A Case Against Mandatory Audit Firm Rotation? An Examination of Bargaining Power during the Terminal Year of the Auditor/Client Relationship

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ABSTRACT

We examine how the last year of an audit engagement ("terminal year") affects audit quality. We find that auditors are more likely to charge higher audit fees and issue going concern opinions during the final years of their audits suggesting that auditors have higher bargaining power than their clients when the auditors are being replaced. However, these increased costs to companies do not necessarily result in higher audit quality. We find that companies are more likely to have future restatements of the financial statements during the final years of the auditor-client relationships indicating that auditors seem to invest lower quality of effort and resources in the terminal years of audit engagements. Overall, our results suggest that companies could face real economic costs from an auditor being replaced in addition to the start-up costs of hiring a new auditor. These results have relevance for the current debate regarding mandatory audit firm rotation by the PCAOB, European Commission and the United Kingdom Competition Commission.

I. INTRODUCTION

The long standing debate on whether auditor tenure affects auditor independence received a game-changing jolt when the Public Company Accounting Oversight Board (PCAOB) issued a concept release on mandatory audit firm rotation for public companies (PCOAB 2011). Proposals for audit firm rotation are also being debated by the European Commission (EC) and the United Kingdom Competition Commission (UKCC) (EC 2011; Tysiac 2013a; Tysiac 2013b). The primary argument in support of auditor rotation is the notion that continuous audit engagements creates a bonding effect which impairs auditor independence as a result of auditors being more anxious to preserve the annuity generated by the audit fee rather than maintaining a critical eye on the client's financial statements. Despite the PCAOB's enthusiasm, there is considerable opposition for mandatory audit firm rotation in the U.S. with the House of Representatives recently passing H.R. 1564, which would prohibit the PCAOB from requiring companies to "use specific auditors or require the use of different auditors on a rotating basis" and calls for additional research on mandatory audit firm rotation.

This study evaluates auditor-client dynamics and its effect on audit quality during the final year ("terminal year") of an audit engagement. It is not clear how audit costs may be affected or whether overall audit quality would increase or decrease when an auditor is forced to roll off of an engagement. For instance, in the final year of an audit engagement, the auditor could pay less attention to the audit (e.g., roll its best personnel onto other jobs) as the client will no longer be with the firm after the end of the audit. There will also be a shift in bargaining power and the auditor could conceivably charge higher audit fees knowing that it is the final year of the audit and also be less willing to bend to client demands (i.e., increase in audit quality). Further, the reason for the change (resignation, dismissal or acquisition) may also have an influence. Although the results from a voluntary change setting may not necessarily be indicative

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of a mandatory audit rotation setting, understanding the dynamics of the auditor-client relationship in the terminal year of an audit engagement could provide more insights on the possible consequences of a mandatory audit rotation regime as terminal years would become more common.

Bargaining power between auditors and clients leads to differing financial reporting and audit quality outcomes. In the current regime, regulators are concerned that clients possess the bulk of the bargaining power resulting in lower auditor independence impacting both audit quality and financial reporting quality. Bargaining power possessed by clients can lower audit fees (i.e. creates a profitability vs. quality trade-off for audit firms), reduce the likelihood of the auditor issuing a going concern opinion (Hackenbrack and Nelson, 1996), and a reduction in audit quality (i.e. more likely to acquiesce to client accounting demands; Haynes et al. 1998; Gramling, 1999). It is possible that audit firms in the current regime may resign from their audit engagements when the benefits no longer exceed the economic costs (i.e. compensation, risk exposure, and reputation loss). In effect, the audit firms' livelihood is based on maintaining a strong client relationship.

The mandatory audit firm rotation proposal has the potential to change the dynamic that exists between audit firms and their clients. We posit that under a mandatory audit firm rotation, bargaining power will likely shift from the client to the audit firm because auditors no longer have to worry about whether their actions (i.e. negotiated audit adjustments and audit fees) will cause their clients to switch audit firms. Consequently, audit firms can avoid low balling and charge higher audit fees to price the associated audit risk. Auditors can also issue going concern opinions for unresolved issues without worrying about their tenure or loss of clients. This could also increase the overall quality of their audits because clients are more likely to record the suggested audit adjustments.

On the other hand, practical disinterest may replace professional skepticism if auditors are not continuously involved in the client's financial reporting process. From an economic perspective, audit firms are wealth maximizers and higher bargaining power may lead them to increase audit fees while at the same time reduce audit effort. Furthermore, audit firms may increase the likelihood of issuing a going concern opinion as a measure to compensate the lower investment in audit quality. In other words, by issuing a going concern opinion, the audit firm can use this as a defense in any future litigation associated with lower audit quality (i.e. future restatement).

To examine the dynamics of the auditor/client relationship during the terminal year, we examine a sample of firm year observations where the client changed auditors in the following year. When clients voluntarily change auditors (as is the case in the current US audit market), it is possible that the auditor is not aware that a change is impending. However, we argue that in audit-client relationships, like most relationships, the parties generally are aware prior to the divorce that a break up is coming. In fact, in 15 percent of our sample, the auditor dismissal date reported in the 8-K (i.e., the form that notifies the SEC of a change in auditor) is prior to (or equal to) the filing date of the 10-K for terminal year of the audit. In other words, in at least 15 percent of cases where a client changed auditors, the auditor and client agreed to terminate their relationship prior to the end of the current audit engagement. See Appendix A for quotes from 8-Ks about auditors and clients agreeing to terminate their relationship prior to end of the terminal year audit.

To further address the issue of whether auditors knew prior to the end of the engagement that they were in a terminal year, we utilize a propensity score matching (PSM) design to construct the variable of interest (audit firm turnover during the next year) and the sample used in the empirical analyses (Guo and Fraser 2010; Lawrence et al. 2011). Adapting the auditor

turnover model from Landsman, Nelson and Rountree (2009), we perform a 1-to-1 match of the predicted probabilities of clients that experience subsequent year turnover (treatment group) to clients that continue with their audit firm (control group). Under PSM, both the treatment and control observations share similar turnover probabilities from a well-specified model that predicts future turnovers with acceptable discrimination.[1] Furthermore, the PSM design is beneficial for this study as it ensures that the treatment and control observations are comparable in terms of auditor turnover probability and rules out the possibility that the variable of interest is capturing other innate risk factors associated with either the client or audit firm. Using the PSM sample, we perform three analyses that capture the various dynamics of the relationship during the terminal year: 1) year-over-year change in audit fees; 2) propensity to issue a going concern opinion; and 3) likelihood that the current period financial statements will be restated in the future (measure of audit quality). We further perform specifications comparing client initiated dismissals and auditor resignations to further examine the impact of auditor bargaining power and alleviate concerns that the audit firm would not be aware of the impending turnover.

The results of the empirical analysis for years 2001 to 2009 are consistent with auditors utilizing their bargaining power in a wealth maximization strategy. We find that auditors in the terminal year charge higher audit fees, year-over-year, to their clients than the control set of audit firms that have the same predicted probability of turnover, but continue the relationship with their client. The results are economically significant as terminal year audit firms charge 7.13 percent higher fees compared to the previous year. We further find that terminal year audit firms are more likely to issue a going concern opinion (marginal effect of 3.67 percent) compared to the control set of audit firms. However, we also find that the financial statements audited by

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[1] The 1st stage prediction model to predict auditor turnover has a ROC curve of 0.733, which is deemed acceptable discrimination per Hosmer and Lemeshow (2000). Given the model is sufficient at predicting auditor turnovers, we argue that audit firms can similarly discern the status of the auditor/client relationship and infer when the terminal year occurs.

terminal year audit firms are more likely to be restated during future years (marginal effect of 5.11 percent) suggesting lower audit quality. Additional analysis comparing client initiated dismissals and auditor resignations to the control set of firms yields consistent results.

The combined results suggest that auditors engage in a wealth maximization strategy by using their bargaining power to extract higher audit fees, while at the same time, providing lower quality audits. Furthermore, it appears that the auditors utilize their bargaining power to issue going concern opinions to potentially reduce litigation exposure that is associated with the lower level of quality.[2] These results have implications for the mandatory audit firm rotation proposals by the PCAOB, the European Union and UK Competition Commission, as they suggest that under a mandatory audit firm rotation regime audit firms may engage a wealth maximization strategy with audit quality actually declining during the year prior to rotation.

We contribute to the literature in a number of ways. First, prior studies examining costs associated with auditor changes have primarily focused on the learning effects of the *incoming* auditor and documented lower audit quality in the initial years of the audit engagement. In contrast, this study examines a period in an audit engagement that has received little attention in the academic literature. We investigate the auditor-client relationship dynamics in the last year of the *outgoing* auditor. We argue and find that relationship between an auditor and company can change significantly and the company can incur considerable costs due to lower audit quality in the final year of an audit engagement. Second, the debate on mandatory auditor rotation has taken roots in the possibility of client bargaining power and its associated effects. This study highlights the unintended consequences if circumstances change and the bargaining power shifts

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[2] We note that the higher propensity to issue a going concern opinion has been used as a sign of higher audit quality (Carson et al. 2013). However, in our setting all of the clients in the sample continue on to the next year suggesting that the going concern opinion was a Type 1 error (i.e. false positive). Consequently, the going concern results in combination with the lower audit quality results in the future restatement model suggest that terminal year audit firms may be issuing going concern opinions in a manner consistent with reducing potential litigation risk for being associated with the client's 10-K filing during future periods (i.e. prior year financial results are issued with the current period financial results).

from the client to the auditor. We show that auditors behave like rational agents and are likely to move skilled resources away from concluding engagements much earlier than expected. Finally, this study adds to the ongoing debate on mandatory auditor rotation. The results suggest that there are other unexpected costs that companies could face, and the PCAOB, EC and UKCC must more carefully evaluate the implications of mandating auditor rotation.

The paper is organized as follows. In the next section, we motivate our hypotheses followed by a discussion of our empirical model in section III. We present our results in section IV and additional analyses in section V. We conclude in section VI.

II. MOTIVATION AND HYPOTHESES

The mandatory auditor rotation debate has been in vogue for decades (Winters, 1976; Kemp, Reckers and Arrington, 1983). In fact, the GAO considered but did not recommend auditor rotation in its 1996 Report on "The Accounting Profession - Major Issues: Progress and Concerns" as well as in its SOX Act initiated 2003 Report on "Public Accounting Firms: Required Study on the Potential Effects of Mandatory Audit Firm Rotation (GAO 1996; GAO 2003)." One of the primary reasons for the PCAOB to propound mandatory auditor rotation is the notion that indefinite tenure leads auditors to compromise independence and professional skepticism. Proponents of mandatory audit rotation often blame the progressive lack of independence on the auditor's extended tenure leading to economic dependence on the client for fees resulting in the client influencing audit outcomes (Houston, 1999; Bamber and Iyer, 2007). However, the underlying rationale for this criticism is unclear and is not supported by empirical research. A number of studies show that financial reporting quality is higher when an audit firm has been present for longer periods. For instance, Johnson, Khurana and Reynolds (2002) find that companies with four to eight year audit tenures have lower discretionary accruals than

companies with two to three year audit tenures. Similarly, Myers, Myers and Omer (2003) document higher earnings quality with longer audit tenure while Mansi, Maxwell and Miller (2004) find that longer audit firm tenure is associated with lower cost of debt. A more recent paper by Brooks, Cheng and Reichelt (2013) suggests that the Sarbanes-Oxley Act has negatively influenced the bonding effect on auditor independence.

A number of studies also document the risks associated with engaging a new auditor. One of the biggest downsides to mandatory audit rotation is the loss of client specific knowledge to perform the audit in a meaningful manner. The ever-expanding financial reporting requirements demands considerable time and resources from auditors to not only understand the complexities of a client's operations but also to ensure that the financial reports reflect a true and fair presentation of the performance and condition of the client. Opponents of mandatory audit rotation argue that this critical input to the audit process is often ignored in the debate to the detriment of audit quality. A new auditor may need time to grasp the intricacies of a client's operations and get familiar with the management and audit committee and therefore more susceptible to omission and errors. This is not trivial as research suggests that the market may provide a premium for not only being audited by a Big N audit firm but also for the duration of an audit engagement. In fact, lack of client-specific knowledge is one of the reasons why audit failures are more likely in the early years of audit firm tenure. For example, Gieger and Raghunandan (2002) find that companies are more likely to get a clean audit report in the period before bankruptcy during the early years of an auditor's tenure. Similarly, Carcello and Nagy (2004) document higher instances of fraudulent financial reporting in the early years of an auditor's tenure when compared to later years. Studies documenting positive associations between audit quality and auditor industry or office specialization lend further credence to the need for a long-term client-audit firm relationship.

