)
ICW_404[-1]	0.07	0.05	0.03**
	(0.00)	(0.00)	(0.00)**
ICW_404[-1, 0]	0.15	0.11	0.07**
	(0.00)	(0.00)	(0.00)***
RST_Exante[0]	0.11	0.09	0.09
	(0.00)	(0.00)	(0.00)
RST_Exante[-1]	0.12	0.19***	0.19***
	(0.00)	(0.00)***	(0.00)***
RST_Exante[-1, 0]	0.23	0.27	0.29
	(0.00)	(0.00)	(0.00)
RST_Expost[0]	0.13	0.12	0.13
	(0.00)	(0.00)	(0.00)
RST_Expost[-1]	0.12	0.17*	0.17*
	(0.00)	(0.00)*	(0.00)*
RST_Expost[-1, 0]	0.25	0.29	0.29
	(0.00)	(0.00)	(0.00)
N	*2036*	*200*	*160*

*, **, and *** denote two-tailed significance at the 10, 5, and 1 percent levels, respectively.
Note: We use the two-sample t-test to test the differences in mean and the Wilcoxon rank sum test to test the differences in median. For variable definitions see Table 3.

TABLE 5

Pearson Correlation for Internal Control and Restatement Variables

	A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*
A. ICW_302[0]	1.00	**0.48**	**0.87**	**0.36**	**0.33**	**0.43**	**0.19**	**0.27**	**0.32**	**0.24**	**0.26**	**0.33**
B. ICW_302[-1]		1.00	**0.85**	**0.17**	**0.39**	**0.36**	**0.02**	**0.19**	**0.15**	**0.04**	**0.28**	**0.22**
C. ICW_302[-1, 0]			1.00	**0.31**	**0.42**	**0.46**	**0.12**	**0.27**	**0.27**	**0.17**	**0.31**	**0.32**
D. ICW_404[0]				1.00	**0.27**	**0.79**	**0.21**	**0.16**	**0.25**	**0.22**	**0.15**	**0.24**
E ICW_404[-1]					1.00	**0.80**	0.02	**0.19**	**0.15**	**0.06**	**0.21**	**0.18**
F. ICW_404[-1, 0]						1.00	**0.14**	**0.22**	**0.25**	**0.17**	**0.22**	**0.27**
G. RST_Exante[0]							1.00	**0.08**	**0.71**	**0.64**	**0.07**	**0.47**
H. RST_Exante[-1]								1.00	**0.77**	**0.41**	**0.62**	**0.69**
I. RST_Exante[-1, 0]									1.00	**0.70**	**0.48**	**0.79**
J. RST_Expost[0]										1.00	**0.11**	**0.73**
K. RST_Expost[-1]											1.00	**0.76**
L. RST_Expost[-1, 0]												1.00

Note: Significant values (that is, $p < 0.05$) are in bold. For variable definitions see Table 3.

TABLE 6

Logistic Regressions of New and Departing Clients Compared to Continuing Clients

***Panel A**: New clients from the Big 4 and Small Firms versus Continuing Clients*

Variable	*Model 6A1*	*Model 6A2*	*Model 6A3*	*Model 6A4*	*Model 6A5*
Intercept	-2.15***	-2.16***	-2.06***	-2.23***	-2.19***
	(66.93)	(67.07)	(59.33)	(69.87)	(68.28)
LnAssets	0.09**	0.08*	0.04	0.09**	0.08*
	(4.15)	(3.72)	(0.98)	(4.04)	(3.61)
Leverage	-0.09	-0.09	-0.07	-0.12	-0.11
	(0.83)	(0.82)	(0.51)	(1.17)	(1.06)
ROA	-0.01	-0.01	0.01	-0.02	-0.01
	(0.01)	(0.00)	(0.01)	(0.04)	(0.01)
Loss	0.14	0.11	0.05	0.11	0.11
	(0.97)	(0.68)	(0.12)	(0.58)	(0.62)
ARInv	-0.42	-0.44	-0.42	-0.43	-0.42
	(1.86)	(2.01)	(1.82)	(1.95)	(1.88)
ΔSales	0.00	0.00	0.00	0.00	0.00
	(0.11)	(0.12)	(0.09)	(0.10)	(0.10)
ICW_302[-1]		0.12			
		(0.81)			
ICW_404[-1]			1.04***		
			(36.34)		
Rst_Exante[-1]				0.68***	
				(17.75)	
Rst_Expost[-1]					0.51***
					(10.17)
Pseudo-R^2	0.008	0.009	0.034	0.021	0.016
N (total)	2275	2275	2275	2275	2275
N (from Big 4 & Small)	302	302	302	302	302
N (Continuing)	1973	1973	1973	1973	1973

