

**An Analysis of Forced Auditor Rotation:
The Case of Former Arthur Andersen Clients**

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This Draft: October 2005

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We would like to thank Jagan Krishnan, Karen Nelson, Kevin Raedy, Stefanie Tate, two anonymous referees, Terry Shevlin (previous editor) and workshop participants at Drexel University and the University of Massachusetts at Lowell for constructive criticisms and suggestions.

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Abstract: This study provides evidence on the factors involved in the selection of a new auditor after the collapse of Arthur Andersen. Using a unique dataset identifying whether or not former Andersen clients followed their audit team to a new auditor, findings reveal companies with greater agency concerns were more likely to sever ties with their former auditor indicating the desire/need for an entirely new independent auditor. On the other hand, companies with greater switching costs exhibit higher probabilities of following their former auditor to a new firm. The results confirm the existence of switching costs and agency benefits that define the debate on mandatory auditor rotation and help to illustrate which types of firms are more likely to benefit under such a regime. However, a pre versus post analysis of financial reporting behavior of sample firms fails to reveal significant improvements for firms with the greatest potential for agency benefits (the non-follow firms) from a forced rotation, which is not consistent with arguments made by proponents of mandatory rotation.

Keywords: mandatory auditor rotation, audit quality, earnings quality, Arthur Andersen

Data Availability: Data are available from public sources

I. INTRODUCTION

In this paper we take advantage of the unique setting created by the collapse of Arthur Andersen (AA) to examine the costs firms face in the selection of a new auditor. While auditing is widely believed to be a means of reducing agency costs, the tradeoff among agency and other costs in selecting an auditor is not well understood. We study firm attributes to better understand the complex process of selecting a new auditor whereby firms face the challenge of balancing switching costs (e.g., costs incurred by the client in a new audit engagement including increased risk of audit failure) and agency costs (forgone agency benefits stemming from greater auditor independence).¹ This tension between agency benefits and switching costs is at the heart of the debate on mandatory auditor rotation, which has resurfaced because of the recent business scandals (e.g., Enron, WorldCom) (GAO 2003). Proponents have argued that mandatory rotation will lead to an increase in auditor independence yielding better quality audits, financial statements and, therefore, net agency benefits (Anson 2003; Clapman 2003; Imhoff 2003; Silvers 2003); whereas opponents have argued that the costs of switching auditors are far greater than the agency benefits (AICPA 1972; Copeland 2002; Melancon 2002). By examining the tradeoffs involved in the selection of a new auditor after the collapse of AA, we provide insight regarding the costs firms bear in the audit selection process and contribute to the mandatory rotation debate given the forced nature of the auditor changes examined.

Typically, a change in auditor involves two actions: dismissal/resignation of the current audit firm and the selection of a new auditor. Prior auditor change research has been unable to examine the two actions separately and therefore has focused on the joint decision (see Nichols

¹ Prior research on auditor changes suggests there may be a third cost considered in selection of a new auditor - implicit insurance. We do not model this cost, rather we hold it constant by only examining switches to the remaining Big4 auditors which are likely to provide equivalent implicit insurance.

and Smith 1983; Francis and Wilson 1988; Shu 2002 and Landsman et al. 2005).² AA's collapse forced its clients to select a new auditor, providing a setting where a large number of firms switched auditors for the same reason (an exogenous shock) during the same time period. Therefore, our sample of former AA clients is homogeneous in the requirement to obtain new auditors, enabling us to create more direct tests of the costs involved in the selection of a new auditor than has been possible in past studies that utilize auditor dismissals and/or resignations.

Although the decision to change auditors was mandated for former AA clients, companies had the opportunity to follow their former audit team to a new auditor. We capitalize on this setting by noting that firms electing to follow AA were likely trying to minimize the costs associated with changing auditors, whereas companies that severed ties with AA did so presumably because the agency benefits obtained through a new independent auditor outweighed the switching costs. We characterize the follow decision based on the prospective employment of the AA audit team. For example, in Casella Waste Systems' Form 8-K filing on June 13, 2002, the firm reports:

As recommended by the audit committee, the Board of Directors on May 20, 2002, decided to no longer engage its independent accountants, Arthur Andersen LLP, and engaged KPMG LLP ("KPMG") to serve as the Company's independent accountants for the fiscal year ending April 30, 2003 and to audit the Company's financial statements for the fiscal year ended April 30, 2002. The Audit Committee's recommendation to engage KPMG was based on the assumption that certain individuals from Arthur Andersen's Boston, Mass. office, including the team auditing the Company, would join KPMG. That event did not occur. As a result, the Audit Committee subsequently reconsidered its recommendation and, as recommended by the Audit Committee, the Board of Directors on June 13, 2002 decided to no longer engage KPMG, and engaged PricewaterhouseCoopers LLP ("PWC") to serve as the Company's independent accountant for the fiscal year ending April 30, 2003 and to audit the Company's financial statement for the fiscal year ended April 30, 2002.

As it turned out, AA's Boston office actually became part of PWC rather than KPMG. We argue that firms like Casella Waste Systems did not switch audit teams, but instead simply transferred

² Schwartz and Menon (1985) is a notable exception that examines factors associated with 35 firms that changed auditors because of bankruptcy related issues.

their existing audit relationship to a new firm. Since other firms clearly severed ties with their former AA audit team, we have identified an interesting quasi-experimental setting to study the cost/benefit relationship underlying the selection of a new auditor under a forced rotation regime.

We develop a logistic model to examine the tradeoff between switching and agency costs involved in a client's decision to follow their former AA audit team to a new audit firm (follow firms) or to choose an entirely new audit firm (non-follow firms). Further, we investigate whether financial reporting improves in this forced rotation regime by documenting performance adjusted discretionary accrual behavior surrounding AA's collapse for our follow and non-follow firms. We expect non-follow firms with extreme accruals to exhibit the greatest degree of reversion if mandatory rotation is effective in improving financial reporting since these firms most closely resemble a more typical mandatory rotation.

For our sample of 407 former AA clients, we find that firms with agency issues were more likely to sever ties with AA. Our results are consistent with more complex firms (e.g., firms with less transparent earnings and greater geographic diversity) mitigating the greater monitoring costs faced by outside shareholders through auditor selection, which in turn helped to minimize their agency costs. In addition, we find firms with outside blockholders were also more likely to sever ties with AA, consistent with a desire by outside stakeholders to ensure an independent audit. However, we find little evidence that governance mechanisms had an impact on the firm's auditor selection. Although the presence of a financial expert on the audit committee marginally influences managements' choices of auditors (more likely to follow AA), other board characteristics are unassociated with firms' auditor selections.

On the other side of the tradeoff, we find firms with greater switching costs were more likely to follow their former AA audit team to the new auditor. Specifically, firms with more

aggressive accrual behavior on average followed their AA team. This is consistent with firms attempting to limit the costs of switching by maintaining a relationship with the auditor that originally opined on their (relatively) more aggressive behavior. In addition, firms in an industry/state dominated by AA were more likely to follow their AA team suggesting these firms minimized switching costs by following the industry expert. Other measures of switching costs including the length of time AA had been the auditor and size were not significant in the decision to follow the AA team.

Finally, we use the setting of AA's collapse to provide fresh insights into the affect of a forced change in auditor on the quality of financial reporting. We find that the most conservative accrual firms in the final year audited by AA continue to have lower performance matched discretionary accruals on average in the following year regardless of the follow decision suggesting the forced rotation did not improve the reporting for these firms. In addition, we find that the most aggressive non-follow firms, as determined in the final year audited by AA, continue to exhibit higher discretionary accruals on average in the first year with their new auditor. In contrast, the most aggressive follow firms exhibit reversion in the next year. Overall, the findings indicate reporting quality was not greatly enhanced under this particular mandatory rotation regime.

Our results need to be interpreted with caution since this is not the typical mandatory rotation regime debated in the literature and rule making bodies. As we discuss more fully below, former AA clients were forced to select a new auditor, but the term of the new auditor is not limited as would be the case in a more typical mandatory auditor regime. Further, firms would not have the option of following their audit team to a new auditor, unlike the current setting.

The rest of the paper is organized as follows. Section II develops our hypotheses. We present and discuss our research design in section III. Section IV summarizes our sample selection and results. Section V provides caveats and robustness checks. Section VI concludes.

II. HYPOTHESIS DEVELOPMENT

Switching verses Agency Costs

While auditing is widely believed to be a means of reducing agency costs, there is no broad theory on how firms choose a new auditor or weigh the cost tradeoffs in switching auditors. This is highlighted in the on-going debate concerning mandatory audit firm rotation, with proponents arguing that the agency benefits of such a regime are worth the costs, whereas opponents argue the opposite. For instance, the GAO's November 2003 report on mandatory auditor rotation states that the majority of Tier 1 public accounting firms and Fortune 1000 public companies "believe that the costs of mandatory audit firm rotation are likely to exceed the benefits."³ Costs identified by the GAO include the risk of audit failure in the early years of an audit engagement, audit firm competition issues, increased initial year audit costs, auditor selection costs and support costs. The report goes on to explain that the "benefits of mandatory audit firm rotation are harder to predict and quantify ..." (GAO 2003, 8), but generally include greater auditor independence, which in turn leads to improved financial reporting quality and transparency.

Normally a change in auditors involves two actions, the dismissal/resignation of the current auditor and the selection of a new auditor. While many papers investigate firm characteristics and auditor switches (e.g. Nichols and Smith 1983; Francis and Wilson 1988; Johnson and Lys 1990; and Krishnan and Krishnan 1997; Shu 2000; Hackenbrack and Hogan

³ The GAO defines Tier 1 public accounting firms as firms with 10 or more public company clients that were members of the AICPA's self-regulatory program for audit quality.

2002; Sankaraguruswamy and Whisenant 2003), they generally have been unable to untangle the two actions. Results in these studies are likely confounded by the initial decision to dismiss the auditor (e.g. opinion shopping and financial reporting disagreements, fees, risk, etc.) and are therefore an investigation of all costs involved in the joint decision of hiring and firing.