Experimental research has also tried to address the issue by designing experiments that simulate a mandatory rotation regime. Arel, Brody and Pany (2006) use an experiment with public accountants and find that auditors in a mandatory rotation condition were more likely to modify the audit report for a departure from GAAP than those in a continuing relationship condition. Dopuch, King and Schwartz (2001) examine auditor independence in a combination of rotation and retention settings and document that auditor-subjects willingness to issue biased reports was lower in rotation environments. However, the authors suggest that given the limitations of their study in which the subjects did not interact and the artificially low switching costs, more research is required into the costs associated with rotation vs. retention policies.

More recently, some studies have begun to examine the effect of mandatory audit rotation from the perspective of the outgoing auditor. This is relatively easy to examine in regimes where audit firm rotation has been mandated. Bae, Kallarpur and Rho (2013) use South Korean data to examine the effects of mandatory audit rotation. Contrary to expectations of mandatory audit proponents, the authors find no significant increase in audit quality in the immediate years before or after mandatory rotation. Rather they document a significant decrease in audit hours in the year before mandatory rotation suggesting low level of interest from the outgoing auditor and a significant increase in audit hours in the year after mandatory rotation consistent with high start-up costs incurred by the incoming auditor. While the results of the Bae, Kallapur and Rho (2013) paper do not support mandatory rotation, their results may not be applicable to the US market since the business and regulatory environments are different.

One limitation of studies that show low audit quality in new audit engagements is that auditor changes in the US are voluntary and therefore may not reflect the underlying dynamics in a mandatory setting. While this is true, we posit that comprehending all plausible costs and benefits due to auditor changes is important for companies if audit firm rotation is mandated. To

that end, understanding the effect of audit firm change on audit quality in the final year of an auditor-client relationship is an important empirical question that needs to be examined. Very few studies have looked at the implications of an outgoing auditor in the final year of an audit engagement in an empirical setting using US data.

Competing Auditor Incentives in the Terminal Year

Various auditor incentives could lead to differing levels of audit fees and audit quality outcomes and there are two competing theories that could explain the different outcomes. The theory exposed by the PCAOB is that auditor independence is impaired by the need to maintain positive client relations in order to sustain an annuity generated by the audit fee (and potentially any non-audit fees). The PCAOB argues that freeing auditors from this constraint and forcing them to roll off engagements on a predetermined timetable will lead auditors to resist client demands and focus solely on audit quality. Thus, rolling off of an engagement should lead to higher audit quality. Additionally, rolling off of clients may also lead auditors to increase overall engagement risk and/or audit risk related to specific accounts. Knowing that the audit will be scrutinized by successor auditors, auditors may elect to do more work due to reputational effects. Thus, overall audit quality might increase in the terminal year.

On the other hand, auditors may take a wealth maximization strategy during a terminal year. If an audit firm anticipates rolling off an engagement, the firm may shift its resources from the outgoing client to clients where the relationship is on-going. The audit firm may have incentive to move its best personnel from the outgoing to the clients that require greater attention. Investing in a client where the relationship is coming to an end would not necessarily be a wise use of resources. Staff auditors also have little incentive to spend significant time on a client that is going away. Partners may prefer to increase audit quality in the terminal year, but staff has little incentive to spend energy getting up to speed on a client where client specific

knowledge will no longer have value to their careers after the current year. In other words, any perceived increase in audit quality may just be workpaper "window dressing" as the audit personnel wrap up the client in the terminal year in order to move onto "more important" firm engagements. Thus, overall audit quality might decrease in the terminal year.

Audit Fees in the Terminal Year

We expect the two competing theories to have the same affect on audit fees. Regardless of which theory dominates, we expect an increase in audit fees during the terminal year of the engagement. If audit quality increases due to elevated engagement risk, we would expect additional billing for additional time spent on the audit. In addition, even if audit quality decreases, the shift in bargaining power from the client to the auditor may allow the auditor to bill for additional hours than were estimated in the initial price of the audit. Auditors and clients typically agree upon a billing rate (for all engagement personnel – e.g., partner, manager, staff) and estimated number of hours (for all personnel working on the audit) at the beginning of the audit. Auditors generally reserve the right to bill for additional hours if the hours worked exceed the estimated hours due to changes in the scope of the engagement or client imposed overruns (e.g., client records were not in order). In order to maintain good client relations, auditors could simply ignore any overruns in order to bill for an amount in line with estimates. Whether (and by how much) actual audit fees exceed the agreed-upon estimate at the beginning of the audit varies greatly depending on the audit firm, the office, the partner, and the client. However, when auditors no longer have to worry about client imposed pressure to decrease audit fees, auditors may feel free to bill for any overrun or extraneous expenses. Under either theory (i.e., increase in engagement risk or wealth maximization), we expect audit fees to be higher in the terminal year of an engagement. Formally, we hypothesize:

H1: Auditors charge higher fees (compared to the previous year) in the terminal year of an engagement relative to years in an ongoing engagement.

Going Concern Opinions in the Terminal Year

Next we consider whether auditors would be more likely to issue a going-concern opinion in the terminal year of the audit. Auditors are required to evaluate audit evidence, market conditions, and management's ability to mitigate significant auditor concerns as to whether there is substantial doubt regarding an entity's ability to continue as a going-concern during the year following the balance sheet date [see SAS No. 59 (AICPA 1988)]. If auditors ultimately have substantial doubt about the entity's ability to continue as a going concern, the auditor must verify the adequacy of management's financial statement disclosures related to their concerns and modify the audit report to include a paragraph explaining the reasons that give rise to the auditor's substantial doubt (i.e., issue a going concern opinion).

During the terminal year of an audit engagement, there are reasons to support the possibility that auditors may be more likely to issue a going concern opinion and reasons against the likelihood of issuing a going concern opinion. If auditors are traditionally reluctant to issue a going concern opinion due to client influence and persuasion and the auditors' desire to maintain the relationship (i.e., audit fee), then the terminal year of the audit should liberate auditors to err on the side of caution and increase the probability of issuing a going concern opinion. However, DeFond et al. (2002) do not find a relation between audit fees and going concern opinions. In other words, fees do not appear to impair auditor decision-making with respect to going-concern opinions. On the other hand, Geiger and Rama (2003) and Blay and Geiger (2013) find a positive relation. Perhaps more importantly, Blay and Geiger (2013) find a negative relation between current going concern opinions and future fee receipts from incumbent audit clients. In other words, client influence and future audit fees may impact current year going concern decisions. If so, we would expect that the likelihood of going concerns opinions will increase in the terminal

year of the audit. If an auditor is grappling with giving a going concern opinion, he/she may be

more likely to err on the side of giving the opinion in the terminal year of the audit especially

given that future auditors will be scrutinizing their work related to the current year audit.

Formally, we hypothesize:

H2: A going-concern paragraph in the audit report is more likely in the terminal year of an
engagement relative to years in an ongoing engagement.

Audit Quality during Terminal Year

Finally, we consider the relationship between audit quality and the terminal year of the

audit engagement. As discussed, there are two valid economic theories that would predict audit

outcomes with respect to audit fees and going concern opinions during the terminal year. Both

theories suggest audit fees and going concern opinions will increase. However, the theories

diverge with respect to audit quality. We consider audit quality to determine which theory

dominates.

Audit firms are continuously concerned about protecting their auditor brand reputation

and maintaining their existing client portfolio (DeAngelo 1981). Consequently, auditors during

the terminal year may have an increased incentive to ensure that engagement audit quality is

higher. Especially, considering the fact that the successor auditor will take over the client

engagement and scrutinize the audit/accounting conclusions reached during their tenure with the

client (Romanus, Maher and Fleming 2008).[3] Specifically, the auditor may ensure that working

paper and position memos are fully documented and that any high risk accounts are fully

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[3] During testimony leading up to the passage of the Sarbanes Oxley Act of 2002, John Biggs (Chairman, President and CEO of TIAA-CREF) stated that an audit firm may act with increased independence out of concern for what its replacement might find. He specifically provided the following example: "Had Andersen in 1996 known that Peat Marwick was going to come in during 1997, there would have been a very different kind of relationship between them and Enron. Clearly, they would have wanted to have their work papers in order, all of the deals documented and well explained. They might well have challenged Enrons' management in that early period where Enron was changing its accounting. I would think that there is a very high probability that had rotation been in place at Enron with Andersen, you would not have had the accounting scandal that I think we have now (PCAOB 2011, p. 12; Cassell et al. 2012).

scrutinized. Furthermore, as the bargaining power shifts from the client to the auditor during the terminal year, they will be in a better position to challenge and ultimately prevail on certain accounting positions that may have been overlooked during prior periods when the auditor was concerned about maintaining the relationship. Consistent with this notion, Cassell et al. (2013) find that audit quality is higher for quarterly reviews conducted by audit firms that no longer are engaged for the annual audit, but agree to stay on for the interim quarters before the successor auditor takes over (i.e. "lame duck auditors"). This theory is consistent with the PCAOB's rationale for mandated audit firm rotation. If auditors are free from pressure to maintain long-term client relationships (i.e., the annuity generated from the on-going audit fee), they will be less likely to acquiesce to client demands and focus on audit quality and maintaining their reputations.

To the extent that audit firms engage in a wealth maximization strategy, it is possible that audit quality would decline during the terminal year. Audit firms can use their bargaining power to extract higher audit fees and issue going concern opinions to compensate for any added risk of being associated with the client going forward (i.e. next two years in the 10-K), while at the same time reducing the resources and effort associated with the engagement, thus increasing overall profitability on the engagement. Each firm has limited resources to allocate to each of their client engagements. Consequently, during the terminal year the auditors may allocate lower quality resources (resulting in lower audit quality) to the engagement electing to focus their better resources on continuing engagements. Furthermore, existing staffing on the job may have conflicting interests with the audit firm/partner's incentives. Audit partners may have an incentive to ensure higher audit quality during the terminal year to protect against reputation loss and litigation risk; however, lower level staffing (i.e. mangers to staff) have an incentive to complete the job as soon as possible and focus more of their efforts on client satisfaction and

quality of existing clients.[4] Finally, general disinterest in the terminal year client may result in less hours (i.e. audit effort) on the engagement, which has been shown in South Korea under a mandatory audit firm rotation regime (Bae et al. 2013). Bronson et al. (2013) provide further support of a decline in audit quality during the terminal year using international mandatory audit firm rotation settings in Brazil, Italy and South Korea.

Given the competing theories and empirical evidence regarding audit quality during the terminal year, we do not make a directional prediction. We present the following hypothesis in null form:

H3: There is no difference in audit quality (proxied by future restatement likelihood) during the terminal year of an audit engagement and years in an ongoing engagement.

III. SAMPLE AND METHODOLOGY

Auditor Change Variable and PSM Sample Construction

The focus of this study is to examine auditor/client dynamics during the terminal year of the relationship and how it affects overall audit quality. The variable of interest in our study is whether or not the client will change audit firms during the next year (*AUDCHGNY*). However, it is not always clear during the terminal year if an auditor switch will occur next year. We address this limitation by using a propensity score matching (PSM) design that does a 1 to 1 match based on that predicted probability that a given client will change audit firms during the next year. The use of PSM is appealing for a number of reasons. First, PSM (opposed to a large sample set) ensures that the treatment and control firms are comparable in terms of auditor

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[4] Messier et al.(2008) find evidence that partners tend to overestimate the ability of lower level personnel to detect fraud and other complex errors. This finding is consistent with a potential disconnect between partners that may seek higher audit quality during the terminal year, but not actually ensuring that lower level personnel are providing higher audit quality (i.e. catching potential errors and misstatements during the initial rounds of audit workpaper preparation). Although litigation risk may be higher for partners in the event of lower audit quality being discovered, it can be argued that this risk may not pass down to the staffing level given the high turnover rates at CPA firms. Furthermore, lower level staff evaluations will more likely be effected by client satisfaction and quality of existing engagements reducing the incentive to allocate more of their resources to clients that are no longer continuing.

turnover probability and that the variable of interest is not capturing other innate risk factors

associated with either the client or the audit firm. Second, PSM reduces potential concerns that

the audit firm would not be aware of the impending completion of the auditor/client relationship

as we are examining both treatment and control observations with similar turnover probabilities.

