Auditor Office Reputation Damage and their Audit Clients' Voluntary Disclosures

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Abstract

We examine how client firms of reputationally-damaged auditor offices respond to perceived lower audit quality, focusing on the issuance of management forecasts. We find non-restating client firms that stay with their reputationally-damaged auditor office increase their number of management forecasts, which is consistent with a substitution effect between audited financial reporting quality and voluntary disclosure. Further, the disclosure response of these clients is more pronounced when the client firm is exposed to a higher information demand environment or is exposed to lower proprietary costs of disclosure. Finally, we document increases in management forecasts bring market benefits for clients audited by reputationally damaged auditor offices by reducing the cost of equity and improving realized returns for these firms.

Data Availability: All data used in the study are available from public sources identified within.

JEL classification: M41; M45: M49

Keywords: auditor office; auditor reputation damage; auditor switching; management forecasts; perceived audit quality; voluntary disclosure.

I. INTRODUCTION

Reputation is a first-order consideration for auditors to attract and retain clients (DeAngelo 1981; DeFond and Zhang 2014). One way auditor reputation damage occurs is when audit client firms restate previously released financial statements, as auditors are charged with providing assurance that a client's financial statements are free of material errors (PCAOB 2022). In line with this consideration, research documents that when client restatement announcements impair auditor office reputation, the damaged office loses clients and market share (Swanquist and Whited 2015).

However, despite this market penalty due to auditor office reputation losses, approximately 90 percent of audit clients do not switch away from reputationally damaged auditor offices, and much less is known about whether such restatement revelations affect these firms. In this study, we are interested in examining whether and how clients that stay with their reputationally damaged auditor office alter management forecast levels to mitigate the lower audit quality concern due to this reputational damage.

Our setting is different from prior studies in that the perceived audit quality damage is not due to the client firms we investigate (i.e., the firms in our sample are *not* the restating client firms that cause the auditor reputation damage). Therefore, our setting contains a shock to the existing equilibrium for our sample of clients who choose not to switch auditors in response to the auditor reputation damage event. Compared to hiring a new auditor, which involves significant switching costs, we expect non-switching clients possess incentives to achieve a new equilibrium after the prior equilibrium of perceived audit quality and audit costs is broken when their audit office's reputation is damaged. We expect these firms incur lower costs from issuing more management

forecasts compared to switching auditors.[1] In other words, it is possible a substitution effect between perceived audited financial reporting quality and voluntary disclosure is at play for these clients.

Utilizing a sample of clients with no auditor changes, we find that clients with a damaged auditor office issue more management forecasts compared to clients with a non-damaged office. Specifically, we document an increase of between 5.15 and 10.29 percent in disclosure levels for clients with a damaged auditor office compared to non-damaged clients, indicating these results are economically important. Our results are robust when we measure forecasts using all management forecasts, earnings forecasts as well as forecasts of line items (e.g., Ajinkya et al. 2005; Guay et al. 2016; Bourveau and Schoenfeld 2017). Clients of reputationally damaged auditors face a decision to switch to an auditor with higher perceived audit quality or take action to mitigate the possible perception that their own financial reporting quality is low due to the perceived audit quality damage caused by their auditor office. Our findings present evidence these clients, on average, find it less costly to increase their levels of voluntary disclosures than to switch auditors. Further, in the only analysis in our study where we retain clients that switch auditors, these clients that switch from a reputationally damaged auditor office to another office do not exhibit this pattern of increased forecast amounts. Such a contrast provides further evidence that non-switching clients make a different cost-benefit decision in response to auditor office reputation damage compared to switching clients.

To mitigate the possibility that clients may select auditor offices based on certain characteristics, including a client's expectation that their office may become damaged at some

[1] Voluntary disclosure costs include direct costs and indirect costs. Direct costs are mainly the costs of information preparation and information publication. Indirect costs include litigation costs and proprietary costs (Skinner 1994; Skinner 1997; Piotroski 1999; Verrecchia 2001).

point in the future and that these characteristics may drive our results, we also implement a changes specification. We find our results are robust to this analysis whereby we analyze the effects of changes in auditor office reputation damage on changes in voluntary disclosure levels.