In contrast, the unexpected and rapid collapse of Arthur Andersen provides the opportunity to examine a group of firms that switched auditors for the same reason: their former audit firm was forced to stop practicing. We use this forced rotation to examine the second action, a firm's selection of a new auditor. Specifically, we examine which costs explain a client's decision to follow their former AA audit team or to choose an entirely new audit firm. Given the decision to change auditors has been made already (forced), prior research on auditor change and the debate on mandatory auditor rotation suggest three potential costs involved in the selection of a new auditor - switching, agency, and implicit insurance. We hold the latter constant by only examining switches to the remaining Big4 auditors, allowing us to focus on switching and agency costs.⁴

Switching Costs

We define switching costs as the start-up costs incurred by the client for a new audit engagement. These include the (1) costs incurred by the client in educating the auditor about the company's operations, systems, financial reporting practices, and accounting issues, (2) costs incurred by a client in selecting a new auditor (GAO 2003), and (3) an increased risk of audit failure in early years of an audit engagement (AICPA 1978; Palmrose 1986, 1991; Geiger and Raghunandan 2002; and Myers et al. 2003).

⁴ This assumes that the relative implicit insurance provided by the remaining Big4 auditors is in fact reasonably equal. This is consistent with prior literature that examined implicit insurance (i.e. Menon and Williams 1994), which utilizes a BigN/non-BigN designation to test for differences in insurance values.

All else equal, value maximizing behavior suggests that firms will seek to minimize switching costs. We hypothesize that companies may try to minimize the cost of switching auditors by following their AA audit team who already possess client and industry specific knowledge:

H₁: The greater the switching costs, the more likely a former AA client will follow its AA audit team to a new auditor, *ceteris paribus*.

The maintained assumption throughout our analysis is that, *ceteris paribus*, following AA has lower switching costs than not following. Educating the audit team about the operations of the business is a time consuming and costly activity (GAO 2003). Following AA would almost certainly reduce these costs even if the prior audit team is not maintained because, at a minimum, the prior engagement personnel would be available for consultation. Consistent with this notion, the GAO found that Tier 1 public accounting firms “generally saw more potential value in having access to the previous audit team and its audit documentation than in performing additional audit procedures and verification of the public company’s data during the initial years of the auditor’s tenure” (GAO 2003). Furthermore, anecdotal evidence obtained through discussions with Big4 audit partners and personnel indicates that former AA audit teams were largely kept intact when a firm chose to follow AA.

Agency Costs

Consistent with Jensen and Meckling (1976), we define agency costs as monitoring expenditures by the principal, bonding expenditures by the agent, and loss in welfare experienced by the principal due to the agent not acting in the principal’s best interest. Auditing is widely believed to be a means of reducing agency costs through the monitoring of the agent by an independent third party auditor (Jensen and Meckling 1976; Watts and Zimmerman 1983,

among others). Further, the greater the agency costs the greater is the demand for high quality audits (DeAngelo 1981; Dopuch and Simunic 1982).⁵

The decision to change auditors is frequently cast in terms of mitigating agency costs or improving audit quality (Nichols and Smith 1983; Francis and Wilson 1988; Johnson and Lys 1990; DeFond 1992). In our setting, it may be that agency conflicts at the firm are unchanged, while the perceived quality of the AA audit has suddenly declined. The results in Chaney and Philipich (2002), Krishnamurthy et al. (2003) and Asthana et al. (2004), which document negative market reactions for Andersen clients after negative news concerning their auditor, suggest that investors may have perceived audit quality issues to be systematic at AA. Further, duration analyses examining cross sectional differences in former AA clients support the notion that firms were concerned about the perceived quality of AA's audits by illustrating that clients with greater agency conflicts dismissed AA sooner (Chang et al. 2003; Barton 2005). If firm management perceived audit quality issues and/or is concerned with investors' perceptions of audit quality, then we hypothesize that:

H₂: The greater the agency conflicts, the more likely a former AA client will not follow its AA audit team to a new auditor, *ceteris paribus*.

Financial Statement Quality

Related to the debate on agency versus switching costs, is the concern about financial reporting quality. Proponents of mandatory auditor rotation argue that changing auditors (limiting tenure) would reduce concerns about auditor independence thereby increasing audit quality, financial reporting quality and, hence, agency benefits. Opponents argue given audit failures are more likely to occur in the early part of an auditor's tenure, it is not clear that

⁵ Consistent with DeAngelo (1981) and DeFond (1992), we define audit quality as the probability that an audit firm will detect and report "material breaches in the accounting system."

increased independence will lead to improved financial reporting. With this benefit called into question, opponents conclude it is unlikely the agency benefits will outweigh the switching costs. These arguments, however, are often based on results from voluntary auditor changes (i.e. dismissals or resignations), which clouds the issue with alternative incentives (e.g., opinion shopping) outside the scope of agency versus switching costs considerations. In the current context, many of these alternative incentives are eliminated providing an arguably cleaner setting to investigate the financial reporting behaviors of firms.

As Catanach and Walker (1999) point out, academic research on mandatory auditor rotation has been relatively sparse because of the general lack of available data. In addition, results in prior research that attempt to analyze the implications of mandatory rotation are mixed. Deis and Giroux (1992) analyze a sample of small CPA firms auditing independent school districts and find a reduction in audit quality (defined as the probability of detecting and reporting a breach in the client's accounting system) with increased tenure. More recently, Myers et al. (2003) find a positive relation between auditor tenure and the quality of earnings measured as the absolute value of discretionary accruals. They interpret their findings as being *inconsistent* with mandatory auditor rotation improving financial reporting. However, the authors recognize that they are not analyzing mandatory auditor rotation and that their results are simply suggestive.

The current setting is a form of forced, if not mandatory, auditor rotation and therefore has the potential to be incrementally informative for this debate. Our setting allows us to examine one of the predictions of the agency cost argument; whether a forced change in auditor

results in an increase in the quality of financial reporting.⁶ Given follow firms have not really changed auditors, we expect:

H₃: Firms electing not to follow AA will exhibit less extreme discretionary accrual behavior after switching to a new auditor relative to the firms that followed AA, ceteris paribus.

III. RESEARCH DESIGN

Switching versus Agency Costs

We model the decision to follow AA personnel as a function of variables aimed at capturing the degree of switching and agency costs. We utilize factors suggested in the prior auditor change, mandatory auditor rotation, and corporate governance literatures to examine this decision:

$$\begin{aligned}
 FOLLOW = & \sum_i \alpha_i + \gamma_1 FEE_EXPERT + \gamma_2 CLIENTS + \gamma_3 TENURE + \gamma_4 SIZE \\
 & + \gamma_5 TRANSPARENCY + \gamma_6 COMPLEX + \gamma_7 ACCRUAL + \gamma_8 INDAUDIT + \gamma_9 ACCT_FE \\
 & + \gamma_{10} LEVERAGE + \gamma_{11} BLOCK + \gamma_{12} INSIDER + \gamma_{13} ROA + \gamma_{14} LOSS + \gamma_{15} RETURN + \varepsilon
 \end{aligned}$$

where all variables are measured as of the final year audited by AA and are defined as follows (Compustat data items in parentheses):

<i>FOLLOW</i>	=	1 if the client followed AA, and 0 otherwise;
<i>FEE_EXPERT</i>	=	1 if AA had at least 10% more total audit fees in a particular industry and state than the closest competitor, and 0 otherwise;
<i>CLIENTS</i>	=	1 if AA had at least 10% more clients in a particular industry and state than the closest competitor, and 0 otherwise;
<i>TENURE</i>	=	number of years audited by AA per Compustat;
<i>SIZE</i>	=	natural logarithm of total assets (#6);
<i>TRANSPARENCY</i>	=	descending decile rank of absolute value of residual from regression of annual returns on annual earnings (#18), and changes

⁶ Cahan and Zhang (2005) and Nagy (2005) find in general that former AA clients had lower levels of abnormal accruals in 2002 relative to other firms on Compustat. These results suggest that the forced rotation may have improved financial reporting. However, neither study differentiates firms based on the follow decision indicating our analysis may provide additional insights on this matter.

- in annual earnings, both scaled by total assets (#6) and *SIZE*;
- COMPLEX* =
$$\sum_{i=1}^N \left[\left(\text{LN} \left(\frac{\text{TotalSales}}{\text{Segment}_i} \right) \right) \frac{\text{Segment}_i}{\text{TotalSales}} \right]$$
- where *TotalSales* is company sales revenue for 2001 and *Segment_i* represents the sales for a specific geographic segment of the business per Compustat (Bushman et al. 2002);
- ACCRUAL* = performance adjusted discretionary total accruals similar to the methodology in Kothari et al. (2005);
- INDAUDIT* = 1 if audit committee at the time the decision was made to dismiss AA had 100% outside members, 0 otherwise.
- ACCT_FE* = 1 if an accounting financial expert was on the audit committee, 0 otherwise. Accounting financial expert is defined as in DeFond et al. (2005).
- LEVERAGE* = ratio of debt (#9 + #34) to total assets (#6);
- BLOCK* = 1 if an outside blockholder per Spectrum holds at least 5% of the outstanding shares, and 0 otherwise;
- INSIDER* = 1 if an insider per Spectrum holds at least 5% of the outstanding shares, and 0 otherwise;
- ROA* = return on assets, defined as net income before extraordinary items (#18) divided by ending total assets (#6);
- LOSS* = 1 if *ROA* < 0, and 0 otherwise;
- I* = denotes industry as defined in Barth et al. (1998).

Our methodology allows us to distinguish between the switching costs and agency costs hypotheses in a systematic fashion that cannot be replicated by either returns or duration analyses. For instance, in an abnormal returns analysis, the researcher may be unable to disentangle switching costs, agency costs, and insurance costs since the magnitudes of the returns may be equivalent for firms facing different costs.⁷ In contrast, our research design provides the opportunity to isolate these alternatives even if the magnitudes of their influence are equivalent since, presumably, they will lead to different auditor selection decisions. It is important to note that a firm may have conflicting costs (i.e. high agency and switching costs), which may bias against finding a systematic relation between the decision to follow and our

⁷ For instance, firm A may have had a -2% abnormal return on the indictment date because this was the market's assessment of the costs of switching auditors. Firm B may have also experienced the same return, but because of agency related issues while firm C experienced the same return due to a loss of insurance and agency costs. Since these firms will presumably vary in regards to measures of switching, agency and insurance costs the ability to isolate these alternatives is hindered.

measures of the underlying costs. Although there are strengths and weaknesses to any methodology, we believe we have identified a powerful setting to study the selection of auditors.