Finally, the PSM approach controls for self-selection bias and potential endogeneity concerns

(Guo and Fraser 2010; Lawrence et al. 2011).

We estimate the propensity score by adapting a logistic regression specification of the

auditor change model from Landsman, Nelson and Rountree (2009).[5] Below is the specification

with variable definitions found in Appendix B:

$$
\begin{aligned}
AUDCHGNY_{i,t+1} = \quad & \beta_0 + \beta_1 LNMVE_{i,t} + \beta_2 GROWTH_{i,t} + \beta_3 INVREC_{i,t} + \beta_4 MODOP_{i,t} + \\
& \beta_5 TENURE_{i,t} + \beta_6 ROA_{i,t} + \beta_7 LOSS_{i,t} + \beta_8 LEVERAGE_{i,t} + \beta_9 OCF_{i,t} \\
& + \beta_{10} SHU\_MISMATCH_{i,t} + \beta_{11} EXPERT_{i,t} + \beta_{12} MERGER_{i,t} + \\
& \beta_{12} ANNONCED\_RESTATEMENT_{i,t} + year\ fixed\ effects + industry \\
& fixed\ effects + \varepsilon_{i,t}
\end{aligned}
$$
(1)

The dependent variable captures whether or not there is an auditor turnover during the next year

(i.e. time t+1). As the estimation period includes the demise of Andersen and subsequent

rebalancing, we classify changes from Andersen to one of the other Big 4 audit firms as non-

turnover observations.[6] The explanatory variables (time t) measure financial risk, audit risk,

auditor business risk, and auditor/client misalignment, which are key determinants of auditor

turnover (Shu 2000; Johnstone and Bedard 2004; Hogan and Martin 2009; Landsman et al. 2009;

Schroeder and Hogan 2013). We also include an indicator variable that captures whether or not

the firm announces a restatement during the current year as the likelihood of auditor turnover has

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[5] We utilize the logistic model as prior research suggests this specification is the most efficient for estimating propensity scores (Guo and Fraser 2010; Lawrence et al. 2011).
[6] Many of the Andersen offices along with their clients were absorbed by other Big 4 offices (Kohlbeck, Mayhew, Murphy and Wilkins 2008). Thus, these would not be normal turnovers in the classic sense. However, Andersen to non-Big N turnovers are deemed turnovers for purposes of our analysis. As a sensitivity test, we re-run our results excluding 2001 to 2003 to rule out the effect of Andersen. All results are consistent with what is reported subsequently in Table 4 to 6.

been shown to be higher (Hennes, Leone and Miller 2013; Mande and Son 2013).[7] We further include industry and year fixed effects to control for unobserved factors that may influence auditor turnover decisions.

The sample used for the prediction model is all available U.S. observations during the period 2001 to 2009 from the cross-merge of *Audit Analytics* and *Compustat* with data available to compute the necessary variables resulting in a total of 33,190 observations. We cut-off the sample period at 2009 as one year is necessary to capture the auditor turnover classification and additional years are required to ensure the future restatement classification is complete. Table 1 provides the results of the auditor change model. Panel A provides the frequencies for the dependent variable with 3,016 (30,174) observations experiencing (not experiencing) an auditor turnover during the next year. Panel B provides the results of the regression model with the explanatory variables having coefficient signs and significance consistent with prior research. The ROC curve is 0.733, which is deemed acceptable discrimination (Hosmer and Lemeshow 2000).

Once the predicted probabilities are determined, we perform a 1 to 1 match, without replacement, of a client observation that changes audit firms to a client observation that does not change audit firms during the next year, which has the closest predicted value from equation (1) within a maximum caliper distance of 3 percent (Guo and Fraser 2010). The final process results in 1,659 matched pairs or a final sample of 3,318 observations over the period 2001 to 2009.

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[7] Also, evidence by Files et al. (2013) suggests that approximately 38 percent of their sample from 2002 to 2008 had repeated restatement announcements. Consequently, it is important to control for the fact that the restatement announcement is not confounding the effect we find between the terminal auditor and future restatement likelihood. We include the restatement announcement measure in the 1st stage regression to construct the PSM sample and also as a control variable in the future restatement model discussed later in this section and also in Table 6 results.

Discussion of Empirical Models

We address our research questions examining auditor/client bargaining power during the terminal year by examining three distinct components of the relationship. Using the PSM sample, we begin by examining year-over-year changes in audit fees charged during the final year of the auditor/client relationship. We then examine the likelihood that the auditor will issue a going concern opinion. We conclude by evaluating audit quality by examining the likelihood the current year financial statements will be restated at some point in the future. By studying these three components of the auditor/client dynamic in the terminal year, we can make inferences of how U.S. firms could respond during the terminal year of a mandatory audit firm rotation regime. Under mandatory audit form rotation regime, terminal years would be much more frequent. Below we discuss each model individually along with our predictions.

Analysis 1: Audit Fees

The first analysis examines changes in audit fees between clients in the terminal year of the auditor/client relationship and a control set of clients that will continue with their auditor to the next year. We use the following audit fee change model to test H1 with variable definitions found in Appendix B:

$$
\begin{aligned}
\Delta LNFEE_{i,t} = \quad & \beta_0 + \beta_1 AUDCHGNY_{i,t} + \beta_2 \Delta LNASSETS_{i,t} + \beta_3 \Delta LNBSEG_{i,t} + \\
& \beta_4 \Delta INVREC_{i,t} + \beta_5 \Delta LEVERAGE_{i,t} + \beta_6 \Delta QUICKRATIO_{i,t} + \\
& \beta_7 \Delta ROA_{i,t} + \beta_8 \Delta ROA\_VAR_{i,t} + \beta_9 \Delta GROWTH_{i,t} + \beta_{10} \Delta FOREIGN_{i,t} \\
& + \beta_{11} \Delta MERGER_{i,t} + \beta_{12} \Delta YE_{i,t} + \beta_{13} \Delta LOSS_{i,t} + \beta_{14} \Delta GC_{i,t} \\
& + \beta_{15} \Delta BIGN_{i,t} + \beta_{16} \Delta OP\_404b_{i,t} + \beta_{17} \Delta MW\_302_{i,t} + \\
& \beta_{18} \Delta ANNC\_RESTATE_{i,t} + year\ fixed\ effects + industry\ fixed \\
& effects + \varepsilon_{i,t}
\end{aligned}
\tag{2}
$$

Audit fees are derived based on the amount of hours necessary to complete the engagement, the risk associated with the audit engagement, and the negotiations that occur between the auditor and the client (Simunic 1980; Hay et al. 2006; Causholi et al. 2010). The audit fee change specification evaluates the year-over-year change in audit fees. Assuming fees are sticky in a

steady-state auditor/client relationship, this specification allows for a better evaluation of how the shift in bargaining power affects audit pricing negotiations during the terminal year. Furthermore, by including changes in the control variables for size, risk and complexity, we are further able to control for these known determinants providing a richer test of H1. Consistent with the predictions of H1, auditors possess the majority of the bargaining power during the terminal year of the relationship because they are no longer concerned that their current actions (i.e. billed audit fees) will affect their future revenue streams. Consequently, we expect the audit firms are more likely to charge higher audit fees (or less inclined to provide fee discounts) resulting in a positive coefficient on *AUDCHGNY*.

We include control variables to hold constant the effect of client size (*ΔLNASSETS*), engagement complexity (*ΔLNBSEG, ΔINVREC and ΔFOREIGN*) and risk (*ΔLEVERAGE, ΔQUICKRATIO, ΔROA, ΔROA_VAR, ΔGROWTH, ΔMERGER, ΔLOSS, ΔGC*), which have been shown to be key determinants of audit fees (Simunic 1980; Hay et al. 2006; Hogan and Wilkins 2008). We further include controls for fee premiums associated with engaging a Big 4 audit firm (*ΔBIGN*) and for those clients that have calendar year ends during the busy season peek (*ΔYE*). Also, we include controls for whether or not the client is subject to SOX Section 404(b) (*ΔOP_404b*) and the quality of their internal controls (*ΔMW_302*) as prior studies have found a pricing premium (Hogan and Wilkins 2008). We include a control for whether there was an announced restatement during the period as this could result in an increase in audit fees year-over-year as well as resulting in turnover during the next year (Hennes et al. 2013). Finally, we include year and industry fixed effects to control for unobservable macroeconomic and industry specific factors that would impact audit pricing.

Analysis 2: Propensity to Issue a Going Concern Opinion

The second analysis examines the propensity for an auditor during the terminal year to issue a going concern opinion to their client. To test H2, we use logistic regression to model the auditor's probability of issuing a going concern opinion during the terminal year. The model is as follows with variable definitions found in Appendix B:

$$
\begin{aligned}
GC_{i,t} = \ & \beta_0 + \beta_1 AUDCHGNY_{i,t} + \beta_2 LNMVE_{i,t} + \beta_3 ROA\_VAR_{i,t} + \\
& \beta_4 ZMIJ\_SHUM_{i,t} + \beta_5 LEVERAGE_{i,t} + \beta_6 CHG\_LEVERAGE_{i,t} + \\
& \beta_7 OCF_{i,t} + \beta_8 LLOSS_{i,t} + \beta_9 RESTRUCTURE_{i,t} + \beta_{10} FNDSRSED_{i,t} \\
& + \beta_{11} BIGN_{i,t} + \beta_{12} OP\_404b_{i,t} + \beta_{13} MW\_302_{i,t} + \beta_{14} RECESSION_{i,t} \\
& + year\ fixed\ effects + industry\ fixed\ effects + \varepsilon_{i,t}
\end{aligned} \tag{3}
$$

Due to the PSM sample used for the analysis, this model captures the likelihood of a going concern opinion for a set of firms that share equal probabilities of auditor turnover during the next year. Therefore, the interpretation of the coefficient on the variable that captures whether or not the auditor is in its terminal year (*AUDCHGNY*) will reflect whether terminal year auditors are more likely to issue going concern opinions. Consistent with the predictions of H2, we expect a positive coefficient on *AUDCHGNY* indicating that auditors during their terminal year are more likely to issue a going concern opinion. We conjecture that this is due to the auditor possessing the majority of the bargaining power, thus not being concerned with the ongoing relationship with the client. Furthermore, by issuing the going concern opinion (whether it is reasonable or not) reduces their exposure to potential litigation that may arise from continued association with the client even after the relationship is severed.

We include several control variables used in prior research to control for factors that are predictive of going concern audit opinions. The log of market value of equity (*LNMVE*) is included as a control for size as larger firms have more negotiating power when faced with financial difficulties and are more likely to avoid bankruptcy (Reynolds and Francis 2000;

DeFond et al. 2002). We include the five year variance of the return on assets (*ROA_VAR*) to control for variability in firm performance, which can be an indicator of financial distress.[8]

We include various measures of financial distress and exposure to impending debt covenants. *ZMIJ_SHUM* is the Zmijewski bankruptcy score with higher values indicative of greater risk of bankruptcy (Zmijewski 1984; Shumway 2001). *LEVERAGE* and *CHG_LEVERAGE* capture the current and change in current exposure to impending debt covenants that could trigger bankruptcy and raise going concern issues (Beneish and Press 1993; Reynolds and Francis 2000). OCF measures the amount of operating cash flows with higher values reducing concerns of financial distress. We include a measure of whether the client experienced a loss during the previous year (*LLOSS*) as Reynolds and Francis (2000) find a positive association with current year going concern opinions. We include a measure of whether or not the firm has undergone a restructuring during the current year (*RESTRUCTURE*). We also include a measure that captures the need for current and future financing (*FNDSRSED*) as those firms would be at a higher risk of bankruptcy (Richardson, Tuna and Wu 2003).