***Panel B**: Departing clients to the Big 4 and Small Firms versus Continuing Clients*

Variable	*Model 6B1*	*Model 6B2*	*Model 6B3*	*Model 6B4*	*Model 6B5*
Intercept	-0.97***	-0.90***	-0.95***	-0.97***	-0.96***
	(10.39)	(8.97)***	(9.92)	(10.44)	(10.13)
LnAssets	-0.43***	-0.48	-0.44***	-0.44***	-0.45***
	(59.75)	(68.15)	(57.85)	(61.26)	(62.42)
Leverage	0.05	0.04	0.05	0.05	0.04
	(1.04)	(0.72)	(1.02)	(0.73)	(0.70)
ROA	0.11	0.12	0.11	0.10	0.11
	(2.50)	(2.68)	(2.51)	(1.86)	(2.49)
Loss	0.44**	0.35*	0.44**	0.40**	0.41**
	(6.18)	(3.80)	(5.90)	(4.92)	(5.35)
ARInv	-0.04	-0.17	-0.04	-0.08	-0.06

	(0.01)	(0.21)	(0.01)	(0.05)	(0.03)
ΔSales	0.00	0.00	0.00	0.00	0.00
	(2.06)	(2.49)	(2.06)	(1.65)	(2.09)
ICW_302[-1]		0.71***			
		(16.13)			
ICW_404[-1]			0.15		
			(0.17)		
Rst_Exante[-1]				0.59***	
				(8.07)	
Rst_Expost[-1]					0.54**
					(6.29)
Pseudo-R^2	0.116	0.130	0.116	0.123	0.121
N (total)	2154	2154	2154	2154	2154
N (to Big 4 & Small)	189	189	189	189	189
N (Continuing)	1965	1965	1965	1965	1965

*, **, and *** denote two-tailed significance at the 10, 5, and 1 percent levels, respectively.
Note: This table presents results from logit regression. The dependent variable equals one if the client is a new (Panel A) or departing (Panel B) client of the Second Tier and zero otherwise. The chi-square statistics are reported in parentheses. For variable definitions see Table 3.

TABLE 7

Logistic Regression Analyses of New Clients from Big 4 and Departing Clients to Small Firms

***Panel A**: New clients from the Big 4 versus Continuing Clients*

Variable	*Model 7A1*	*Model 7A2*	*Model 7A3*	*Model 7A4*	*Model 7A5*
Intercept	-2.72***	-2.73***	-2.64***	-2.77***	-2.75***
	(80.11)	(80.27)	(72.64)	(81.80)	(81.19)
LnAssets	0.18***	0.17***	0.13***	0.17***	0.17***
	(12.94)	(12.09)	(6.87)	(12.65)	(12.13)
Leverage	-0.23	-0.23	-0.15	-0.27	-0.26
	(1.63)	(1.61)	(0.78)	(2.06)	(1.97)
ROA	0.15	0.16	0.19	0.15	0.15
	(0.36)	(0.42)	(0.79)	(0.40)	(0.38)
Loss	0.12	0.10	0.02	0.10	0.10
	(0.56)	(0.33)	(0.02)	(0.39)	(0.37)
ARInv	-0.37	-0.39	-0.39	-0.38	-0.37
	(1.14)	(1.27)	(1.21)	(1.21)	(1.11)
ΔSales	0.00*	0.00*	0.00*	0.00*	0.00*
	(2.99)	(2.98)	(2.93)	(3.18)	(2.91)
ICW_302[-1]		0.16			
		(1.14)			
ICW_404[-1]			1.06***		
			(31.71)		
Rst_Exante[-1]				0.63***	
				(11.81)	
Rst_Expost[-1]					0.52***
					(8.44)
Pseudo-R^2	0.024	0.025	0.049	0.034	0.031
N (total)	2208	2208	2208	2208	2208
N (from Big 4)	235	235	235	235	235
N (Continuing)	1973	1973	1973	1973	1973

***Panel B**: Departing clients to the Small Firms versus Continuing Clients*

Variable	*Model 7B1*	*Model 7B2*	*Model 7B3*	*Model 7B4*	*Model 7B5*
Intercept	-0.48	-0.41	-0.50	-0.48	-0.47
	(2.08)	(1.54)	(2.23)	(2.02)	(2.04)
LnAssets	-0.65***	-0.70***	-0.65***	-0.67***	-0.67***
	(92.90)	(103.36)	(86.97)	(95.35)	(97.48)
Leverage	0.03	0.03	0.03	0.03	0.03
	(0.54)	(1.03)	(0.52)	(0.64)	(1.02)
ROA	0.15*	0.16*	0.14*	0.14	0.15*
	(3.16)	(3.53)	(3.13)	(2.53)	(3.38)
Loss	0.33	0.23	0.34*	0.27	0.29
	(2.56)	(1.23)	(2.70)	(1.72)	(2.05)