The empirical specification of the dependent variable, *FOLLOW*, is a 1 when firms are categorized as following AA, and 0 otherwise. We classify a former AA client as following the AA audit team if their new auditor acquired the AA audit practice corresponding to the office (city) indicated on the client's audit report. For example, KPMG acquired AA's Philadelphia office. If an AA client whose audit opinion was signed Philadelphia chose KPMG as their new auditor, we assume they followed their AA audit team. If instead that same client chose Ernst & Young, we assume that they did not follow their AA audit team. We were unable to categorize some large AA offices such as New York, Houston and Chicago (AA's headquarters), and therefore have excluded these offices' clients from our analysis.⁸ Although, this means that our results may not be generalizable to all of AA's former clients, we are not aware of any systematic biases within our sample that influence our results.

Switching Costs

Our first measure of switching costs involves the industry expertise of the auditor, which reduces the start-up and switching costs for clients opting to hire those auditors. If AA was the industry expert, then switching costs may be reduced by following the AA team to the new audit firm leading to a positive relation between expertise and following AA. Several measures of auditor industry expertise have been used in prior research; it is unclear whether industry expertise arises from auditing a larger number of clients or a few large clients (Balsam et al. 2003). Our first measure, *FEE_EXPERT*, which is similar to the measure utilized in Francis et al. (2005b), equals one if AA had ten percent or more total audit fees than the next closest

⁸ These offices often did not transfer all personnel to a single new audit firm making the follow/non-follow designation difficult to make. Further, our attempts at contacting firm representatives related to the unclassified offices were not successful.

competitor in a given industry and *state*, where industries are defined as in Barth et al. (1998).⁹ We use the Audit Analytics database, which tracks the office signing the audit report along with audit fee related information, to construct our measure. We also include, *CLIENTS*, that is based on the number of clients rather than audit fees. *CLIENTS* equals one if AA had at least ten percent more clients than the next closest auditor in a particular *state* and industry.¹⁰

TENURE is the number of years AA performed the audit per Compustat. The direction of its association with *FOLLOW* is ambiguous. For instance, DeAngelo (1981) suggests there may be a relationship-specific investment between auditor and client where, in order to recover start-up costs and switching costs, the two firms are better off maintaining their relationship, at least in the early years. In addition, Williams (1988) finds that longevity on an engagement is significantly positive in a stepwise logistic analysis of factors associated with a change in auditor. Together these results suggest that firms with shorter *TENURE* will be more likely to follow AA. However, firms with extended *TENURE* may find it costly to switch since they have developed relations with their auditor over an extended period of time (the audit firm has moved to the top of the learning curve), therefore we do not make a sign prediction for this variable.

We predict a positive coefficient on *SIZE*, defined as the natural logarithm of total assets, because switching costs are expected to be higher for larger clients (DeAngelo 1981).¹¹ Further, *SIZE* may act as a proxy for client complexity and geographic constraints which we expect to be positively correlated with start up costs associated with switching auditors. *SIZE* is also related to agency costs, which we describe below.

⁹ Francis et al. (2005b) utilize city level designations rather than states. In the robustness section we discuss the implications of utilizing city level variables.

¹⁰ *CLIENTS* is similar to measures of expertise utilized in Balsam et al. (2003) and Mayhew and Wilkins (2002). However, those papers defined expertise on a national versus state level.

¹¹ An alternative interpretation of a positive association would be that *SIZE* is a proxy for audit fee potential consistent with Simunic (1980) and therefore simply represents the effort of former AA partners to maintain their most lucrative clients.

We expect switching costs to be decreasing in the financial transparency of the firm. Following prior research (Easton and Harris 1991, Bushman et al. 2004, Barth et al., 2005), we measure financial reporting transparency as the degree to which a firm's accounting summary measures correlate with its economic value. The variable *TRANSPARENCY* is defined as the decile rank (in descending order) of the absolute value of the residual from the following cross sectional regression estimated for fiscal year 2001:

$$RETURN = \sum_I \alpha_I + \gamma_1 ROA + \gamma_2 CHGNI + \gamma_3 SIZE + \varepsilon$$

where

- RETURN* = abnormal market model return for the ± 1 days surrounding AA's indictment date, using CRSP's value weighted index as a proxy for the market;
- ROA* = return on assets, defined as net income before extraordinary items (#18) divided by ending total assets (#6);
- CHGNI* = Net income (#18) in current year less net income in prior year divided by ending total assets (#6);
- SIZE* = natural logarithm of total assets (#6);
- I* = denotes industry as defined in Barth et al. (1998).

Observations in the highest decile are those with the highest transparency, while those in the lowest decile are those with the lowest transparency. We predict a negative coefficient for *TRANSPARENCY* because we expect firms with lower transparency to be more difficult to audit and, therefore, find it less costly to follow their AA team.¹² Consistent with our use of the variable as a measure of firm transparency, similar measures have been utilized in other studies (Barth et al., 2005; Lang and Lundholm, 1996; Healy et al., 1999) to illustrate that firms with greater transparency have lower costs of capital, greater analyst following, and greater disclosure of management forecasts. *TRANSPARENCY* is also related to agency costs, which we describe below.

¹² Inferences are unaltered if we utilize the actual residual value rather than the decile rank.

COMPLEX, another proxy for the extent of the firm's audit complexity, is measured as:

$$\sum_{i=1}^N \left[\left(\ln \left(\frac{TotalSales}{Segment_i} \right) \right) \frac{Segment_i}{TotalSales} \right]$$

where *TotalSales* is company sales revenue for 2001 and *Segment_i* represents the sales for a specific geographic segment of the business per Compustat (Bushman et al. 2002). Prior research has included, among other measures, the square root of the number of subsidiaries a firm has and the square root of the number of employees (Chaney et al. 2005) or the natural log of the number of business segments and the ratio of foreign sales to total sales (Francis et al. 2005a) to capture audit complexity. *COMPLEX* is slightly different because it accounts for the number of and degree of diversity in sales across geographic segments.¹³ While a greater number of geographic segments leads to higher values of *COMPLEX*, firms with relatively equal sales levels across their segments obtain the highest values. This refinement captures the notion that a firm with several geographic segments is more difficult to audit and will have higher switching costs than a firm with one segment. Further, *COMPLEX* recognizes that a firm with relatively equal sales across its geographic segments is more difficult to audit and will have higher switching costs than a firm with a similar number of geographic segments, but whose sales occur predominantly in one location. As a result, we predict firms with higher values of *COMPLEX* will be more likely to follow AA, since these firms have higher switching costs. *COMPLEX* is also related to agency costs, which we describe below.

¹³ *COMPLEX* is an entropy index. Generally speaking, entropy indices measure the amount of disorder in a system. Chung and Kallapur (2003), Barton (2001) and Palepu (1985) have used similar measures to capture segment diversification. *COMPLEX* captures more than just the number of geographic segments. The correlation with the number of segments is positive and significant, but is only 0.32. Further, when the number of geographic segments is added to our cross-sectional analysis, it is not significant and does not alter the significance of *COMPLEX*. In addition, we constructed a business segment measure of complexity in a similar fashion and incorporated it within the model in addition to *COMPLEX*. However, this variable was not significantly different from zero nor did it alter any of the reported results.

Our final measure of switching costs is *ACCRUAL*, which is defined as performance adjusted discretionary accruals using a methodology similar to Kothari et al. (2005).¹⁴ Bradshaw et al. (2001) finds that auditor changes are *less* likely for high accrual firms suggesting that it is more costly for these firms to voluntarily change auditors. In the current context, firms with greater values of *ACCRUAL* (most aggressive relative to performance matched firms) may attempt to reduce the costs of switching auditors by following AA resulting in a positive prediction for the *ACCRUAL* coefficient. Alternatively, DeFond and Subramanian (1998) find firms changing auditors have negative discretionary accruals on average and attribute the change to overly conservative accounting required by the incumbent auditor. Firms with more negative accruals may find it less costly to change auditors thereby leading to the same positive coefficient prediction.

Agency Costs

SIZE is frequently used as a proxy for agency concerns. Barton (2005) uses firm size as a proxy for reputation costs from the AA collapse. He finds that larger AA clients switched to a new auditor earlier than smaller firms and argues that this result is attributable to larger firms being subject to greater reputation costs. In addition, *SIZE* may also measure the diffusion of ownership and related agency costs. In contrast to our switching cost predictions, if agency costs dominate the decision to switch auditors, we expect *SIZE* to be negatively related to the likelihood of following the AA team.

¹⁴ Specifically, we first estimate cross-sectional modified Jones (1991) model regressions on an industry basis, where industry follows Barth et al. (1998), for fiscal year 2001 for all firms on Compustat with the necessary data. Firms are then ranked within industries into deciles based on ROA. Sample firms' discretionary accruals are adjusted by the median firm's discretionary accruals within the same ROA decile (see Francis et al. (2005a)). The performance matching mitigates concerns about bias in Jones model estimates related to performance documented by Dechow et al. (1995), along with controlling for any potential systematic differences in estimates of discretionary accruals across industries.

We expect *TRANSPARENCY (COMPLEX)* to be positively (negatively) associated with the decision to follow AA under the agency hypothesis contrary to our switching cost expectations. The inability to perfectly observe the actions of managers by outside parties increases agency costs (Jensen and Meckling 1976). *TRANSPARENCY* and *COMPLEX* capture income statement transparency and the overall firm complexity, respectively. As such, they measure the degree of difficulty outside parties may have in monitoring management. Firms with lower (higher) values of *TRANSPARENCY (COMPLEX)* are less transparent (more complex) and more difficult to monitor, which leads to a greater demand for a high quality audit and severing ties with AA.

Jensen and Meckling (1976) show that higher management ownership leads to greater alignment of interests with outside owners and, hence, lower agency conflicts. Using the Thomson Spectrum database, *INSIDER* is a dichotomous variable equaling one if an insider holds at least five percent of the outstanding shares, and zero otherwise. The results in prior research related to insider ownership and auditor changes have been mixed. Francis and Wilson (1988) and Palmrose (1984) find no significant relation between insider ownership and the quality of the successor auditor, while Simunic and Stein (1987) find a negative association and Eichenseher and Shields (1989) find a positive association.¹⁵ If low insider ownership is indicative of greater agency problems then we predict these firms will be less likely to follow AA.