We include a measure that captures auditor size as prior research suggests that Big 4 audit firms are more likely to issue going concern opinions (Mutchler, Hopwood and McKeown 1997; DeFond, Raghunandan and Subramanyam, 2002). We include indicator variables that capture whether or not the firm is subject to SOX Section 404b audit requirements (*OP_404b*) and the quality of their internal control systems (*MW_302*). The additional control procedures as well as internal control disclosures serve to aid the auditor in their going concern assessment. We include an indicator variable to capture the impact of the economic recessions during our sample period as going concern opinions are typically higher during periods of macroeconomic stress.

---

[8] Prior studies control for volatility in firm performance using market based measures such as stock returns, stock volatility and the stock's Beta (Dopuch, Holthausen and Leftwich 1987; DeFond et al. 2002). As we would lose a number of observations in our PSM sample due to the cross merge with *CRSP*, we elect to measure the volatility construct with the five year variance of return on assets.

Finally, we include year and industry fixed effects to control for unobservable macroeconomic and industry specific factors that may impact the going concern opinion decision.

Analysis 3: Likelihood of Future Restatement

The final analysis examines the likelihood that the financial statements certified by an auditor during its terminal year will be restated in future periods. To test H3, we estimate the following logistic regression model with variable definitions included in Appendix B:

$$
\begin{aligned}
FUT\_RESTATE_{i,t} = \ & \beta_0 + \beta_1 AUDCHGNY_{i,t} + \beta_2 LNASSETS_{i,t} + \beta_3 LOSS_{i,t} + \beta_4 ROA_{i,t} + \\
& \beta_5 FNDSRSED_{i,t} + \beta_6 ACQESS_{i,t} + \beta_7 BKMKT_{i,t} + \beta_8 IINTCOV_{i,t} + \\
& \beta_9 LEVERAGE_{i,t} + \beta_{10} BIGN_{i,t} + \beta_{11} OP\_404b_{i,t} + \beta_{12} MW\_302_{i,t} + \\
& \beta_{13} GC_{i,t} + \beta_{14} LNFEE_{i,t} + \beta_{15} ANNOUNCED\_RESTATE_{i,t} + \\
& year\ fixed\ effects + industry\ fixed\ effects + \varepsilon_{i,t}
\end{aligned}
\tag{4}
$$

We make the assumption that a future restatement is a sign of lower audit quality as the auditor was unable to detect a material misstatement to the financial statements at the time of the initial audit opinion release (Blankley et al. 2012). We do not make a directional prediction for H3. If auditors during the terminal year respond by increasing audit quality to reduce the risk of future restatements when the new auditor is appointed, then we would expect a negative coefficient on the auditor change variable (*AUDCHGNY*). However, if auditors engage a wealth maximization strategy during the terminal year and shift their higher quality resources from the engagement, we would expect audit quality to suffer resulting in a positive coefficient on *AUDCHGNY*.

The control variables included are based on firm-specific characteristics, such as firm size, profitability and capital market pressures found in prior literature to be predictive of future financial restatements. We include the log of total assets (*LNASSETS*) to control for the client's size. Scholz (2008) find that prior to 2001 restating firms are typically smaller than the *Compustat* average; however, up to 2007 restating companies are typically larger than the *Compustat* average. Poor performing firms have an incentive to boost their current year financial performance resulting in an increased likelihood of future restatement (Scholz 2008). We include

an indicator variable of whether or not the company experiences a loss in the current period

(*LOSS*) and return on assets (*ROA*) to capture financial performance.

Richardson, Tuna and Wu (2003) find that firms with capital market pressures and higher

growth are more likely to restate in the future. We include a measure that captures a company's

need for financing (*FNDSRSED*). We include a measure of whether the company has engaged in

acquisition activity (*ACQESS*) as Palmrose and Scholz (2004) find this is one of the most

frequent non-core earnings restatements. We also include the book-to-market measure to control

for growth. Companies with possible debt covenant constraints and higher leverage are more

likely to restate in the future (Efendi et al. 2007). We include the inverse interest coverage ratio

(*IINTCOV*) and a ratio of total liabilities to total assets (*LEVERAGE*) as measures of the

company's exposure to debt covenant constraints.

We include an indicator variable of auditor size (*BIGN*) as larger auditors may deliver

higher quality audits catching potential adjustments prior to release reducing the likelihood of

future restatement (Boland, Bronson and Hogan 2013). We include a measure that captures

whether or not the company is subject to Section 404(b) audit requirements (*OP_404b*) as the

different filer statuses may be subject to heightened restatement risk due to filing deadline

changes during our sample period (Boland, Bronson and Hogan 2013). We further include a

measure that captures the quality of internal controls (*MW_302*) as Boland, Bronson and Hogan

(2013) find that lower quality controls are associated with higher future restatement likelihood.

We also include whether or not the auditor issues a going concern opinion (*GC*). We include a

measure of audit fees as Blankley et al. (2012) find that higher audit fees are associated with

lower likelihood of future restatements. We include a measure capturing whether or not there is a

current period restatement announcement of prior year financial statements (not related to the

fact that the future years financial statements will be restated) as recent evidence suggests that

there are certain firms that habitually restate their financial statements (Files, Sharp and Thompson 2013). This controls for possibility that the variable of interest (*AUDCHGNY*) is capturing the effect of the current period restatement announcement instead of the impact of the terminal year on future restatement risk. Finally, we include year and industry fixed effects to control for unobservable macroeconomic and industry characteristics that could affect the likelihood of future restatements.

Auditor Resignation vs. Client Dismissal Analyses

It is possible that auditors are unaware of the impending turnover during the next year, especially when the client initiates the turnover. The PSM design attempts to address this by matching observations based on the predicted probability of auditor turnover during the next year. We further address this concern by performing additional specifications of the models above by partitioning the next year auditor turnover variable into client initiated and auditor initiated changes. It can be argued that the auditor has full knowledge of the terminal year when it initiates the resignation.[9] We include an indicator measure (*RESIGNNY*) that takes the value of 1 if the 8-K indicates the turnover was initiated by the auditor and 0 otherwise. The *AUDCHGNY* indicator variable captures client initiated changes. Significant results for the coefficient on the *RESIGNNY* and *AUDCHGNY* variables in the subsequent analyses would provide further support of our bargaining power conjecture.

<div align="center">

IV. RESULTS

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Descriptive Statistics

Table 2 provides the descriptive statistics for the sample used in our multivariate analyses separated by whether or not the client changes auditors during the next year (*AUDCHGNY*).

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[9] It can also be argued that client initiated turnovers could have been driven by the auditor during the negotiation process (Shu 2000). Consequently client initiated turnovers could be realistically foreseen by the auditor during the terminal year.

Consistent with the predictions of H1, H2 and H3, auditors in the terminal year have larger changes in audit fees, are more likely to issue going concern opinions (*GC*) and are more likely to experience a future restatement of the terminal year financial statements (*FUT_RESTATE*) compared to the control sample with the same predicted probability of turnover, but do not. When comparing the control variables from the audit fee change model, we find the auditor turnover sample has larger increase in the current ratio, greater change in total assets, greater decline in return on assets, increased likelihood of going concern opinion, more likely to change reporting periods to the year-end, more likely to disclose a Section 302 material weakness, and are less likely to switch from a Big N to a non-Big N audit firm. Regarding the going concern and future restatement control variables, the auditor turnover sample is more likely to be audited by a Big N audit firm (*BIGN*) indicating a need to control for auditor size in the subsequent analyses. Furthermore, the auditor turnover sample is more likely to have lower quality internal controls (*MW_302*), lower return on assets (*ROA*), greater financial distress (*ZMIJ*), greater leverage (*LEVERAGE*), greater change in leverage (*CHG_LEVERAGE*), greater need for financing (*FNDSRSED*), and larger book-to-market ratio (*BKMKT*). This indicates the need to include these various controls in the respective models.

Table 3 provides the Pearson Correlation Matrix for the dependent and independent variables of interest. Consistent with the predictions of H1, H2 and H3, we find the auditor turnover variable (*AUCHGNY*) is positive and significantly correlated with the change in audit fees (*ΔLNFEE*), going concern opinions (*GC*) and future restatement (*FUT_RESTATE*) dependent variables. We also find that auditor initiated resignations (*RESIGNNY*) is positive and significant with the three dependent variables; however, client initiated dismissals (*DISMISSNY*) is not correlated with the going concern dependent variable. The remaining correlations with the

respective control variables (untabulated) are consistent with our expectations based on prior research.

Multivariate Analyses

Audit Fee Results

Table 3 presents the results of the audit fee level specification. Consistent with the prediction of H1, the coefficient on *AUDCHGNY* in Column (1) is positive and significant (p<0.01). Furthermore, this change is economically significant as the turnover firms increase fees 7.13 percent higher than the control group that does not experience a turnover. This suggests that auditors during the terminal year increase their audit fees compared to last year at a higher rate than comparable firms in the control sample (predicted to turnover, but do not). When separating the auditor change variable into client (*DISMISSNY*) and auditor (*RESIGNNY*) initiated changes, we find both are positive and significant (p<0.01) consistent with the prediction of H1. However, the test of the difference in coefficients on RESIGNNY and DISMISSNY are not statistically different (coefficient difference = -0.0052; p=0.822), suggesting no difference in year-over-year fee changes when either the auditor or the client initiates the turnover during the next year.

The results of Table 4 support our conjecture that auditors during the terminal year respond to their increased bargaining power by charging higher audit fees to their clients. However, this analysis alone does not allow us to conclude that the higher audit fees are associated with increased auditor effort manifesting in higher audit quality or a wealth maximization strategy engaged by the audit firm. We next turn to the going concern analysis to understand the dynamics surrounding the audit opinion decision during the terminal year.

Going Concern Results

Table 5 presents the results of the going concern logistic regression analysis. Panel A provides the frequencies for the dependent variable with 673 (2,645) observations receiving (not

receiving) a going concern opinion. The ROC curve is 0.926 and 0.927 in columns (1) and (2), respectively, indicating the model provides outstanding discrimination (Hosmer and Lemeshow 2000). Consistent with the prediction of H2, we find a positive and significant coefficient on *AUDCHGNY* (p<0.01) in Column (1) with a marginal effect of 0.0367. This suggests that, ceteris paribus, auditors during the terminal year are 3.67 percent more likely to issue a going concern opinion compared to the control sample that has the same predicted probability of turnover, but do not. Column (2) further separates the classification into client and auditor initiated turnovers. The coefficients on both *DISMISSNY* and *RESIGNNY* are positive and significant (p=0.05 and p<0.01, respectively) with marginal effects of 0.0283 and 0.0620, respectively. The test of whether the coefficients on RESIGNNY and DISMISSNY is marginally significant (coefficient difference=0.2651; p=0.154) indicating that auditor initiated resignations are more likely to issue going concern opinions compared to client dismissals. This result is intuitively appealing as there is absolute certainty that the auditor is aware that this is the terminal year of the relationship.

In summary, the results suggest that auditors respond with a higher likelihood of issuing a going concern opinion during the terminal year. This is consistent with more auditor bargaining power resulting in the auditor being more likely to issue a going concern opinion, when prior to that they may have had reservations given the ongoing client relationship. The going concern result can be interpreted as higher audit quality in the sense that the auditor is more inclined to issue the going concern opinion. However, given the nature of the sample, these clients continue on past a year indicating a false positive. Consequently, it is possible that audit quality was not a factor in the terminal year auditor's decision to release the going concern opinion. Instead it is possible that the going concern decision was a defense mechanism to avoid any potential litigation or reputation exposure from severing the relationship with the client. We next examine

the likelihood of future restatement to further evaluate the level of audit quality during the terminal year.