We further hypothesize and provide evidence that firms issue incrementally more management forecasts when their information demands are higher (specifically, when the client firm is followed by more analysts and is larger in size). Such findings are consistent with the disclosure literature suggesting firms provide voluntary disclosures to satisfy the demands of outside investors (e.g., Healy and Palepu 2001). Next, we find clients also consider the cost of issuing management forecasts and that increases in the number of management forecasts after auditor office damage are mitigated by firms' proprietary cost considerations.

Finally, we examine the economic consequences of clients issuing more management forecasts in terms of the cost of equity capital and realized market returns. First, we find that auditor reputational damage results in higher (lower) cost of equity (realized returns) for firms that do not issue management forecasts. However, for firms with a damaged auditor office that do issue forecasts, we find that issuing forecasts increasingly offsets the rise (reduction) in the cost of equity (realized returns) as the number of forecasts increases. These findings suggest at least one reason for most clients choosing to stay with their damaged auditor office: they can mitigate the negative effects of auditor reputation damage by increasing their own disclosure levels.

Our study makes three important contributions to the literature. First, our study contributes to the voluntary disclosure literature by documenting a significant new incentive of such disclosures. This literature traditionally focuses on how managerial litigation concerns, proprietary cost considerations, and insider trading incentives affect disclosure choices (Healy and Palepu 2001; Ajinkya et al. 2005). Sletten (2012) documents that firms respond to exogenous stock price

declines caused by peer restatements via issuing more good-news forecasts to offset lower future expectations. Conversely, our study focuses on a new incentive by managers related to offsetting the signal of decreased audit quality due to auditor office reputational damage. Frankel et al. (2021) document a complementary relationship between audit quality and disclosure for Arthur Anderson's clients. Different from Frankel et al. (2021), but consistent with prior studies that provide evidence that financial reporting and voluntary disclosure are substitutes for each other (Verrecchia 1990; Li 2013; Guay et al. 2016; Noh et al. 2019), we conclude in our setting the perceived audit quality and voluntary disclosures are substitutes as we focus on damaged clients (i.e., non-restating clients who suffer from audit office reputation damage) instead of restating clients. In untabulated analyses we find that firms with repeated restatements significantly decrease their voluntary disclosure, which is consistent with prior research (Ball et al. 2012; Frankel et al. 2021).

Second, extant studies suggest that because the level of assurance produced by auditors is not directly observable, stakeholders must infer it and form perceptions of audit quality based on factors such as auditors' brand names, the amount of non-audit services provided to clients, and events suggestive of audit failures such as client restatements (O'Keefe, Simunic, and Stein 1994; Casterella, Jensen, and Knechel 2009; Schmidt 2012). When there is a negative shock to perceived audit quality, our study, which focuses on non-switching clients (and which is different from Swanquist and Whited [2015] in that way), sheds light on the understanding of how these clients react. It is important to understand how non-switching clients respond to signals of decreased audit quality and the consequences of such a response. Therefore, our study responds to the call for research by DeFond and Zhang (2014, pp. 313) who state that "a variety of evolving developments call for a deeper understanding of the factors that drive the demand for auditing and audit quality."

It is also consistent with studies showing real costs to audit clients as well as auditor reputation in reaction to a lowering of perceived audit quality (e.g. Weber, Willenborg, and Zhang 2008; Barton 2005).

Finally, the Public Company Accounting Oversight Board can take our results into account when considering the costs and benefits of existing and new audit regulations intended to increase audit quality as we show client firms themselves voluntarily react to decreases in perceived audit quality. Such knowledge can inform the Board on audit client actions that offset a negative shock to audit quality, and the extent of regulation necessary to maintain audit quality. Further, investors can benefit from the knowledge that many client firms take steps to mitigate decreases in perceived audit quality. Thus, client firm-specific responses to auditor reputational damage are useful for investors when making future capital allocation choices.