LEVERAGE (debt to asset ratio) captures both the degree of agency conflict between stock and debt holders as well as the agency costs involved in monitoring by debt holders. DeFond (1992) argues that companies with greater leverage tend to switch to higher quality audit firms because of the monitoring performed by bondholders. If debt holders viewed the demise of AA

¹⁵ In related research, Barton (2004) finds that firms with smaller managerial ownership were more likely to dismiss AA sooner.

as indicative of quality related problems, then we predict the greater the *LEVERAGE* the less likely firms will be to follow AA.

Costs to monitor and influence management actions are increasing with the diffusion of equity ownership. As such, blockholders' ownership leads to economies of scale in terms of managerial monitoring. However, concentrated share ownership is only needed if there is some reason to believe that managerial monitoring has been inadequate (e.g., a weak board). As such, blockholder ownership is suggestive of the presence of agency issues. Consistent with prior research on auditor changes we include *BLOCK*, which equals one if an outside blockholder per Spectrum holds at least five percent of the outstanding shares, and zero otherwise.¹⁶ If blockholder ownership is indicative of greater agency costs then we expect firms with blockholders to be less likely to follow AA. An explanation consistent with this agency cost argument is that blockholders may be more likely to force firms to sever ties with AA to ensure the quality/independence of their successor auditor.

Another form of monitoring relates to the independence structure and financial reporting expertise of firms' audit committees.¹⁷ The SEC in *Standards Relating to Listed Company Audit Committees* suggests that the audit committee serves a central role in independent review and oversight of a company's independent auditors. Given this, we include two measures of audit committee monitoring utilized in Defond et al. (2005). First, *INDAUD* measures the independence of the audit committee and is equal to one if all members are independent, which is consistent with the subsequent requirement under Sarbanes-Oxley (SOX).¹⁸ The

¹⁶ Francis and Wilson (1988) and Palmrose (1984) use similar measures, but neither finds a significant relation between diffusion of ownership and choice of auditor.

¹⁷ We appreciate the suggestion of an anonymous referee to include audit committee characteristics within our analysis.

¹⁸ We perform robustness tests utilizing the actual percentage of outside audit committee members with the results remaining unchanged.

recommendation by the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees (“Blue Ribbon Committee”) and the requirement under SOX for 100 percent independent audit committees stems from the notion that independent committee members are better suited to monitor management given their relatively fewer conflicts of interest. However, prior research on the effectiveness of independent audit committees in mitigating earnings management (Klein 2002), eliminating fraud (Beasley et al. 2000), reducing the incidence of restatements (Agrawal and Chadha 2005; Baber et al. 2005) and improving financial statement quality (Felo et al. 2003; Anderson et al. 2003) has been mixed.

Our second measure related to the audit committee, *ACCT_FE*, is a proxy for financial expertise. Consistent with Defond et al. (2005), we define *ACCT_FE* as equal to one if anyone on the audit committee has experience as a public accountant, auditor, principal or chief financial officer, controller or chief accounting officer. DeFond et al. (2005) illustrates that only firms electing accounting financial experts (as opposed to the more inclusive definition eventually adopted in SOX that includes individuals responsible for managing financial experts among other less stringent criteria) to their audit committees experience significantly positive cumulative abnormal returns around the announcement of said election.

Although corporate governance is most often utilized in discussions concerning agency conflicts, a priori, it is difficult to make a sign prediction on the governance related variables in our setting. For instance, firms with more independent audit committee members and/or those with financial experts might want to ensure the independence of their auditor and therefore select an auditor unaffiliated with AA. Alternatively, these governance indicators might be consistent with audit committee members that have effectively monitored the audit relationship and therefore may be more likely to follow AA in order to minimize the costs associated with

obtaining a new auditor. Given these counter arguments, we make no sign predictions for *INDAUD* or *ACCT_FE*.

Control Variables

We include industry fixed effects, where industry is defined as in Barth et al. (1998), to allow for systematic differences in industries' switching behaviors that are unrelated to our agency and switching cost arguments. We also utilize *ROA* and *LOSS* as control variables. Landsman et al. (2005) and Schwartz and Menon (1985) find that firms with poor financial performance are more likely to change auditors. In our context, this suggests that poorly performing firms may be less likely to follow AA, but classifying this prediction as related to agency or switching costs is difficult. We therefore include *ROA* and *LOSS* as measures of financial performance, but make no predictions as to the sign of the coefficients. Figure 1 summarizes our sign predictions under the two hypotheses for all of the variables.

Financial Statement Quality

We also analyze the implications of changing auditors on the financial reporting behavior of AA firms since this is a primary agency benefit involved in the discussion of forced audit firm rotation. We proceed by expanding the discretionary accrual model in Myers et al. (2003) to include our *FOLLOW* variable and indicators for extreme *ACCRUAL* quintiles:

$$\begin{aligned}
 ACCRUAL = & \sum_i \alpha_i + \beta_1 FOLLO\!W + \beta_2 CONSERVATIVE + \beta_3 FOLLO\!W * CONSERVATIVE \\
 & + \beta_4 AGGRESSIVE + \beta_5 FOLLO\!W * AGGRESSIVE + \beta_6 TENURE + \beta_7 AGE \\
 & + \beta_8 SIZE + \beta_9 IndustryGrowth + \beta_{10} CASHFLOW + \varepsilon
 \end{aligned}$$

where *ACCRUAL*, *FOLLOW*, *TENURE*, *SIZE* and industry indicator variables are as defined in the previous section (see Figure 1). The remaining variables are defined as follows (Compustat data items in parentheses):

<i>CONSERVATIVE</i>	=	1 if <i>ACCRUAL</i> is in the lowest quintile during last year audited by AA, 0 otherwise.
<i>AGGRESSIVE</i>	=	1 if <i>ACCRUAL</i> is in the highest quintile during last year audited by AA, 0 otherwise.
<i>AGE</i>	=	number of years for which total assets (#6) was reported in Compustat since 1980.
<i>IndustryGrowth</i>	=	$\sum_{i=1}^N Sales_{i,t} / \sum_{i=1}^N Sales_{i,t-1}$ by industry.
<i>CASHFLOW</i>	=	cash flow from operations (#308) divided by ending total assets (#6).

One distinction between our analysis and Myers et al. (2003) is that we performance adjust discretionary accruals (our dependent variable). Given our much smaller sample size and our control/treatment research design, we believe performance adjusted discretionary accruals is the most appropriate measure of aggressive behavior in this context (see Kothari et al. (2005) for more information on performance adjusted discretionary accruals).¹⁹ Further, *CONSERVATIVE* and *AGGRESSIVE* distinguish firms in the lowest and highest quintiles of *ACCRUAL* as of the last year audited by AA. We expect these extreme accrual portfolios to exhibit the most significant changes surrounding the rotation of auditors if financial reporting quality was suspect and subsequently improved by the rotation as suggested by proponents of mandatory auditor rotation (SEC 1994).

IV. SAMPLE SELECTION AND RESULTS

Sample Selection

In constructing our sample, we used Compustat to identify U.S. firms that were audited in fiscal year 2001 by AA. Next, we reviewed each firm's audit report to determine which office (city) had performed the audit. Then we hand collected information concerning the acquisition of AA offices by other auditors from a variety of sources including audit firm press releases, AA

¹⁹ We estimated all analyses using non-performance adjusted discretionary accruals and the results are unchanged. However, the interpretation of aggressive behavior is made easier by performance adjusting along with reducing concerns about bias induced by extreme performance.

client Form 8-Ks relating to the choice of a new auditor, and representatives from two of the remaining Big4 audit firms. Through this process we were able to classify 561 former AA clients as either following AA personnel to a new auditor or completely severing ties with their AA audit team. We eliminate 29 observations where the corresponding AA practice was acquired by a non-Big4 auditor.²⁰ A further 127 observations, without the necessary financial statement information to perform our baseline tests concerning the decision to follow AA or not, are eliminated leaving us with 407 former AA clients that selected one of the remaining Big4 auditors. There are a total of 226 firms classified as following their AA audit team, and 181 choosing not to follow. Table 1 provides a summary of the sample selection process.

Panel B of table 1, provides a timeline along with a cumulative frequency count of when firms in our sample switched auditors. Actual sample firm switches range from February 12, 2002 to August 2, 2002. Most firms in our sample (69%) switched between the indictment on March 14, 2002, and the conviction on June 15, 2002, with only 2% switching prior to the indictment date and 29% switching after the conviction date. Later, we estimate multinomial logistic regressions to allow for variation in the results based on the timing of the decision to switch auditors.

The industry composition for the sample is illustrated in table 1, panel C, which also reports the percentage of firms in a given industry on Compustat that were audited by a Big5 firm during fiscal year 2001. The panel illustrates that the follow and non-follow samples have very similar industry compositions as compared to each other and the Compustat sample.

²⁰ We have relatively little information concerning AA personnel switches to non-Big4 auditors, which reduces our ability to generalize to this population. Furthermore, the extant literature suggests that switches to non-Big4 auditors occur for significantly different reasons than upward or lateral movements (Johnson and Lys 1990). Although Landsman et al. (2005) illustrate downward and lateral changes involving BigN auditors are influenced by similar characteristics, we focus on the Big4 sample in order to avoid concerns about downward switches biasing our results. Nevertheless, results are unchanged when firms selecting non-Big4 auditors are included.

Although this implies that any results are not likely to be biased because of systematic movements by any particular industry, we still control for industry fixed effects in later tests.

Results

Univariate

Table 2 provides descriptive statistics for the firms that did and did not follow their AA audit team. Neither the follow nor non-follow firms appear to have performed very well in the final year audited by AA as indicated by statistically indifferent mean *ROAs* of -0.17 and -0.10, respectively. However, the median *ROAs* are small and positive suggesting a need to control for the influence of extreme negative performance firms, which is often problematic in analyses involving the calculation of discretionary accruals.

TRANSPARENCY, *COMPLEX*, *ACCRUAL*, *INDAUD*, and *CLIENTS* are significantly different in cross sample comparisons. Consistent with our prediction under the agency cost hypothesis, results suggest that firms that chose not to follow AA were less transparent and more complex than firms that followed AA. The *ACCRUAL* results illustrate that firms following AA had higher performance adjusted discretionary accruals than their non-follow counterparts suggesting follow firms were more aggressive. The mean and median for the non-follow firms are significantly negative, whereas the mean and median for the follow firms are positive, but not significantly different from zero. Results suggest that the non-follow firms were relatively conservative in their financial reporting and, as such, faced lower switching costs.