Future Restatement Results

Table 6 presents the results of the future restatement logistic regression analysis. Panel A provides the frequencies for the dependent variable with 375 (2,943) experiencing (not experiencing) a future restatement of the current year financial statements. The ROC curve is 0.705 and 0.706 in Column (1) and (2), respectively, which is acceptable discrimination (Hosmer and Lemeshow 2000). Consistent with a lower audit quality outcome, we find a positive and significant coefficient on *AUDCHGNY* ($p<0.01$) in Column (1) with a marginal effect of 0.0511. This suggests that, ceteris paribus, financial statement certified by auditors during their terminal year are 5.11 percent more likely to be restated during the future consistent with lower audit quality. Column (2) indicates that both client and auditor initiated changes are explanatory of future restatements as the coefficients on *DISMISSNY* and *RESIGNNY* are positive and statistically significant ($p<0.01$ in both models) with marginal effects of 0.0441 and 0.0879, respectively. Furthermore, the test of coefficient differences between RESIGNNY and DISMISSNY is significant (coefficient difference = 0.3312; $p=0.031$) indicating future restatements are more likely for auditor resignations. This suggests that even in cases where the terminal year is absolute (i.e. resignations), audit quality appears to be lower compared to the control set of firms with the same predicted probability of turnover, but do not.

Summary of the three Analyses

The combined results suggest that during the terminal year of the auditor/client relationship, auditors are more likely to charge higher audit fees and issue going concern opinions; however, actual audit quality appears to suffer as evidence by a higher likelihood that the current period's financial statements will be restated at some point in the future. The results

suggest that auditors engage in a wealth maximization strategy by using their bargaining power to extract higher audit fees, while at the same time, providing lower quality audits. Furthermore, it appears that the auditors utilize their bargaining power to issue a going concern opinion to potentially reduce litigation exposure that is associated with the lower level of quality. The lower audit quality we observe during the terminal year using the voluntary rotation setting in the U.S. appear consistent with the recent findings of Bae et al. (2013) that find a reduction in quality using Korean mandatory audit firm rotation data. Furthermore, the results contradict the recent findings in the Cassell et al. (2013) "lame duck" auditor paper that find audit quality increases during the interim quarters of an auditor transition. These results have implications for the mandatory audit firm rotation proposal by the PCAOB, as they suggest that under a mandatory audit firm rotation regime audit firms may act in a wealth maximizing way with audit quality actually declining during the year prior to rotation.

V. ADDITIONAL ANALYSIS

Future Restatement Results Excluding Successor Period Restatements

Restatements typically involve multiple years when the restatement is announced. Consequently, the observations in our sample will have multiple years restated, including the terminal year of interest. Furthermore, it is possible that the restatement period includes the terminal year and years audited by the successor auditor. As a sensitivity test, we eliminate 278 restatement observations (556 total observations including the matched treatment and/or control observation) that included years in the restatement date range that were audited by the successor audit firm. This filter results in a final sample of 2,762 observations where 105 experience a future restatement and 2,657 do not. We also check that the restatement period ends with the terminal year, which is likely the key driver of the restatement period.

We re-estimate the future restatement model with this new sample and find results (untabulated) that are qualitatively similar with the results reported in Table 6. Specifically, we find a positive and significant coefficient on AUDCHGNY (coefficient = 0.8146; $p<0.01$) in the main model. In the model that separates resignations from dismissals we find positive and significant coefficients on DISMISSNY (coefficient = 0.7441; $p<0.01$) and RESIGNNY (coefficient = 0.9487; $p<0.01$). The results excluding observations that had restatements covering the successor auditor period continue to support the prediction of H3.

Future Restatement Results Excluding Auditor Change Improvements

It is possible that the future restatement result of lower audit quality during the terminal year could be the artifact of the successor scrutinizing the accounting treatments allowed by the predecessor auditor during the terminal year and that future restatements found subsequent to the terminal year are largely the artifact of differences of opinion over accounting treatments and superior expertise possessed by the successor auditor (Romanus et al. 2008). However, the literature also suggests that audit quality is lower during the initial years of the auditor/client tenure due to steep learning curves suggesting lower audit quality during the terminal year would not necessarily be detected by the successor auditor (Carcello and Nagy 2004).

To rule out the possibility that the future restatement results suggesting lower audit quality during the terminal year are an artifact of superior auditing expertise demonstrated by the successor auditor, we eliminate instances where the client upgrades the quality of audit firm from the terminal year to the next year. Of the 1,659 turnover observations in the sample, 140 were instances where the turnover resulted in an improvement from one audit firm tier to the next: Tier 3 to Tier 2 or Big N; Tier 2 to Big N. We eliminate these observations along with the related match for the PSM analysis resulting in a reduction in the sample by a total of 280 observations to a final total of 3,038 observations. We re-estimate the future restatement model with this new

sample and find results (untabulated) that are qualitatively similar with the results reported in Table 6. Specifically, we find a positive and significant coefficient on *AUDCHGNY* (coefficient = 0.5780; p<0.01) in the main model. In the model that separates dismissals and resignations we find positive and significant coefficients on *DISMISSNY* (coefficient=0.4335; p<0.01) and *RESIGNNY* (coefficient=0.8510; p<0.01). The results excluding auditor improvements provide strong evidence supporting H3 as it suggests that lower audit quality by the terminal year audit firm is being detected even in instances when the successor auditor is equal or a downgrade in terms of audit quality. It is further important to note that the lower audit quality on the part of the terminal year auditor is being detected even during the initial years of the auditor/client tenure when audit quality is presumably lower due to low client familiarization further suggesting that terminal year auditors are minimizing quality/effort during the terminal year consistent with a wealth maximization strategy.

Effect of Big N vs. non-Big N Audit firms on Terminal Year Audit Quality

Big N audit firms have higher incentives to ensure that audit quality is higher to protect their client portfolios, future rents and brand reputation (DeAngelo 1981). Consequently, it would be expected that Big N audit firms would be less likely to reduce audit quality during the terminal year as reputational penalties would be more severe. To address this concern, we re-estimate future restatement model by including an interaction term (*AUDCHGNY*BIGN*) between the next year auditor change variable (*AUDCHGNY*) and the Big N variable (*BIGN*). A negative (positive) and significant coefficient on the interaction term would suggest that Big N audit firms, relative to non-Big N audit firms, have lower (higher) likelihood of being associated with a future restatement of the current period financial statements.

In untabulated results, we find a negative and significant coefficient on the *AUDCHGNY*BIGN* interaction term (coefficient -0.6975; p<0.01) suggesting that the likelihood

of future restatement for the Big N subgroup is lower. The coefficient on *AUDCHGNY* is positive and significant (coefficient = 0.9563; p<0.01) and the coefficient on the sum of *AUDCHGNY* and *AUDCHNY*BIGN* (coefficient=0.2588; F-Test p<0.01) continuing to support that audit quality is lower in the terminal year for both non-Big N and Big N audit firms, respectively. The combined results continue to support lower quality during the terminal year but the effect is lower for Big N audit firms consistent with larger audit firms having reputational concerns.

VI. CONCLUSION

Research examining the benefits and drawbacks of auditor changes largely emphasize the costs associated with the incoming auditor. In contrast, this study focuses on the auditor-client relationship during the terminal year of the outgoing auditor. We argue that bargaining power shifts from the client to the auditor in the final year of audit engagements as evidenced by increased audit fees and more frequent going concern opinions during that period. While this shift in bargaining power seems to support the argument for mandatory audit rotation, the higher audit fees and increased going concern opinions do not translate into higher audit quality. We find a greater likelihood of companies restating the financial statements of the final years of audit engagements suggesting that auditors invest lower effort and resources in the terminal years. Although drawing inferences about mandatory audit rotation regimes by examining voluntary auditor changes is challenging and debatable, understanding the auditor-client dynamics in the final years of audit engagements could provide more insights into possible unintended consequences of mandatory audit rotation.

REFERENCES

Archambeault, D. S., E. T. DeZoort, and D. R. Hermanson. 2008. Audit committee incentive compensation and accounting restatements. *Contemporary Accounting Research* 25 (4): 965–92.

Arel, B.; Brody, R., Pany, K. (2006). Findings on the Effects of Audit Firm Rotation on the Audit Process Under Varying Strengths of Corporate Governance. *Advances in Accounting* 22, 1-27.

Bae, Gil S., Kallapur, Sanjay and Rho, Joon Hwa, Does Regulator Selection of Auditors Improve Audit Quality? Evidence from Auditor Designation in Korea (March 1, 2012). Available at SSRN: http://ssrn.com/abstract=2037712.

Bamber, E. M., & Iyer, V. M. (2007). Auditors' identification with their clients and its effect on auditors' objectivity. *Auditing: A Journal of Practice & Theory*, 26(2), 1-24.

Bamber, M., and V. Iyer. 2007. Auditors' identification with their clients and its effect on auditors' objectivity. *Auditing: A Journal of Practice & Theory* 26 (November): 1–24.

Bazerman, M. H., D. A. Moore, P. E. Tetlock, and L. Tanlu. 2006. Reports of solving the conflicts of interest in auditing are highly exaggerated. *Academy of Management Review* 31 (1): 1–7.

Beneish, M. D. and E. Press. 1993. Costs of Technical Violation of Accounting-Based Debt Covenants *The Accounting Review* 68: 233-257.

Blankley, A. I., D. N. Hurtt and J. E. MacGregor. 2012. Abnormal audit fees and restatements. *Auditing: A Journal of Practice and Theory* 31(1): 79-96.

Blay, A. D., and M. A. Geiger. 2013. Auditor fees and auditor independence: Evidence from going concern opinions. *Contemporary Accounting Research*. 30 (2): 579–606.

Boland, C., Bronson, S., and Hogan, C. 2012. Accelerated Filing Deadlines and Financial Statement Quality:The Case of Restatements (February 3, 2012). Working paper, Michigan State University.

Bronson, S., Harris, K., and Whisenant, S. 2013. Mandatory Audit Rotation: An International Investigation (August, 2013). Working paper, The University of Kansas.

Brooks, L., Cheng, C.S.., and Reichelt, K. 2013. Audit Firm Tenure and Audit Quality: Evidence from U.S. Firms (January, 2013). Working paper, Louisiana State University.

Carcello, J. V., & Nagy, A. L. 2004. Audit firm tenure and fraudulent financial reporting. *Auditing: A Journal of Practice and Theory*, 23(2), 55-69.

Cao, Y., Myers, L. A. and Omer, T. C. 2012. Does Company Reputation Matter for Financial Reporting Quality? Evidence from Restatements. *Contemporary Accounting Research*, 29: 956–990.

Carson, E., N. C. Fargher, M. A. Geiger, C. S. Lennox, K. Raghunandan, and M. Willekens. 2013. Audit reporting for going-concern uncertainty: a research synthesis. Auditing: A Journal of Practice and Theory, 32 (Supplement) 353 – 384.

Cassell, Cory A., Myers, Linda A., Seidel, Timothy A. and Zhou, Jian. 2013. The Effect of Lame Duck Auditors on Management Discretion: An Empirical Analysis (June 19, 2013). Working paper, University of Arkansas Available at SSRN: http://ssrn.com/abstract=1957323.

Causholli, M., M. DeMartinis, D. Hay, and W. Knechel. 2010. Audit markets, fees and production: Towards and integrated view of empirical audit research. *Journal of Accounting Literature* 30: 167-215.

DeAngelo, L., 1981. Auditor size and audit quality. *Journal of Accounting and Economics* 3, 183-199.

DeFond, M. L., & Subramanyam, K. R. (1998). Auditor changes and discretionary accruals. Journal of Accounting & Economics, 25(1), 35-67.

DeFond, M. L., K. Raghunandan, and K. R. Subramanyam. 2002. Do non-audit service fees impair auditor independence? Evidence from going-concern audit opinions. *Journal of Accounting Research* 40 (4): 1247–1274.

Dopuch, N., Holthausen, R. W., & Leftwich, R. W. (1987). Predicting audit qualifications with financial and market variables. *The Accounting Review*, 62(3), 431.

Dopuch, N., R. R. King and R. Schwartz. 2002. An experimental investigation of retention and rotation requirements. *Journal of Accounting Research* 39(1) 93-117.

Efendi, J., A. Srivastava, and E.P. Swanson. 2007. Why do corporate managers misstate financial statements? The role of option compensation and other factors. *Journal of Financial Economics* 85: 667-708.

European Commission (EC). 2011. *Proposal for a Regulation of the European Parliament and of the Council on specific requirements regarding statutory audit of public-interest entities*. Brussels.

Files, R., N. Y. Sharp and A. Thompson. 2013. Empirical evidence on repeat restatements. *Accounting Horizons* Forthcoming.