ARInv	0.19	0.02	0.19	0.12	0.15
	(0.23)	(0.00)	(0.22)	(0.09)	(0.14)
ΔSales	0.00	0.00	0.00	0.00	0.00
	(1.97)	(2.47)	(1.97)	(1.58)	(2.01)
ICW_302[-1]		0.81***			
		(16.35)			
ICW_404[-1]			-0.28		
			(0.28)		
Rst_Exante[-1]				0.74***	
				(9.91)	
Rst_Expost[-1]					0.66***
					(7.53)
Pseudo-R^2	0.181	0.198	0.182	0.191	0.189
N (total)	2117	2146	2146	2146	2146
N (to Small Firms)	152	159	159	159	159
N (Continuing)	1965	1987	1987	1987	1987

*, **, and *** denote two-tailed significance at the 10, 5, and 1 percent levels, respectively.
Note: This table presents results from logit regression. The dependent variable equals one if the client is a new (Panel A) or departing (Panel B) client of the Second Tier and zero otherwise. The chi-square statistics are reported in parentheses. For variable definitions see Table 3.

TABLE 8

Resignations and Dismissals

***Panel A**: New clients whose auditors resigned versus Continuing Clients*

Variable	*Model 8A1*	*Model 8A2*	*Model 8A3*	*Model 8A4*	*Model 8A5*
Intercept	-2.58***	-2.58***	-2.38***	-2.66***	-2.62***
	(29.03)	(29.00)	(24.03)	(30.07)	(29.41)
LnAssets	-0.08	-0.09	-0.16*	-0.09	-0.09
	(1.03)	(1.32)	(3.46)	(1.19)	(1.34)
Leverage	-0.22	-0.22	-0.17	-0.27	-0.25
	(0.89)	(0.89)	(0.70)	(1.20)	(1.05)
ROA	-0.03	-0.02	-0.01	-0.05	-0.03
	(0.02)	(0.01)	(0.00)	(0.06)	(0.02)
Loss	0.19	0.14	0.06	0.14	0.15
	(0.51)	(0.29)	(0.05)	(0.30)	(0.30)
ARInv	-1.06*	-1.13*	-1.09*	-1.11*	-1.08*
	(3.03)	(3.35)	(3.16)	(3.30)	(3.13)
ΔSales	0.00	0.00	0.00	0.00	0.00
	(0.01)	(0.02)	(0.00)	(0.01)	(0.01)
ICW_302[-1]		0.28			
		(1.24)			
ICW_404[-1]			1.37***		
			(20.24)		
Rst_Exante[-1]				1.00***	
				(12.97)	
Rst_Expost[-1]					0.79***
					(7.94)
Pseudo-R^2	0.013	0.015	0.043	0.033	0.026
N (total)	2049	2049	2049	2049	2049
N (from Big 4 & Small resigning auditors)	76	76	76	76	76
N (Continuing)	1973	1973	1973	1973	1973

***Panel B**: New clients who dismissed their auditors versus Continuing Clients*

Variable	*Model 8B1*	*Model 8B2*	*Model 8B3*	*Model 8B4*	*Model 8B5*
Intercept	-2.78***	-2.78***	-2.71***	-2.84***	-2.81***
	(83.48)	(83.57)	(76.91)	(85.60)	(84.60)
LnAssets	0.14***	0.14***	0.11**	0.14***	0.14***
	(8.95)	(8.60)	(4.84)	(8.91)	(8.48)
Leverage	-0.05	-0.05	-0.03	-0.06	-0.06
	(0.21)	(0.21)	(0.07)	(0.33)	(0.31)
ROA	0.02	0.02	0.04	0.01	0.02
	(0.02)	(0.03)	(0.08)	(0.01)	(0.02)
Loss	0.12	0.10	0.04	0.09	0.09

	(0.55)	(0.41)	(0.05)	(0.32)	(0.35)
ARInv	-0.21	-0.22	-0.22	-0.22	-0.21
	(0.37)	(0.41)	(0.39)	(0.40)	(0.36)
ΔSales	0.00	0.00	0.00	0.00	0.00
	(0.17)	(0.17)	(0.12)	(0.20)	(0.15)
ICW_302[-1]		0.08			
		(0.28)			
ICW_404[-1]			0.95***		
			(23.44)		
Rst_Exante[-1]				0.57***	
				(9.24)	
Rst_Expost[-1]					0.42**
					(5.02)
Pseudo-R^2	0.011	0.015	0.031	0.019	0.016
N (total)	2199	2199	2199	2199	2199
N (from Big 4 & Small dismissing auditors)	226	226	226	226	226
N (Continuing)	1973	1973	1973	1973	1973

*, **, and *** denote two-tailed significance at the 10, 5, and 1 percent levels, respectively.
Note: This table presents results from logit regression. The dependent variable equals one if the client is a new client of the Second Tier and zero otherwise: Panel A only includes new clients whose previous auditor resigned and Panel B only includes new clients who dismissed their previous auditor. The chi-square statistics are reported in parentheses. For variable definitions see Table 3.