As required by the listing requirements on the stock exchanges at the time, both samples exhibit relatively high occurrences of entirely independent audit committees (87% for non-follow and 80% of follow firms). Non-follow firms were marginally more likely to have an

entirely independent audit committee as evidenced by the results on *INDAUD*, implying that audit committee independence may have played a role in selection of a new auditor.

The final variable that is statistically different between the follow and non-follow samples is *CLIENTS*. For follow firms, AA was more likely to be the industry leader in terms of number of clients in a given state. This is consistent with firms minimizing switching costs by electing to follow AA when they were the industry leader.

Table 3 documents the Pearson and Spearman correlations among the regression variables. As suggested in table 2, we find significant correlations between *FOLLOW* and *TRANSPARENCY*, *COMPLEX*, *ACCRUAL*, *INDAUDIT*, and *CLIENTS*. All are in the same direction as the univariate tests in table 2. In general there are a variety of significant correlations, but none that would indicate the presence of multicollinearity.²¹ The lack of multicollinearity concerns coupled with the numerous significant correlations indicates that all the variables should be utilized in the regressions in order to avoid omitted correlated variables bias.

Multivariate – Switching verses Agency

Table 4 presents logistic regression results for our follow/non-follow model. The first item to note in table 4 is the inability to reject the null of an appropriate model fit indicated by the Hosmer and Lemeshow test, which implies that the model is appropriately capturing variation in the dependent variable. Similarly, the ROC curve analysis provides evidence that our model exhibits adequate ability to discriminate between the different firms (Hosmer and Lemeshow (2000) suggest a statistic of 0.70 or better indicates acceptable performance).

²¹ Although the correlations do not indicate multicollinearity issues, we estimated standard diagnostics within the regression framework anyway. No causes for concern were found.

We highlight five results from our multivariate analysis presented in table 4. First, the coefficient on *TRANSPARENCY (COMPLEX)* is positive (negative) and significant confirming our univariate results. It appears that less transparent (more complex) firms elected not to follow their AA audit team because it was simply too costly, implying that the agency costs outweighed the switching costs. For instance, the Δ Odds column indicates that a one standard deviation increase in *TRANSPARENCY* results in a 41 percent greater likelihood of following AA. Likewise, a one standard deviation decrease in *COMPLEX* results in 22 percent lower likelihood of following AA. These results reinforce the arguments made by Chaney and Philipich (2002) and Krishnamurthy et al. (2003) concerning the tainted nature of AA's reputation.

Second, the coefficient on *BLOCK* is negative and significant, suggesting that firms with agency issues, as proxied for by the presence of outside blockholders, switched away from AA. The Δ Odds indicates that firms with blockholders were 41 percent less likely to follow AA than those without blockholders. This supports the agency costs hypothesis whereby monitoring by outside blockholders led firms to select more independent successor auditors.

Third, the coefficient on *ACCRUAL* confirms our univariate findings and illustrates switching costs were indeed a consideration for some firms in selecting a new auditor. The findings indicate a one standard deviation increase in *ACCRUAL* results in a 55 percent increase in the odds of following AA. The results are consistent with the findings in Defond and Subramanyam (1998), that find firms with more negative discretionary accruals are more likely to change auditors, which they assert is because of the overly conservative nature of their incumbent auditor. The results are also consistent with the findings in Bradshaw et al. (2001), which illustrates firms with higher accruals are less likely to change auditors. The implication of this finding is that firms that were relatively more aggressive with their financial reporting

wanted to maintain their relationship with their auditor that originally opined on the reports. We address whether these accrual patterns persist after the forced auditor rotation below.

Fourth, the positive coefficient on *CLIENTS* indicates that firms were more likely to follow AA in states and industries where AA had the greatest number of clients. *CLIENTS* may also be capturing a “lack of competition”, whereby companies may not have had many alternatives other than to follow AA in areas where AA audited the majority of clients. Regardless of the interpretation, *CLIENTS* captures increased switching costs, which, in turn, provide impetus for following the AA team. In contrast, the coefficient on *FEE_EXPERT* is not significant, which may be more of a reflection of the turmoil in the audit market surrounding the collapse of AA rather than the inability of *FEE_EXPERT* to capture the notion of expertise.

Finally, the presence of an accounting financial expert on the audit committee (*ACCT_FE*) is also marginally associated with firms’ proclivity to follow AA (significant at the 8 percent level). All else equal, firms with an accounting financial expert increased the odds of following AA by 49 percent. This finding is helpful in understanding the role and value of accounting financial experts on audit committees. Audit committees without experts may have felt uncomfortable maintaining their relations, whereas accounting financial experts were capable of assessing the quality of their companies’ financial reports and the auditors’ independence status. This is consistent with accounting financial experts allowing firms to opt to reduce switching costs by maintaining relations with their current auditor. In contrast to the univariate results, *INDAUD* was not significant in the decision to follow or not follow the AA audit team.

Multinomial Logistic Regressions

The above analysis treats all firms of a given type as equivalent. However, Barton (2005) and Chiang et al. (2003) argue that there were systematic differences in former AA clients that varied directly with the length of time between the Enron restatement announcement and the date firms selected a new auditor. Given these findings, we relax the assumption of equivalence and employ multinomial logistic regression to learn more about our sample firms. Specifically, we allow the coefficients to vary based on whether firms elected to follow or not, as well as whether they switched prior to or after AA's conviction date.²² Table 1 panel B illustrates the majority of sample firms switched prior to the conviction date (71 percent), but there is some variation that may be helpful in further understanding the follow decision. For instance, firms that waited until after the conviction of AA were likely to be smaller firms that took lower precedence from the audit community during the tumultuous auditor change period resulting from AA's indictment. The multinomial regression analysis allows us to account for potential differences such as *SIZE* while still maintaining the full sample.

Coefficient estimates for the multinomial logistic regression are presented in table 5, panel A, while panel B provides tests of differences in coefficients across the different groups. The multinomial analysis includes four groups: non-follow firms that switched prior to the conviction (*NON-FOLLOW PRE*), follow firms that switched prior to the conviction (*FOLLOW PRE*), and their counterparts that switched auditors after the conviction (*NON-FOLLOW POST* and *FOLLOW POST*). The *NON-FOLLOW PRE* firms are the comparison group for all other groups with the model providing probabilities of being in the non-reference category. The results are generally consistent with those in table 4, with *FOLLOW* firms, regardless of the timing of the switch, exhibiting higher discretionary accruals (*ACCRUAL*) and less complexity

²² We appreciate the suggestion by an anonymous referee to perform this analysis.

(*COMPLEX*). Further, the *FOLLOW* firms generally have greater transparency, although the *FOLLOW PRE* and *NON-FOLLOW PRE* are not significantly different.

The analysis points out some other interesting results not readily apparent in the binary logistic regression. For instance, firms switching after the conviction date, regardless of the follow decision, tended to be smaller as evidenced by the negative coefficient on *SIZE* for both post conviction groups. However, the *NON-FOLLOW PRE* and *FOLLOW PRE* firms do not exhibit a significant difference. This indicates that smaller firms switched later consistent with the findings in Chang et al. (2003) and Barton (2005), but the lack of a significant difference between *FOLLOW PRE* and *NON-FOLLOW PRE* firms suggests the interpretation of duration results on *SIZE* are not necessarily solely related to the agency hypothesis.

The results on *ACCRUAL* indicate that all groups exhibit significantly higher performance matched discretionary accruals on average relative to the *NON-FOLLOW PRE* firms. This suggests that the *NON-FOLLOW PRE* firms had the most conservative financial reporting on average, since these are the firms that are likely to want to sever ties with their current auditor because of potentially overly conservative restrictions placed on the firm by the auditor (see Defond and Subramanyan, 1998). We utilize this result further when analyzing the discretionary accrual behavior of sample firms below.

Also of note is the difference between follow and non-follow firms prior to the conviction for *INSIDER*. Consistent with agency costs being lower for the follow group on average, firms with an insider who holds at least 5 percent of the stock appear more likely to follow AA. Interestingly, the post conviction non-follow group exhibits a similar statistical difference versus the reference category, which helps to explain why *INSIDER* is insignificant in the binary specification.

Overall, the results in table 5 are representative of the findings from the binary logistic regression of table 4, reinforcing the robustness of the results to alternative specifications. In particular, the non-follow groups are significantly different from each other on only a few dimensions (*SIZE*, *ACCRUAL*, and *INSIDER*) and the follow firms are only significantly different on the *SIZE* dimension. As such, we are comfortable that the binary logistic regression estimated in table 4 is reasonably well specified reducing concerns that the timing of the switch could significantly alter our conclusions.

Multivariate – Financial Statement Quality

In an effort to determine whether AA's demise led to changed in financial reporting for our sample firms, our final set of analyses focus on the discretionary accrual behavior of sample firms. Results are reported in table 6 for the year prior to AA's collapse (year t-1), the final year audited by AA (year t) and the first year audited by the new auditor (year t+1). The insignificance of the *FOLLOW* variable suggests that the middle three quintiles of the *ACCRUAL* variable are not significantly different on average than the corresponding group of non-follow firms in any year. Second, as indicated by the negative coefficient on *CONSERVATIVE*, non-follow firms in the extreme negative *ACCRUAL* quintile had persistently lower discretionary accruals than the remainder of the sample in all three years analyzed. More importantly, the *FOLLOW* firms do not appear to behave differently after the change in auditors relative to the non-follow firms as witnessed by the insignificance of the coefficient on *FOLLOW*CONSERVATIVE*.

The *AGGRESSIVE* firms also exhibit some persistence with non-follow firms being different on average in both the final year with AA (year t) and the first year audited by the new auditor (year t+1). This suggests that the mandatory auditor rotation did not serve to rein in this

aggressive behavior. The *FOLLOW* firms on the other hand are no longer significantly different on average than the middle three quintiles implying that their aggressive behavior in the final year of AA was not repeated under the new audit firm.²³

This is an intriguing result that at first may seem counterintuitive. For instance, it may be reasonable to expect that firms following AA exhibited relatively more aggressive behavior, since a primary motivation of the follow decision was presumably to maintain relations with the auditor that originally opined on the aggressive accounting. However, given the unusual circumstances surrounding this particular auditor rotation, the pattern of behavior exhibited in table 6 may not be unexpected for a couple of reasons. First, AA partners moving to a new auditor may be more likely to reign in aggressive behavior given their reduction in wealth and other disutilities from said behavior while at AA. Second, audit firms taking on AA clients and personnel may have subjected the companies to increased levels of scrutiny because of the Enron and WorldCom fiascos. Discussions with audit firm partners both formerly from AA and those that took on AA clients, fail to confirm this latter conjecture, but we have no way of empirically validating this.