Geiger, M. A., & Raghunandan, K. (2002). Auditor tenure and audit reporting failures. *Auditing: A Journal of Practice and Theory*, 21(1), 67-78.

Geiger, M. A., and D. V. Rama. 2003. Audit fees, nonaudit fees and auditor reporting on stressed companies. *Auditing: A Journal of Practice & Theory* 22 (2): 53–69.

General Accounting Office (GAO). 2003. "Public Accounting Firms: Required Study on the Potential Effects of Mandatory Audit Firm Rotation". Report to the Senate Committee on Banking, Housing, and Urban Affairs and the House Committee on Financial Services. Washington D.C.

General Accounting Office (GAO). 1996. "The Accounting Profession—Major Issues: Progress and Concerns." Report to the ranking minority member, Committee on Commerce, House of Representatives. Washington D.C.

Gramling, A. A. (1999). External auditors' reliance on work performed by internal auditors: The influence of fee pressure on this reliance decision. *Auditing: A Journal of Practice and Theory*, 18, 4-5.

Guo, S., and M. Fraser. 2010. *Propensity Score Analysis: Statistical Methods and Applications*. ThousandOaks, CA: SAGE Publications, Inc.

Hackenbrack, K., & Nelson, M. W. (1996). Auditors' incentives and their application of financial accounting standards. *The Accounting Review*, 71(1), 43.

Hay, D. C., W. R. Knechel and N. Wong. 2006. Audit fees: A meta-analysis of the effects of supply and demand. *Contemporary Accounting Research*. 23(1): 141-191.

Haynes, C. M., Jenkins, J. G., & Nutt, S. R. (1998). The relationship between client advocacy and audit experience: An exploratory analysis. *Auditing: A Journal of Practice and Theory*, 17(2), 88-104.

Hennes, K. M, A. J. Leone, and B. P. Miller. 2013. Determinants and Market Consequences of Auditor Dismissals after Accounting Restatements. *The Accounting Review Forthcoming*.

Hogan, C. E., & Martin, R. D. (2009). Risk shifts in the market for audits: An examination of changes in risk for "second tier" audit firms. *Auditing: A Journal of Practice and Theory*, 28(2), 93-118.

Hogan, C. E., & Wilkins, M. S. (2008). Evidence on the audit risk model: Do auditors increase audit fees in the presence of internal control deficiencies? *Contemporary Accounting Research*, 25(1), 6.

Hosmer, D.W. and S. Lemeshow. 2000. *Applied Logistic Regression*. Second Edition. Wiley Interscience.

Johnson, V. E., Khurana, I. K., & Reynolds, J. K. (2002). Audit-firm tenure and the quality of financial reports. *Contemporary Accounting Research*, 19(4), 637-660.

Johnstone, K. M and J. C. Bedard. (2004). Earnings manipulation risk, corporate governance risk, and auditors' planning and pricing decisions. *The Accounting Review*, 79(2), 277-304.

Kemp, R. S., Jr., Reckers, P. M. J., & Arrington, C. E. (1983). Bank credibility: The need to rotate auditors. *Journal of Retail Banking*, 5, 38–44.

Kohlbeck, M., B. W. Mayhew, P. Murphy and M. S. Wilkins. 2008. Competition for Anersen's clients. *Contemporary Accounting Research* 25 (4): 1099-1136.

Landsman, W. R., Nelson, K. K., & Rountree, B. R. (2009). Auditor switches in the pre- and post-enron eras: Risk or realignment? *The Accounting Review*, 84(2), 531-558.

Lawrence, A., Minutti-Meza, M., & Zhang, P. (2011). Can big 4 versus non-big 4 differences in audit-quality proxies be attributed to client characteristics? *The Accounting Review*, 86(1), 259-286.

Mande, V. and M. Son. 2013. Do financial restatements lead to auditor changes? *Auditing: A Journal of Practice and Theory* 32(2), 119-145.

Mansi, S. A., Maxwell, W. F., & Miller, D. P. (2004). Does auditor quality and tenure matter to investors? evidence from the bond market. *Journal of Accounting Research*, 42(4), 755-793.

Messier, W.F., V. Owhoso, & C. Rakovski. (2008). Can Audit Partners Predict Subordinates' Ability to Detect Errors? *Journal of Accounting Research*, 46(5), 1241–1264.

Mutchler, J. F., Hopwood, W., & McKeown, J. M. (1997). The influence of contrary information and mitigating factors on audit opinion decisions on bankrupt companies. *Journal of Accounting Research*, 35(2), 295-310.

Myers, J. N., Myers, L. A., & Omer, T. C. (2003). Exploring the term of the auditor-client relationship and the quality of earnings: A case for mandatory auditor rotation? *The Accounting Review*, 78(3), 779-799.

Palmrose, Z., & Scholz, S. (2004). The circumstances and legal consequences of non-GAAP reporting: Evidence from restatements. *Contemporary Accounting Research*, 21(1), 139-180.

Public Company Accounting Oversight Board (PCAOB). 2011. *Concept release on auditor independence and audit firm rotation*. Available at: http://pcaobus.org/Rules/Rulemaking/Docket037/Release_2011-006.pdf

Reynolds, J. K., & Francis, J. R. (2000). Does size matter? the influence of large clients on office-level auditor reporting decisions. *Journal of Accounting & Economics*, 30(3), 375-400.

Richardson, S., I. Tuna, and M. Wu. 2003. Predicting earnings management: The case of earnings restatements. Unpublished working paper, University of Pennsylvania and Hong Kong University of Science and Technology.

Romanus, R. N., Maher, J. J., & Fleming, D. M. (2008). Auditor industry specialization, auditor changes, and accounting restatements. Accounting Horizons, 22(4), 389-413.

Schroeder, J. H. and C. E. Hogan. 2013. The impact of PCAOB AS5 and the economic recession on client portfolio characteristics of Big 4 audit firms. *Auditing: A Journal of Practice and Theory*, 32 (4), 95-127.

Scholz, S. 2008. The Change in nature and consequences of public company financial restatements 1997-2006. Available at: http://www.treasury.gov/press-center/press-releases/documents/financialrestatements_1997_2006.pdf.

Shu, S. 2000. Auditor resignations: Clientele effects and legal liability. Journal of Accounting & Economics 29: 173-205.

Shumway, T. (2001). Forecasting bankruptcy more accurately: A simple hazard model. *The Journal of Business*, 74(1), 101-124.

Simunic, D. A. (1980). The pricing of audit services: Theory and evidence. *Journal of Accounting Research*, 18(1), 161.

Tysiac, K. 2013a. Europe takes step toward mandatory audit firm rotation. *Journal of Accountancy*. Available at: http://www.journalofaccountancy.com/news/20137862.htm

Tysiac, K. 2013b. U.K. proposal a second blow to mandatory audit firm rotation. *Journal of Accountancy*. Available at: http://journalofaccountancy.com/News/20138388.htm

Winters, A. J. (1976). Looking at the audit firm rotation issue. *Management Accounting*, 58, 29–30.

Zmijewski, M. E., & Dietrich, J. R. (1984). Methodological issues related to the estimation of financial distress prediction Models/Discussion. *Journal of Accounting Research*, 22, 59.

<p style="text-align: center;">**Appendix A**</p>

Wording from 8-K's that suggest the client and auditor were aware of the auditor change prior to year end.

1. Limited Brands (8-K filed 4/22/2003): Resignation announced prior to the audit completion.

"On February 26, 2003, PwC informed the Company that it would decline to stand for reelection by the Audit Committee as the Company's independent accountants."

"In the Company's Form 8-K filed on April 7, 2003, the Audit Committee of the Company's Board of Directors appointed Ernst & Young LLP as its independent auditor for the year ending January 31, 2004."

"On April 18, 2003, the Company filed its Annual Report on Form 10-K for the fiscal year ended February 1, 2003. In connection therewith, PwC has completed its audit of the Company's February 1, 2003 financial statements and has completed its services as the Company's independent accountants."

2. Marcus Corp (8-K filed 1/15/2008): Dismissal announced prior to audit completion.

"On January 9, 2008, Ernst & Young LLP ("E&Y") was notified on behalf of the Audit Committee of the Board of Directors of The Marcus Corporation ("Company") that, effective upon completion of its engagement for the Company's current fiscal year ending May 29, 2008, and the filing of the Company's Annual Report on Form 10-K for such fiscal year, E&Y will be dismissed as the Company's independent registered public accounting firm."

3. Tenneco Inc (8-K filed 8/6/2009): Dismissal announced prior to audit completion.

"The Audit Committee of Tenneco Inc.'s Board of Directors solicited proposals from the four major accounting firms and conducted an extensive evaluation process in connection with the selection of the Company's independent auditor for the fiscal year ending December 31, 2010. Following this process, on August 5, 2009, the Audit Committee (i) elected to replace, and thereby dismissed, Deloitte & Touche LLP ("Deloitte") as the Company's independent auditor for the year ending December 31, 2010 and (ii) approved the engagement of PricewaterhouseCoopers LLP ("PwC") to serve as the Company's independent auditor for 2010. Deloitte will continue as the Company's independent auditor for the fiscal year ending December 31, 2009, and will cease to serve as the Company's independent auditor effective upon the completion of its audit of that fiscal year."

4. Journal Communications Inc (8-K filed 10/9/2007): Dismissal announced prior to audit completion.

"On October 4, 2007, Ernst & Young LLP ("E&Y") was notified on behalf of the Audit Committee of the Board of Directors of Journal Communications, Inc. that, upon the completion of the 2007 engagement and the filing of the Company's Annual Report on Form 10-K for the year ending December 30, 2007, E&Y will be dismissed as the Company's independent registered public accounting firm."

5. Electro Sensor Inc (8-K filed 11/2/2005): Dismissal announced prior to audit completion.

"On October 26, 2005, the Registrant's Board of Directors and audit committee approved the decision to dismiss Virchow, Krause & Company, LLP as the Registrant's independent public accountants. Virchow, Krause & Company, LLP will continue as the Registrant's independent public accountants for purposes of auditing the Registrant's annual results for the period ended December 31, 2005. The effective date of the Registrant's dismissal of Virchow, Krause & Company, LLP will be the date it issues its audit report for the period ended December 31, 2005."

6. Ryder Systems Inc (8-K filed 9/27/2005): Dismissal announced prior to audit completion.

"The Audit Committee of the Board of Directors of Ryder System, Inc. ("RSI") solicited proposals from the four major accounting firms and conducted an extensive evaluation process in connection with the selection of the independent auditor for the Ryder System, Inc. Deferred Compensation Plan (the "Plan") for the fiscal year ending December 31, 2006. Following this process, on September 22, 2005, the Audit Committee dismissed KPMG LLP ("KPMG") as the Plan's independent auditor for the Plan's fiscal year ending December 31, 2006 and appointed PricewaterhouseCoopers LLP ("PwC") to serve as the Plan's independent auditor for 2006. KPMG will continue as the Plan's auditor for the fiscal year ending December 31, 2005."

7. Allegheny Energy Inc (8-K filed 10/9/2007): Dismissal announced prior to audit completion.

"On October 3, 2007, the Audit Committee of the Board of Directors of Allegheny dismissed PwC as the Company's independent registered public accounting firm. PwC's dismissal will become final once PwC completes its procedures regarding the Company's audited financial statements for the year ending December 31, 2007 and the Annual Report on Form 10-K in which such financial statements will be included."

8. Fuller HB Co (8-K filed 10/8/2003): Dismissal announced prior to audit completion.

"On October 1, 2003, the Audit Committee of the Board of Directors of H.B. Fuller Company, after a comprehensive review of proposals for audit services from several public accountants, determined to engage KPMG LLP as principal accountant of the Company for the fiscal year commencing November 30, 2003 and ending November 27, 2004. PricewaterhouseCoopers LLP,

the current independent accountant, has been dismissed by the Audit Committee of the Board of Directors of H.B. Fuller Company as of October 1, 2003 but has been retained to issue an audit report on the Company's financial statements as of and for the fiscal year ending November 29, 2003."

9. Parker Hanifin Corp (8-K filed 4/23/2007)- Dismissal announced prior to audit completion.

'On April 17, 2007, the Audit Committee of the Board of Directors of Parker-Hannifin Corporation (the "Company") dismissed PricewaterhouseCoopers LLP ("PwC") as the Company's independent registered public accounting firm effective upon completion of its services related to the audit of the Company's consolidated financial statements for the fiscal year ending June 30, 2007.'

10. Borgwarner Inc. (8-K filed 10/9/2008): Dismissal announced prior to audit completion.

"The Audit Committee of the Company's Board of Directors solicited proposals from the four major accounting firms and conducted an extensive evaluation process in connection with the selection of the Company's independent auditor for the fiscal year ending December 31, 2009. Following this process, on October 6, 2008, the Audit Committee elected to replace Deloitte & Touche LLP ("Deloitte") as its independent auditor for the Company's fiscal year ending December 31, 2009 and appointed Pricewaterhouse Coopers LLP ("PwC") to serve as the Company's independent auditor for 2009. Deloitte will continue as the Company's auditor for the fiscal year ending December 31, 2008."

11. Sun Healthcare Group Inc (8-K filed 11/8/2007): Dismissal announced prior to audit completion and a disagreement was noted.

On November 2, 2007, Sun Healthcare Group, Inc. ("Sun"), upon the approval of the Audit Committee of the Board of Directors of Sun and of the Board of Directors of Sun, notified Ernst & Young LLP ("Ernst & Young") that it would not continue to act as the independent registered public accounting firm of Sun after completion of the audit of Sun's financial statements for the year ending December 31, 2007. Ernst & Young will continue as the independent registered public accounting firm for Sun for the year ending December 31, 2007.
The report of Ernst & Young on internal control over financial reporting as of December 31, 2006 expressed an unqualified opinion on management's assessment of the effectiveness of internal control over financial reporting and an adverse opinion on the effectiveness of internal control over financial reporting because of the existence of the following material weakness: inadequate controls over accounting for leases with rent escalation clauses. Management's report on internal control over financial reporting and related changes to internal control over financial reporting are included in Item 9A of Sun's 2006 Form 10-K/A.

12. Digital Recorders Inc (8-K Filed 9/10/2004): Dismissal announced prior to audit completion and a disagreement was noted.

"In its Statement on Auditing Standards No. 61 Report to the Audit Committee dated April 13, 2004, relating to McGladrey's audit of the consolidated financial statements of the Company and its subsidiaries for the year ended December 31, 2003, McGladrey reported that it encountered "disagreements with management over the application of significant accounting principles, the basis for management's judgments on these significant matters, and/or the scope of the audit or significant disclosures to be included in the financial statements." These disagreements related to the valuation of beneficial conversion attributes of a series of the Company's preferred stock, the characterization of a modification of the terms of such series and the deferred tax asset valuation allowance. The Company's Audit Committee and Board of Directors discussed the subject matter of these disagreements with McGladrey. These matters were resolved in a manner deemed acceptable to McGladrey, as subsequently reflected in the Company's Form 10-K for the fiscal year ended December 31, 2003 and its quarterly filings on Form 10-Q for the 2004 fiscal year to date."

13. MicroComponent Technology Inc. (8-K filed 12/14/2005) Resignation announced prior to audit completion.

"On December 8, 2005, the Registrant's independent public accountants, Virchow, Krause & Company, LLP ("Virchow Krause"), formally notified the Registrant that it will resign, effective with the completion of the audit for the fiscal year ending December 31, 2005."

14. Asbury Automotive Group Inc (8-K filed 3/20/2009): Dismissal announced prior to audit completion.

"On December 5, 2008, the Audit Committee of the Company's board of directors (the "Audit Committee") informed Deloitte & Touche LLP ("D&T"), the Company's then current independent registered public accountants, that it had selected Ernst & Young LLP ("E&Y") to audit the Company's consolidated financial statements for the fiscal year ending December 31, 2009, and was therefore terminating the Company's relationship with D&T as the Company's independent registered public accountants. The decisions to terminate the relationship with D&T and engage E&Y were made and approved by the Audit Committee. D&T continued as the Company's independent registered public accountants until the completion of the audit of the Company's consolidated financial statements for the fiscal year ended December 31, 2008, which audit was completed on March 16, 2009."

APPENDIX B	
Variable Definitions	
Dependent Variables	
ΔLNFEE	Difference between natural log of total audit fee in the current and prior year per Audit Analytics.
GC	An indicator variable equal to 1 if the auditor issues a going concern opinion and 0 otherwise. Classification is based on Audit Analytics Opinion File.
FUT_RESTATE	An indicator variable equal to 1 if the current year financial statements are restated at some point during the future and 0 otherwise. Classification is based on restatement data available in Audit Analytics. Restatements related to option backdating and leases are classified as non-restatements for purposes of variable construction.
Independent Variables	
AUDCHGNY	An indicator variable equal to 1 if there is an auditor turnover during the next year (i.e. current year is the terminal year) and 0 otherwise.
DISMISSNY	An indicator variable equal to 1 if the subsequent year auditor turnover is initiated by the client and 0 otherwise
RESIGNNY	An indicator variable equal to 1 if the subsequent year auditor turnover is initiated by the audit firm and 0 otherwise .
Control Variables	
Change Variables (marked with a Δ)	All change variables are the difference between the current and prior year values for the variables listed below.
LNASSETS	Natural log of total assets (AT).
LNBSEG	Natural log of total business segments as available from the Compustat Segment File.
INVREC	Inventory (INVT) plus receivables (RECT) divided by end of year assets (AT).
LEVERAGE	Total liabilities (LT) divided by total assets (AT).
QUICK_RATIO	Current assets less inventory (INVT) divided by total liabilities (LT).
ROA	Income before extraordinary items (IB) divided by average total assets (AT) for the fiscal year.
ROA_VAR	Five year variance in return-on-assets.
GROWTH	End of year assets less beginning of year assets divided by beginning of year assets (AT).
FOREIGN	An indicator variable equal to 1 if the client discloses foreign sales and 0 otherwise. Obtained from the Compustat footnote file.
MERGER	An indicator variable equal to 1 if the client disclosures merger or acquisition activity and 0 otherwise. Obtained from the Compustat footnote file.
YE	An indicator variable equal to 1 if the client is a calendar year reporter and 0 otherwise (FYR).

LOSS	An indicator variable equal to 1 if ROA is negative and 0 otherwise.
BIGN	An indicator variable equal to 1 if the client is audited by a Big 4 audit firm and 0 otherwise. Obtained from Audit Analytics Opinion File.
OP_404b	An indicator variable equal to 1 if the client receives a Section 404(b) internal control audit opinion and 0 otherwise.
MW_302	An indicator variable equal to 1 if the client discloses a Section 302 material weakness and 0 otherwise.
LNMVE	Natural log of market value of equity (CSHO * PRCC_F).
ZMIJ_SHUM	The Zmijweski measure of financial distress using the coefficients from Shumway (2001).
CHG_LEVERAGE	Current year leverage (LT/AT) less prior year leverage (LT/AT at time t-1).
LLOSS	An indicator variable equal to 1 if the client has negative income before extraordinary items (IB) during the prior year and 0 otherwise.
OCF	Total operating cash flows (OANCF) divided by total assets (AT).
RESTRUCTURE	An indicator variable equal to 1 if the client reports restructuring activities (rcp) and 0 otherwise.
RECESSION	An indicator variable equal to 1 if the year-end is during the recessionary period and 0 otherwise. Per the National Bureau of Economic Research, the recessionary periods were March 2001 – November 2001 and December 2007 – June 2009 (see http://www.nber.org/cycles.html).
FNDSRSED	An indicator variable equal to 1 if the sum of new long-term debt (DLTIS) plus new equity (SSTK) exceeds 20 percent of total assets and 0 otherwise.
ACQESS	An indicator variable equal to 1 if the client is engage in acquisition activity and 0 otherwise.
BKMKT	Book value divided by market capitalization.
IINTCOV	Interest expense (XINT) divided by operating income before depreciation (OIBDP) with the ratio capped at a value of 2.0.
ANNC_RESTATE	An indicator variable equal to 1 if the client announces a restatement of previous years 10-K filings and 0 otherwise.
Industry FE	Indicator variables for the 2-digit SIC codes
Year FE	Indicator variables for each year in the sample
Additional variables for the turnover prediction model not defined above	
MODOP	An indicator variable coded as 1 if the opinion contains additional explanatory language (excluding going concern language) and 0 otherwise.
TENURE	The number of years the client is with the current audit firm capped at 10.

SHU_MISMATCH	An indicator variable if the client is misaligned with their current audit firm and 0 otherwise. We estimate the probability that a firm is misaligned separately for each fiscal year by using Shu's (2000) logistic regression model as adapted by Schroeder and Hogan (2013): $BigN_{i,t} = \alpha_0 + \alpha_1 Size_{ti,t} + \alpha_2 Acquisition_{i,t} + \alpha_3 ExFinance_{i,t} + \alpha_4 Profitability_{i,t} + \alpha_5 MktBk_{i,t} + \alpha_5 Foreign_{i,t} + \alpha_5 LNBSEG_{i,t} + \varepsilon_t$. The variables are defined as follows: *BigN* is 1 if the client is audited by a Big 4 auditor and 0 otherwise; *Size* is the natural logarithm of total assets; *Acquisition* is total value of acquisitions per the cash flow statement scaled by average total assets; *ExFinance* is total debt and stock issuances per the cash flow statement scaled by average total assets; *Profitability* is IBEI scaled by average total assets; *MKtBk* is market value of equity scaled by book value of common equity; *Foreign* is 1 if the client has foreign operations (fca in Compustat has a non-missing or non-zero value) and 0 otherwise; *LNBSEG* is the log of total business segments. We estimate the model for all observations in Compustat that have an identified auditor (via Audit Analytics or Compustat) for each year. We then compare the sensitivity and specificity cut-offs to identify the estimated cut-off probability that maximizes both sensitivity and specificity (Hosmer and Lemeshow 2000). The following are the estimated cut-off probabilities by year: 2001 (.787); 2002 (.720); 2003 (.719); 2004 (.684); 2005 (.625); 2006 (.651); 2007 (.585); 2008 (.659); and 2009 (.634). Firm-specific probabilities above (below) these cut-off probabilities would indicate the firm should have a Big 4 (non-Big 4) auditor.
EXPERT	An indicator variable equal to 1 if the incumbent audit firm has 5 percent more industry market share (2-digit SIC) than the next closest competitor and 0 otherwise.
Compustat data items are in parentheses with all other data sources noted above.	

TABLE 1
Auditor Change Logistic Model (Propensity Score Match Model)

Change auditors next year	3,016
Do not change auditors next year	30,174
Total	33,190

Variables	Predicted Sign	Coefficient	χ^2 P-Value	
Intercept		-1.3708	0.000	***
LNMVE	-	-0.2974	0.000	***
GROWTH	+	0.0719	0.000	***
INVREC	+	0.2317	0.020	**
MODOP	+/-	-0.1302	0.010	***
TENURE	+	0.0167	0.008	***
ROA	-	-0.0301	0.009	***
LOSS	+	0.3218	0.000	***
LEVERAGE	+/-	-0.0141	0.075	*
OCF	+	0.0491	0.079	*
SHU_MISMATCH	+	0.4595	0.000	***
EXPERT	-	-0.1810	0.001	***
MERGER	+	0.2727	0.000	***
ANNC_RESTATE	+	0.4564	0.000	***
Year FE		Yes		
Industry FE		Yes		
Pseudo R-Square		0.124		
ROC Curve		0.736		

Note: *, **, ***: $p<0.10$, $p<0.05$, $p<0.01$, respectively, two-tailed tests. Standard errors are clustered by firm to compute t-statistics. Variable definitions can be found in Appendix B. All continuous variables are winsorized at the 1st and 99th percentiles.