Recall from the multinomial results from table 5 that all firms had significantly higher discretionary accruals on average relative to the pre conviction non-follow group. This could be an indication that the non-follow firms in the *AGGRESSIVE* category are primarily from the post conviction period, which are smaller firms that might exhibit significantly different accrual behaviors. In order to assess whether this is the case, we examined the proportions of follow and non-follow firms within the *AGGRESSIVE* category along with separating them into pre and post conviction categories. In unreported analyses, the results reveal that the relative proportion of

²³ The incremental coefficient for firms that followed and were in the high accrual quintile is $AGGRESSIVE+FOLLOW*AGGRESSIVE$. Reported statistics are included in the bottom of table 5.

follow and non-follow firms, as well as the subcategories of pre and post conviction are similar to those observed in table 5 alleviating concerns that the timing of the switch influenced the accrual results. For instance, table 5 reveals that 56% of the sample is made up of *FOLLOW* firms, with 68% of those observations occurring in the pre conviction period. The proportion of *FOLLOW* firms in the *AGGRESSIVE* category is 60%, with 70% of those observations occurring in the pre conviction period. Similar findings were obtained for the *NON-FOLLOW* group. Also, we re-estimated table 6 utilizing only the pre conviction groups and the results hold with only the *AGGRESSIVE* follow firms exhibiting reversion in their behavior providing further assurance the results in table 6 are not because of differences in the timing of auditor changes.²⁴

As a further check and to control for the possibility that the changes in accrual behavior reflect time specific trends, we extended the multinomial analysis to include match firms. We collected a control sample of firms that did not switch BigN auditors over the three year period analyzed. We selected two match firms for each AA firm in the sample from the same industry and *ROA* decile. Matches were determined by ranking firms on *ACCRUAL* and selecting the firms just above and below the AA firm in question. In unreported analyses, we find that, once again that only the aggressive followers exhibit improved behavior in the year of the new auditor. These tests support the validity of the results presented in table 6.

Overall, we find evidence consistent with firms choosing to follow (not follow) AA if they had aggressive (conservative) financial reporting. We find no evidence that performance adjusted discretionary accruals improved for the most conservative firms for both follow and

²⁴ As an aside, we also examined the relative proportions of the remaining Big4 audit firms represented in the *AGGRESSIVE* category. The results in Cahan and Zhang (2005) indicate only former AA clients that subsequently hired Ernst & Young (EY) experienced significantly lower levels of abnormal accruals. In our sample, the relative proportion of EY clients in the *AGGRESSIVE* portfolio is 32% and 25% for the follow and non-follow groups respectively indicating the reversal for the follow group is not simply a manifestation of the EY effect documented in Cahan and Zhang (2005).

non-follow clients. Further, there is no evidence that aggressive behavior was curbed in firms that selected an entirely new auditor, whereas firms that were aggressive and followed AA were less aggressive after following AA to a new auditor. Combined, this evidence does not support the contention that mandatory auditor rotation would necessarily improve financial reporting confirming conclusions reached in Myers et al. (2003).

V. ROBUSTNESS TESTS AND CAVEATS

To test the robustness of our presented results, we estimated all the models using ranks for all non-indicator variables and obtain virtually identical results alleviating concerns about the influence of outliers. In addition, findings do not change when AA office fixed effects are included in the regressions. Further, we included alternative measures of agency costs such as the need to raise external financing as suggested by Kaplan and Zingales (1997), volatility, and institutional holdings, in the switching verses agency cost regression, but none were significantly different from zero nor are any inferences altered by their inclusion.

We also collected information concerning board of director characteristics commonly used in corporate governance research such as percentage of independent directors, total number of directors and whether the Chairman of the Board is also an employee of the company. However, these were not helpful in distinguishing between the follow and non-follow firms, nor did they alter any of the reported results. Given it is generally the audit committee's responsibility to select the independent auditor, we elected to report results utilizing only audit committee characteristics.

Francis et al. (1999; 2005b) find that auditor expertise defined at a city level rather than at a national level is meaningful in explaining recent auditor mergers and in audit fee settings, respectively. Use of a city level industry expertise measure may be appropriate in our setting as

the follow / non-follow determination is made at the city/office level. We recalculated *FEE_EXPERT* and *CLIENTS* on a city-wide versus state-wide basis where the city is based on the office signing the audit report. Neither of the city level measures is significant, nor is the combination of city expert and national expert as utilized in Francis et al. (2005b). Further, results on *FEE_EXPERT* are insensitive to relaxing the criteria that the fee expert has at least 10% higher total audit fees than the next closest competitor, which was not utilized in Francis et al. (1999, 2005b). The fact that the state wide measure of *CLIENTS* is significant suggests that there is a reduction in measurement error relative to the city wide calculations for our analyses.

Caveats

There are reasons to believe a more typical mandatory rotation may result in outcomes different from those we find in our setting. For instance, under a typical mandatory rotation auditors would have limited terms, which may reduce independence problems and improve financial reporting. In the current setting, the auditors were rotated in a mandatory fashion, but the term of the new auditor was not limited, which potentially reduces the benefits of the change. Another difference between our setting and a more typical mandatory rotation regime is the ability for former AA clients to follow their audit team to a new auditor. It would defeat the purpose of rotating auditors to allow partners to follow their clients during a typical mandatory rotation. Although this latter qualification is important, it should also be noted that this distinction in our research design is what allows us to investigate the costs and benefits involved in the selection of a new auditor after the forced rotation. Overall, there are limitations to what we can conclude about more typical mandatory rotation regimes. However, this is arguably the closest U.S. setting to date to mandatory rotation and therefore provides the opportunity to make a significant contribution to the understanding of the costs/benefits involved in the decision

along with the financial reporting behavior after a forced change in auditors. Nevertheless, we believe the results presented are of interest to standard setters, other rule making bodies, academics and practitioners in considering the costs and benefits of mandatory auditor rotation.

VI. CONCLUSION

The AA collapse presents a rare opportunity to study the determinants of auditor selection. Ordinarily, researchers are limited to switching decisions that are created by an auditor resignation or client dismissal, both of which are events potentially contaminated by other information contained in the decision to change auditors. In the current setting, all AA clients had to find new auditors thereby mitigating any signaling issues related to the dismissal of AA. We add to the switching literature by adopting a different methodology that allows us to focus on factors involved in selection of a new auditor, namely switching and agency costs. Along with our results, we view this methodology as a significant contribution to the literature.

The results indicate that firms consider both agency and switching costs in selecting a new auditor. We find that firms with an outside blockholder and with higher agency costs as captured by low financial reporting transparency and greater geographic complexity opted to sever ties with AA and start a completely new auditor relation. This suggests the agency costs borne by following AA outweighed the benefits of reduced switching costs and that firms for whom agency concerns are the most acute already consider the independence in fact and appearance of their auditor in mitigating their costs. On the other side of the trade-off, we find evidence consistent with the most aggressive accrual firms, firms with an accounting financial expert on their audit committee and firms in an industry-state dominated by AA choosing to

follow AA. This suggests that for some firms minimizing switching costs outweighed any agency costs borne by following AA.

In addition, we find of the most aggressive accrual firms, those that followed AA curbed their aggressive accrual behavior in the year after AA's collapse while there was no change for those that did not follow AA. This suggests that mandatory auditor rotation in this setting did not necessarily serve to improve financial reporting.

Overall, we conclude that firms trade-off both agency and switching costs in the selection of a new auditor. Furthermore, our findings suggest that a mandatory auditor rotation regime would not necessarily improve earnings quality. Our results should be of interest to regulators, standard setters and academics who are debating the efficacy of the Sarbanes Oxley Act of 2002.

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FIGURE 1
Hypotheses and Sign Predictions

Variable ^a	Switching Costs	Agency Costs
<i>FEE_EXPERT</i>	+	
<i>CLIENTS</i>	+	
<i>TENURE</i>	?	
<i>SIZE</i>	+	–
<i>TRANSPARENCY</i>	–	+
<i>COMPLEX</i>	+	–
<i>ACCRUAL</i>	+	
<i>INDAUDIT</i>	?	?
<i>ACCT_FE</i>	?	?
<i>LEVERAGE</i>		–
<i>BLOCK</i>		–
<i>INSIDER</i>		+
<i>ROA</i>	?	?
<i>LOSS</i>	?	?

^a *FEE_EXPERT* is equal to 1 if AA had the most audit fees in a particular industry and city with at least 2 clients, and 0 otherwise. *TENURE* equals the number of years audited by AA per Compustat. *SIZE* is the natural logarithm of total assets (data6). *TRANSPARENCY* is the descending rank of the absolute value of the residual from a cross sectional regression of annual returns on *ROA*, changes in earnings, *SIZE*, and industry fixed effects. *COMPLEX* is the geographic sales diversity of a company and is defined mathematically on page 11. *ACCRUAL* is performance matched discretionary accruals per the modified Jones [1991] model scaled by ending total assets (see Kothari et al (2005)). *INDAUDIT* equals 1 if the audit committee responsible for making the follow decision was 100% independent, 0 otherwise. *ACCT_FE* equals 1 if audit committee has an accounting financial expert, 0 otherwise. *LEVERAGE* equals total debt divided by total assets. *BLOCK* is equal to one if an outside blockholder has 5% or more of the stock per Spectrum, 0 otherwise. *INSIDER* is equal to one if an insider has 5% or more of the stock per Spectrum, 0 otherwise. *ROA* is net income before extraordinary items divided by ending total assets. *LOSS* is equal to 1 if *ROA* is less than 0, 0 otherwise. *RETURN* is the 3 day market model abnormal return surrounding March 14, 2002 (AA indictment date). *CLIENTS* is equal to 1 if AA had at least 10% more clients in a particular industry and state than the closest competitor, and 0 otherwise.