TABLE 2
Descriptive Statistics

Panel A: Auditor turnover vs. non-auditor turnover

Variables	AUCHGNY=1 (n=1,659)		AUCHGNY=0 (n=1,659)		Comparison of Means t-test/χ²		Comparison of Medians Wilcoxon χ²	
	Mean	Median	Mean	Median				
Dependent Variables								
ΔLNFEE	0.193	0.115	0.104	0.068	0.000	***	0.000	***
GC	0.223	0.000	0.183	0.000	0.004	***	0.004	***
FUT_RESTATE	0.143	0.000	0.083	0.000	0.000	***	0.000	***
Audit Fee Change Model Controls								
ΔLNASSETS	0.002	0.011	-0.015	-0.006	0.363		0.064	*
ΔLNBSEG	-0.008	0.000	-0.014	0.000	0.453		0.406	
ΔINVREC	0.002	0.001	-0.000	0.000	0.572		0.079	*
ΔLEVERAGE	0.218	0.006	0.075	0.006	0.134		0.234	
ΔQUICKRATIO	0.107	-0.014	-0.085	-0.014	0.034	**	0.976	
ΔROA	-0.041	-0.002	0.038	-0.002	0.079	*	0.113	
ΔROA_VAR	0.376	-0.000	0.169	-0.000	0.728		0.952	
ΔGROWTH	-0.030	-0.010	-0.055	-0.007	0.684		0.957	
ΔFOREIGN	0.016	0.000	0.010	0.000	0.390		0.388	
ΔMERGER	-0.025	0.000	-0.022	0.000	0.862		0.856	
ΔYE	0.006	0.000	0.001	0.000	0.045	**	0.045	**
ΔLOSS	0.021	0.000	0.030	0.000	0.574		0.570	
ΔGC	0.044	0.000	0.007	0.000	0.040	**	0.041	**
ΔBIGN	-0.018	0.000	-0.051	0.000	0.000	***	0.000	***
ΔOP_404b	0.066	0.000	0.066	0.000	1.000		0.981	
ΔMW_302	0.087	0.000	0.032	0.000	0.000	***	0.000	***
ΔANNC_RESTATE	0.018	0.000	0.018	0.000	0.967		0.981	
Going Concern Model Controls								
LNMVE	3.711	3.582	3.646	3.609	0.378		0.476	
ROA_VAR	3.006	0.010	3.464	0.009	0.625		0.173	
ZMIJ	3.573	-2.516	1.416	-2.576	0.012	**	0.358	
LEVERAGE	1.257	0.506	1.081	0.493	0.137		0.204	
CHG_LEVERAGE	0.228	0.007	0.130	0.006	0.100		0.198	
OCF	-0.224	0.017	-0.174	0.030	0.169		0.039	**
LLOSS	0.555	1.000	0.550	1.000	0.780		0.780	
RESTRUCTURE	0.184	0.000	0.197	0.000	0.353		0.353	

(Table Continued on Next Page)

TABLE 2
Descriptive Statistics

Variables	AUCHGNY=1 (n=1,659) Mean	Median	AUCHGNY=0 (n=1,659) Mean	Median	Comparison of Means t-test/χ^2		Comparison of Medians Wilcoxon χ^2	
FNDSRSED	0.297	0.000	0.245	0.000	0.001	***	0.001	***
BIGN	0.521	1.000	0.482	0.000	0.024	**	0.024	**
OP_404b	0.263	0.000	0.283	0.000	0.213		0.213	
MW_302	0.280	0.000	0.181	0.000	0.000	***	0.000	***
RECESSION	0.184	0.000	0.190	0.000	0.656		0.656	
Future Restate Model Controls								
LNASSETS	3.660	3.649	3.741	3.744	0.310		0.342	
LOSS	0.575	1.000	0.576	1.000	0.944		0.944	
ROA	-0.500	-0.035	-0.349	-0.031	0.005	***	0.368	
ACQESS	0.034	0.000	0.028	0.000	0.368		0.368	
BKMKT	0.256	0.434	0.112	0.470	0.117		0.078	*
IINTCOV	-0.120	0.001	-0.180	0.006	0.740		0.085	*
LOGFEE	12.322	12.170	12.260	12.116	0.176		0.167	
ANNC_RESTATE	0.128	0.000	0.104	0.000	0.030	**	0.030	**

Panel B: Auditor Resignations vs. Client Dismissals

Variables	RESIGNNY=1 (n=492) Mean	Median	DISMISSNY=1 (n=1,167) Mean	Median	Comparison of Means t-test/χ^2		Comparison of Medians Wilcoxon χ^2	
Dependent Variables								
Δ*LNFEE*	0.199	0.127	0.190	0.111	0.744		0.549	
GC	0.299	0.000	0.191	0.000	0.000	***	0.000	***
FUT_RESTATE	0.177	0.000	0.177	0.000	0.017	**	0.012	**

*, **, *** indicates a significant difference at two-tailed p-values <0.10, <0.05, and <0.01, respectively, using a t-test for comparison of mean values for continuous variables and a χ^2 test for comparison of dichotomous variables. Comparison of median values was done using a Wilcoxin χ^2 test. Variable definitions can be found in Appendix B. All continuous variables are winsorized at the 1st and 99th percentiles.

TABLE 3
Pearson Correlation Matrix

	(1)		(2)		(3)		(4)		(5)	
(1) ΔLNFEE										
(2) GC	-0.083	***								
(3) FUT_RESTATE	0.051	***	-0.003							
(4) AUCHGNY	0.096	***	0.050	***	0.096	***				
(5) DISMISSNY	0.067	***	-0.022		0.038	**	0.737	***		
(6) RESIGNNY	0.046	***	0.100	***	0.084	***	0.417	***	-0.307	***

*, **, *** indicates a significant difference at two-tailed p-values <0.10, <0.05, and <0.01. Variable definitions can be found in Appendix B. All continuous variables are winsorized at the 1st and 99th percentiles.

TABLE 4
Audit Fee Change Multivariate Results

Variables	Pred. Sign	(1) Coefficient	p-value		(2) Coefficient	p-value	
Intercept		0.1239	0.029	**	0.1237	0.030	**
AUCHGNY	+	0.0713	0.000	***			
DISMISSNY	+				0.0729	0.000	***
RESIGNNY	+				0.0677	0.001	***
ΔLNASSETS	+	0.1831	0.000	***	0.1831	0.000	***
ΔLNBSEG	+	0.0179	0.526		0.0180	0.524	
ΔINVREC	+	0.2248	0.005	***	0.2246	0.005	***
ΔLEVERAGE	+	0.0011	0.833		0.0011	0.833	
ΔQUICKRATIO	-	-0.0098	0.005	***	-0.0098	0.005	***
ΔROA	-	-0.0086	0.349		-0.0086	0.349	
ΔROA_VAR	+	-0.0003	0.676		-0.0003	0.674	
ΔGROWTH	+/-	-0.0085	0.194		-0.0085	0.195	
ΔFOREIGN	+	0.0350	0.333		0.0351	0.332	
ΔMERGER	+	0.0517	0.008	***	0.0517	0.008	***
ΔYE	+	-0.2084	0.285		-0.2086	0.285	
ΔLOSS	+	0.0356	0.018	**	0.0357	0.018	**
ΔGC	+	0.0396	0.007	***	0.0395	0.008	***
ΔBIGN	+	0.2517	0.000	***	0.2515	0.000	***
ΔOP_404b	+	0.5211	0.000	***	0.5212	0.000	***
ΔMW_302	+	0.1206	0.000	***	0.1207	0.000	***
ΔANNC_RESTATE	+	0.0350	0.100		0.0350	0.100	
Year FE		Yes			Yes		
Industry FE		Yes			Yes		
Observations		3,318			3,318		
Adj. R-Square		0.261			0.261		

Note: *, **, ***: $p<0.10$, $p<0.05$, $p<0.01$, respectively, two-tailed tests. Standard errors are clustered by firm to compute t-statistics. Variable definitions can be found in Appendix B. All continuous variables are winsorized at the 1st and 99th percentiles.

TABLE 5
Going Concern Logistic Regression Results

Going Concern Opinion (Coded 1)	673
No Going Concern Opinion (Coded 0)	2,645
Total	3,318

Variables	Pred. Sign	(1) Coefficient	(1) p-value		(1) Marginal Effect	(2) Coefficient	(2) p-value		(2) Marginal Effect
Intercept		-1.3365	0.070	*		-1.3502	0.068	*	
AUCHGNY	+	0.3709	0.004	***	0.0367				
DISMISSNY	+					0.2781	0.050	*	0.0283
RESIGNNY	+					0.5432	0.002	***	0.0620
LNMVE	-	-0.6484	0.000	***	-0.0640	-0.6475	0.000	***	-0.0637
ROA_VAR	+	0.0129	0.032	**	0.0013	0.0127	0.029	**	0.0013
ZMIJ	+	0.0520	0.237		0.0051	0.0520	0.234		0.0051
LEVERAGE	+	0.3338	0.033	**	0.0329	0.3360	0.032	**	0.0331
CHG_LEVERAGE	-	-0.3805	0.010	**	-0.0375	-0.3804	0.009	***	-0.0374
OCF	-	-0.6771	0.043	**	-0.0668	-0.6806	0.042	**	-0.0670
LLOSS	+	1.2041	0.000	***	0.1159	1.2093	0.000	***	0.1162
RESTRUCTURE	+/-	0.4075	0.016	**	0.0444	0.3923	0.020	**	0.0425
FNDSRSED	+	0.5952	0.002	***	0.0655	0.5936	0.003	***	0.0651
BIGN	+/-	0.1125	0.479		0.0111	0.1346	0.405		0.0133
OP_404b	+/-	-0.2075	0.356		-0.0197	-0.1980	0.379		-0.0188
MW_302	+	0.8144	0.000	***	0.0956	0.8192	0.000	***	0.0960
RECESSION	+	-0.0883	0.747		-0.0085	-0.0787	0.774		-0.0076
Year FE		Yes				Yes			
Industry FE		Yes				Yes			
Pseudo R-Square		0.453				0.453			
ROC Curve		0.926				0.927			

Note: *, **, ***: p<0.10, p<0.05, p<0.01, respectively, two-tailed tests. Standard errors are clustered by firm to compute t-statistics. Variable definitions can be found in Appendix B. All continuous variables are winsorized at the 1st and 99th percentiles.

TABLE 6
TABLE 6
Future Restatement Logistic Regression Results

Current period restated in future (Coded 1)	375
Current period not restated in future (Coded 0)	2,943
Total	3,318

		(1)				(2)			
Variables	Pred. Sign	Coefficient	p-value		Marginal Effect	Coefficient	p-value		Marginal Effect
Intercept		-0.4506	0.690			-0.4975	0.661		
AUCHGNY	+	0.5989	0.000	***	0.0511				
DISMISSNY	+					0.4898	0.000	***	0.0441
RESIGNNY	+					0.8210	0.000	***	0.0879
LNASSETS	+/-	0.2286	0.000	***	0.0193	0.2300	0.000	***	0.0194
LOSS	+	0.1402	0.311		0.0118	0.1282	0.354		0.0107
ROA	-	0.0274	0.665		0.0023	0.0269	0.678		0.0023
FNDSRSED	+	0.4254	0.002	***	0.0391	0.4153	0.002	***	0.0380
ACQESS	+	-0.2836	0.375		-0.0216	-0.2725	0.394		-0.0207
BKMKT	+	-0.0086	0.738		-0.0007	-0.0082	0.748		-0.0007
IINTCOV	+	-0.0003	0.972		-0.0000	-0.0007	0.929		-0.0001
LEVERAGE	+	0.0354	0.201		0.0030	0.0358	0.212		0.0030
BIGN	-	-0.1595	0.297		-0.0135	-0.1326	0.390		-0.0112
OP_404B	+/-	-0.4150	0.046	**	-0.0326	-0.4170	0.044	**	-0.0327
MW_302	+	0.5161	0.001	***	0.0491	0.5062	0.001	***	0.0479
GC	+/-	-0.0016	0.993		-0.0001	-0.0067	0.974		-0.0006
LNFEE	-	-0.2357	0.018	**	-0.0199	-0.2345	0.019	**	-0.0198
ANNC_RESTATE	+	0.4965	0.002	***	0.0491	0.4991	0.002	***	0.0493
Year FE		Yes				Yes			
Industry FE		Yes				Yes			
Pseudo R-Square		0.075				0.077			
ROC Curve		0.705				0.706			

Note: *, **, ***: $p<0.10$, $p<0.05$, $p<0.01$, respectively, two-tailed tests. Standard errors are clustered by firm to compute t-statistics. Variable definitions can be found in Appendix B. All continuous variables are winsorized at the 1st and 99th percentiles.