TABLE 1
Sample Selection and Industry Composition

Panel A: Sample Selection

<i>Compustat AA firms</i>		1,086
Less		
Foreign Firms	24	
Filing Information Unavailable	3	
Not audited by AA prior to 10/15/01	<u>16</u>	
	43	
<i>Switch Sample</i>		1,043
Less		
Insufficient information to classify follow or not	482	
Non-Big4 observations	29	
Missing Regression Information	<u>127</u>	
	636	
 <i>Total Sample</i>		 407

Panel B: Timeline of Key Switching Dates and Decision to Change Auditor

Event	Timeline	Cumulative # of Non-Follow firms that have changed	Cumulative # of Follow firms that have changed
Enron announced restatement	10/16/01	0	0
AA disclosed shredding	01/10/02	0	0
AA indicted	03/14/02	1	4
AA convicted	06/15/02	134	153
AA ceased practicing	08/31/02	181	226

TABLE 1 — *Continued*

Panel C: Industry Composition

Industry	Non-Follow		Follow		Compustat
	Number	Freq. (%)	Number	Freq (%)	Freq (%)
chemicals	3	1.7	5	2.2	2.1
computers	40	22.1	45	19.9	16.5
durables	42	23.2	47	20.8	19.4
extraction	7	3.9	9	4.0	3.5
finance	6	3.3	2	0.9	6.1
food	1	0.6	3	1.3	2.1
insurance	4	2.2	4	1.8	5.0
mining	4	2.2	4	1.8	2.5
other	0	0.0	1	0.4	1.0
pharmaceuticals	6	3.3	18	8.0	5.9
retail	19	10.5	19	8.4	9.4
service	19	10.5	29	12.8	9.5
textiles	5	2.8	10	4.4	4.2
transportation	11	6.1	21	9.3	7.9
utilities	14	7.7	9	4.0	5.1
Total	181	100.0	226	100.0	100.0

This table provides descriptive statistics concerning the sample selection and industry composition of the sample.

Industry membership is determined by primary SIC code as follows: Agriculture (0100 – 0999), Mining and construction (1000 – 1999, excluding 1300 – 1399), Food (2000 – 2111), Textiles and printing/publishing (2200 – 2780), Chemicals (2800 – 2824, 2840 – 2899), Pharmaceuticals (2830 – 2836), Extractive (2900 – 2999, 1300 – 1399), Durable manufacturers (3000 – 3999, excluding 3570 – 3579 and 3670 – 3679), Computers (7370 – 7379, 3570 – 3579, 3670 – 3679), Transportation (4000 – 4899), Utilities (4900 – 4999), Retail (5000 – 5999), Finance (6000-6411), Insurance (6500-6999), Services (7000 – 8999, excluding 7370 – 7379), and Other (> 9000). Data for the “Compustat” column are obtained from Compustat, and are based on all firms for fiscal year 2001 with a Big N auditor.

TABLE 2
Descriptive Statistics of Regression Variables

Variable ^a	Non-Follow sample (N = 181)			Follow sample (N = 226)			Test of differences ^b	
	Mean	Median	Std Dev	Mean	Median	Std Dev	Mean	Median
<i>FEE_EXPERT</i>	0.27	0.00	0.44	0.31	0.00	0.46	0.94	0.94
<i>CLIENTS</i>	0.13	0.00	0.34	0.24	0.00	0.43	0.01	0.01
<i>TENURE</i>	10.77	8.00	7.86	10.70	8.00	7.64	0.93	0.63
<i>SIZE</i>	5.63	5.56	1.70	5.66	5.40	1.87	0.87	0.59
<i>TRANSPARENCY</i>	5.10	5.00	2.75	5.75	6.00	2.89	0.02	0.04
<i>COMPLEX</i>	0.36	0.00	0.46	0.27	0.00	0.41	0.05	0.05
<i>ACCRUAL</i>	-0.04	-0.03	0.14	0.01	0.00	0.13	0.00	0.06
<i>INDAUDIT</i>	0.87	1.00	0.34	0.80	1.00	0.40	0.06	0.06
<i>ACCT_FE</i>	0.36	0.00	0.48	0.41	0.00	0.49	0.28	0.28
<i>LEVERAGE</i>	0.17	0.07	0.21	0.20	0.14	0.22	0.12	0.21
<i>BLOCK</i>	0.20	0.00	0.40	0.16	0.00	0.37	0.36	0.36
<i>INSIDER</i>	0.19	0.00	0.40	0.23	0.00	0.42	0.43	0.43
<i>ROA</i>	-0.17	0.01	0.66	-0.10	0.01	0.37	0.16	0.29
<i>LOSS</i>	0.49	0.00	0.50	0.46	0.00	0.50	0.53	0.53

^a *FEE_EXPERT* is equal to 1 if AA had total audit fees that were at least 10% higher than the next closest auditor's total for a particular industry and state, and 0 otherwise. *CLIENTS* is equal to 1 if AA had at least 10% more clients in a particular industry and state than the closest competitor, and 0 otherwise. *TENURE* equals the number of years audited by AA per Compustat. *SIZE* is the natural logarithm of total assets (data6). *TRANSPARENCY* is the descending rank of the absolute value of the residual from a cross sectional regression of annual returns on *ROA*, changes in earnings, *SIZE*, and industry fixed effects. *COMPLEX* is the geographic sales diversity of a company. *ACCRUAL* is performance matched discretionary accruals per the modified Jones [1991] model scaled by ending total assets (see Kothari et al (2005)). *INDAUDIT* equals 1 if the audit committee responsible for making the follow decision was 100% independent, 0 otherwise. *ACCT_FE* equals 1 if audit committee has an accounting financial expert, 0 otherwise. *LEVERAGE* equals total debt divided by total assets. *BLOCK* is equal to 1 if an outside blockholder has 5% or more of the stock per Spectrum, 0 otherwise. *INSIDER* is equal to one if an insider has 5% or more of the stock per Spectrum, 0 otherwise. *ROA* is net income before extraordinary items divided by ending total assets. *LOSS* is equal to 1 if *ROA* is less than 0, 0 otherwise.

^b Test of Differences presents the associated p-values from the comparison of Non-Follow and Follow firms' mean and median values.

TABLE 3
Correlation Matrix

Pearson (Spearman) correlations are reported above (below) the diagonal.

Variable ^a	<i>FOLLOW</i>	<i>FEE_EXPERT</i>	<i>CLIENTS</i>	<i>TENURE</i>	<i>SIZE</i>	<i>TRANSPARENCY</i>	<i>COMPLEX</i>	<i>ACCRUAL</i>
<i>FOLLOW</i>	-	-0.01	0.13**	0.00	0.01	0.12**	-0.10**	0.16**
<i>FEE_EXPERT</i>	-0.00	-	0.16**	0.13**	0.27**	0.09*	-0.06	0.01
<i>CLIENTS</i>	0.13**	0.16**	-	0.08*	0.29**	0.14**	-0.14**	0.13**
<i>TENURE</i>	0.01	0.12**	0.11**	-	0.22**	0.15**	0.07	0.08*
<i>SIZE</i>	0.00	0.26**	0.27**	0.18**	-	0.20**	0.09*	-0.10*
<i>TRANSPARENCY</i>	0.12**	0.09*	0.14**	0.14**	0.21**	-	0.04	0.01
<i>COMPLEX</i>	-0.10**	-0.07	-0.14**	0.07	0.12**	0.03	-	-0.18**
<i>ACCRUAL</i>	0.14**	0.01	0.17**	0.09*	-0.11**	0.04	-0.18**	-
<i>INDAUDIT</i>	-0.09*	-0.05	-0.03	-0.04	-0.31**	-0.07	-0.00	0.07
<i>ACCT_FE</i>	0.05	0.06	-0.05	0.02	0.02	-0.02	-0.07	-0.08
<i>LEVERAGE</i>	0.07	0.25**	0.25**	0.14**	0.52**	0.10**	-0.12**	0.11**
<i>BLOCK</i>	-0.05	-0.09*	0.07	-0.12**	-0.16**	-0.12**	-0.04	0.08
<i>INSIDER</i>	0.04	-0.06	-0.02	-0.07	-0.12**	-0.09*	-0.06	-0.07
<i>ROA</i>	0.03	0.20**	0.16**	0.30**	0.26**	0.15**	-0.01	-0.06
<i>LOSS</i>	-0.03	-0.27**	-0.14**	-0.28**	-0.27**	-0.16**	0.02	0.03

TABLE 3 — *Continued*

Variable ^a	<i>INDAUDIT</i>	<i>ACCT_FE</i>	<i>LEVERAGE</i>	<i>BLOCK</i>	<i>INSIDER</i>	<i>ROA</i>	<i>LOSS</i>
<i>FOLLOW</i>	-0.11**	0.05	0.08	-0.05	0.04	0.07	-0.03
<i>FEE_EXPERT</i>	-0.05	0.06	0.23**	-0.09*	-0.06	0.11**	-0.27**
<i>CLIENTS</i>	-0.02	-0.05	0.26**	0.07	-0.02	0.12**	-0.14**
<i>TENURE</i>	-0.05	0.01	0.10**	-0.11**	-0.07	0.21**	-0.27**
<i>SIZE</i>	-0.29**	0.01	0.45**	-0.16**	-0.12**	0.16**	-0.26**
<i>TRANSPARENCY</i>	-0.07	-0.02	0.08*	-0.12**	-0.09*	0.07	-0.16**
<i>COMPLEX</i>	0.01	-0.05	-0.15**	-0.07	-0.04	-0.05	0.02
<i>ACCRUAL</i>	0.05	-0.09	0.09*	0.07	-0.08	0.15**	0.03
<i>INDAUDIT</i>	-	0.00	-0.13**	0.08	0.03	-0.12**	0.12**
<i>ACCT_FE</i>	0.00	-	0.07	-0.04	0.06	0.04	-0.06
<i>LEVERAGE</i>	-0.10**	0.10**	-	-0.04	-0.02	0.12**	-0.11**
<i>BLOCK</i>	0.06	-0.04	-0.08	-	0.01	-0.07	0.12**
<i>INSIDER</i>	0.03	0.06	-0.04	0.01	-	-0.06	0.03
<i>ROA</i>	-0.17**	0.06	0.10*	-0.15**	0.01	-	-0.40**
<i>LOSS</i>	0.12**	-0.06	-0.14**	0.12**	0.03	-0.86**	-

* indicates significance at the 10% level.

** indicates significance at or below the 5% level.

^a See table 2 for variable definitions.

TABLE 4
Logistic Regression of Follow on Measures of Switching and Agency Costs

$$\begin{aligned}
 FOLLOW = & \sum_1 \alpha_1 + \gamma_1 FEE_EXPERT + \gamma_2 CLIENTS + \gamma_3 TENURE + \gamma_4 SIZE + \gamma_5 TRANSPARENCY + \gamma_6 COMPLEX \\
 & + \gamma_7 ACCRUAL + \gamma_8 INDAUDIT + \gamma_9 ACCT_FE + \gamma_{10} LEVERAGE + \gamma_{11} BLOCK + \gamma_{12} INSIDER \\
 & + \gamma_{13} ROA + \gamma_{14} LOSS + \gamma_{15} RETURN + \varepsilon
 \end{aligned}$$

Variable ^a	Coeff. Est	p-value	ΔOdds ^b
<i>FEE_EXPERT</i>	-0.16	0.60	-0.15
<i>CLIENTS</i>	1.31	0.00	2.72
<i>TENURE</i>	-0.01	0.36	-0.10
<i>SIZE</i>	0.01	0.92	0.02
<i>TRANSPARENCY</i>	0.12	0.00	0.41
<i>COMPLEX</i>	-0.58	0.04	-0.22
<i>ACCRUAL</i>	3.29	0.00	0.55
<i>INDAUDIT</i>	-0.48	0.12	-0.38
<i>ACCT_FE</i>	0.40	0.08	0.49
<i>LEVERAGE</i>	0.60	0.35	0.14
<i>BLOCK</i>	-0.53	0.05	-0.41
<i>INSIDER</i>	0.23	0.41	0.26
<i>ROA</i>	0.27	0.35	0.15
<i>LOSS</i>	-0.33	0.22	-0.28
N Follow		226	
N Non-Follow		181	
Hosmer Lemeshow p-value ^c		0.59	
ROC curve statistic ^d		0.75	

This table presents binary logistic results modeling the probability that a client followed their former AA audit team to a new auditor (*FOLLOW*) versus the reference category of deciding to sever ties with AA (*NON-FOLLOW*). Reported p-values are based on two tailed tests. The model includes unreported industry fixed effects.

^a See table 2 for variable definitions.

^b ΔOdds represents the percentage change in odds of following AA given a standard deviation change in the independent variable of interest for continuous variables and relative to the 0 category for all indicator variables.

^c The Hosmer Lemeshow test is a measure of the goodness of fit of the model that is developed by comparing the expected versus observed frequencies across intervals that are determined using the probability estimates obtained from the model. The null hypothesis is that the model has an appropriate fit.

^d The ROC curve statistic measures the area under the Receiver Operating Characteristics curve, which provides an assessment of the models ability to discriminate between those subjects who meet the condition of interest versus those who do not. Hosmer and Lemeshow (2000) indicate a statistic of 0.70 or greater indicates acceptable model discrimination.

TABLE 5
Multinomial Logistic Regression of the Follow Decision
Pre versus Post Conviction Date

Panel A: Regression Summary Statistics

Variable ^a	Follow Firms						Non-Follow Firms		
	Pre Conviction Date ^b			Post Conviction Date ^c			Post Conviction Date		
	Coeff. Est	p-value	ΔOdds ^d	Coeff. Est	p-value	ΔOdds	Coeff. Est	p-value	ΔOdds
<i>FEE_EXPERT</i>	-0.18	0.62	-0.16	-0.14	0.77	-0.13	-0.09	0.87	-0.08
<i>CLIENTS</i>	1.44	0.00	3.24	0.74	0.24	1.10	-0.20	0.79	-0.18
<i>TENURE</i>	-0.01	0.74	-0.05	-0.03	0.20	-0.20	0.01	0.73	0.08
<i>SIZE</i>	0.01	0.93	0.02	-0.40	0.00	-0.51	-0.47	0.00	-0.57
<i>TRANSPARENCY</i>	0.07	0.18	0.21	0.14	0.02	0.51	-0.10	0.18	-0.25
<i>COMPLEX</i>	-0.64	0.05	-0.24	-0.94	0.03	-0.34	-0.71	0.17	-0.27
<i>ACCRUAL</i>	4.34	0.00	0.78	3.98	0.00	0.70	3.10	0.05	0.51
<i>INDAUDIT</i>	-0.48	0.18	-0.38	-0.21	0.67	-0.19	0.19	0.76	0.22
<i>ACCT_FE</i>	0.43	0.11	0.54	-0.07	0.84	-0.07	-0.52	0.21	-0.40
<i>LEVERAGE</i>	1.10	0.15	0.27	0.36	0.71	0.08	1.20	0.29	0.29
<i>BLOCK</i>	-0.82	0.03	-0.56	-0.57	0.17	-0.43	-0.51	0.31	-0.40
<i>INSIDER</i>	0.73	0.05	1.08	0.44	0.31	0.55	1.09	0.02	1.98
<i>ROA</i>	0.33	0.36	0.18	0.45	0.30	0.27	0.56	0.39	0.33
<i>LOSS</i>	-0.37	0.26	-0.31	-0.64	0.11	-0.48	-0.34	0.48	-0.29
N Follow Pre	153								
N Follow Post	73								
N Non-Follow Pre	134								
N Non-Follow Post	47								

TABLE 5 — *Continued*

Panel B: P-values for Tests of Coefficient Differences

Variable ^a	<u>Follow</u>	<u>Follow Vs. Non-Follow</u>	
	Pre ^b vs. Post ^c	Pre vs. Post	Post vs. Post
<i>FEE_EXPERT</i>	0.92	0.86	0.94
<i>CLIENTS</i>	0.22	0.02	0.25
<i>TENURE</i>	0.30	0.56	0.19
<i>SIZE</i>	0.00	0.00	0.69
<i>TRANSPARENCY</i>	0.18	0.03	0.00
<i>COMPLEX</i>	0.49	0.90	0.68
<i>ACCRUAL</i>	0.78	0.44	0.60
<i>INDAUDIT</i>	0.54	0.27	0.56
<i>ACCT_FE</i>	0.12	0.02	0.31
<i>LEVERAGE</i>	0.39	0.92	0.48
<i>BLOCK</i>	0.55	0.55	0.91
<i>INSIDER</i>	0.45	0.40	0.16
<i>ROA</i>	0.78	0.74	0.89
<i>LOSS</i>	0.48	0.94	0.54

This table presents results from a single multinomial logistic regression with the sample of non-Follow firms that switched prior to AA's conviction on June 15, 2002 serving as the reference category. In panel B, reported p-values are for the indicated tests of differences in coefficient estimates reported in panel A. All p-values are two-tailed.

^a See table 2 for variable definitions.

^b Pre Conviction Date designates those firms that switched prior to AA's conviction on June 15, 2002.

^c Post Conviction Date designates those firms that switched after AA's conviction on June 15, 2002.

^d Δ Odds represents the percentage change in odds of following AA given a standard deviation change in the independent variable of interest for continuous variables and relative to the 0 category for all indicator variables.

TABLE 6***Regressions of Performance Adjusted Discretionary Accruals on the Follow decision and Control Variables***

$$\begin{aligned}
ACCUAL = & \sum_i \alpha_i + \beta_1 FOLLOW + \beta_2 CONSERVATIVE + \beta_3 FOLLOW * CONSERVATIVE \\
& + \beta_4 AGGRESSIVE + \beta_5 FOLLOW * AGGRESSIVE + \beta_6 TENURE + \beta_7 AGE \\
& + \beta_8 SIZE + \beta_9 IndustryGrowth + \beta_{10} CASHFLOW + \varepsilon
\end{aligned}$$

Variable ^a	Year t-1		Year t		Year t+1	
	Coeff. Est	p-value	Coeff. Est	p-value	Coeff. Est	p-value
<i>FOLLOW</i>	0.00	0.83	0.01	0.55	0.02	0.13
<i>CONSERVATIVE</i>	-0.05	0.08	-0.17	0.00	-0.04	0.02
<i>FOLLOW*CONSERVATIVE</i>	0.00	0.98	0.03	0.12	0.00	0.93
<i>AGGRESSIVE</i>	0.01	0.73	0.15	0.00	0.05	0.02
<i>FOLLOW*AGGRESSIVE</i>	0.04	0.32	0.00	0.87	-0.06	0.02
<i>TENURE</i>	0.00	0.89	0.00	0.53	-0.01	0.58
<i>AGE</i>	0.00	0.30	0.00	0.57	0.00	0.28
<i>SIZE</i>	0.01	0.14	0.00	0.84	-0.01	0.08
<i>INDUSTRY GROWTH</i>	-1.17	0.00	0.32	0.00	-0.08	0.55
<i>CASH FLOW</i>	-0.30	0.00	-0.16	0.00	-0.32	0.00
<i>B₂+ B₃</i>	-0.05	0.11	-0.14	0.00	-0.04	0.02
<i>B₄+ B₅</i>	0.05	0.07	0.15	0.00	-0.01	0.47
N Follow	226		226		226	
N Non-Follow	181		181		181	
<i>Adj. R-square</i>	0.19		0.75		0.31	

This table presents regressions of performance adjusted discretionary accruals in the year prior to AA's collapse (year t-1), the final year audited by AA (year t) and the first year audited by the new auditor (year t+1). Reported p-values are based on two tailed tests. The model includes unreported industry fixed effects.

^a *ACCUAL* is performance matched discretionary accruals per the modified Jones [1991] model scaled by ending total assets (see Kothari et al (2005)). *FOLLOW* is equal to 1 if a client is designated as following their former AA audit team to a new auditor, 0 otherwise. *CONSERVATIVE* is equal to 1 if *ACCUAL* in year t was in the lowest quintile, 0 otherwise. *FOLLOW*CONSERVATIVE* is the interaction of *FOLLOW* and *CONSERVATIVE*. *AGGRESSIVE* is equal to 1 if *ACCUAL* in year t is in the highest quintile, 0 otherwise. *FOLLOW*AGGRESSIVE* is the interaction of *FOLLOW* and *AGGRESSIVE*. *TENURE* equals the number of years audited by AA with a maximum of 10. *AGE* is the number of years the firm reported total assets on Compustat since 1980. *SIZE* is the natural logarithm of total assets. *INDUSTRY GROWTH* total industry sales in the current year divided by total industry sales in the prior year, where industries are defined as in table 1. *CASH FLOW* is cash flow from operations at the end of the indicated year divided by ending total assets.