II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Literature on Auditor Reputation and Auditor Office Reputation Damage

One important incentive auditors possess to supply high-quality audits is to develop and preserve reputational capital, which enhances their ability to attract and retain clients (DeAngelo 1981; DeFond and Zhang 2014). The underlying rationale is that clients demand high-quality audits to signal high-quality financial reporting and reduce the cost of equity and debt capital (Jensen and Meckling 1976; Francis and Wilson 1988; Lambert, Leuz, and Verrecchia 2007; Fortin and Pittman 2007; Li, Xie, and Zhou 2010; Krishnan, Li, and Wang 2013). Studies find that auditors' reputational risk is associated with factors such as audit firm size, auditor office size and auditor industry specialization (e.g., DeAngelo 1981; Craswell, Francis, and Taylor 1995; Francis and Wilson 1988; Francis and Yu 2009; Choi, Kim, Kim, and Zang 2010; Numan and Willekens 2012; Francis, Michas, and Yu 2013).

To investigate the value of auditors' reputations for clients and audit firms, research exploits the negative implications of auditor reputation shocks on clients and auditors utilizing different settings such as SEC disciplinary actions, specific engagement failures (i.e., accounting scandals), negative peer reviews, PCAOB inspection reports and sanctions, client restatements, gains and losses of major industry clients, and misconduct by clients unrelated to financial reporting issues (Wilson and Grimlund 1990; Chaney and Philipich 2002; Hilary and Lennox 2005; Weber et al. 2008; Dee, Lulseged, and Zhang 2015; Swanquist and Whited 2015; Francis, Mehta, and Zhao 2017; Acito, Hogan, and Mergenthaler 2018; Donelson, Ege, and Leiby 2019).

Further studies have provided evidence that clients that are related to, but not the focal point of, the failures described above also suffer from decreased perceived audit quality following the reputation shock. For example, studies find that clients of reputationally damaged auditors experience significant negative stock market reactions (e.g., Chaney and Philipich 2002; Krishnamurthy, Zhou, and Zhou 2006; Weber et al. 2008). Similarly, Rauterkus and Song (2005) find that clients of Arthur Andersen experienced more significant negative market reactions to seasoned equity offering announcements compared to clients of other Big Five firms between October 2001 and August 2002, one year after the revelation of the Enron audit failure.

In addition, studies provide evidence that some auditor reputation damage events can persist for years. For example, Francis and Michas (2013) provide evidence that auditor office reputational damage (which they term 'contagion') is not rectified, in terms of actual audit quality, by an office for up to five years after the first damage event. Given this finding, incumbent clients may have incentives to take actions to mitigate the negative effects of decreased perceived audit quality in the future. Consistent with this argument, studies find that auditors face market share

losses after incurring reputational damage (e.g., Wilson and Grimlund 1990; Swanquist and Whited 2015).

2.2 Literature on Management Forecasts

One of the possible actions managers can take in response to a deterioration in perceived audit quality is to increase their direct communication with investors and other outsiders. Financial disclosure is an important means for managers to communicate their private information to outsiders to reduce information asymmetry (Diamond 1985; Diamond and Verrecchia 1991; Healy and Palepu 2001). Studies on managers' disclosure incentives are mainly related to capital market equity and debt issuances (Lang and Lundholm 1993; Lang and Lundholm 2000; Bochkay, Chychyla, Sankaraguruswamy, and Willenborg 2018), managers' stock-based compensation (Miller and Piotroski 2000; Aboody and Kasznik 2000), litigation considerations (Skinner 1994) and proprietary cost considerations (Piotroski 1999).

Among the various types of voluntary disclosure, management forecasts are an important way firms can build a reputation for transparent reporting according to the seminal survey study by Graham et al. (2005). Further, studies establish that firms can and do change management forecast policies to meet investor information needs. For example, Balakrishnan, Billings, Kelly, and Ljungqvist (2014) document that firms respond to an exogenous reduction of public information by providing timelier and more informative earnings guidance. Further, Lo (2014) finds that borrowers increase the quantity of management forecasts when their banking relationships are threatened by declining bank health. Sethuraman (2019) establishes that firms increase voluntary disclosures when credit rating agencies associated with their bond offerings suffer a loss of reputation. Finally, Bochkay et al. (2018) find that voluntary disclosures of going-concern uncertainties by IPO firms contain information content on IPO price formation.

Despite these benefits, issuing management forecasts is costly and can consume significant amounts of firm resources (Bamber and Cheon 1998). Extant research documents that firms also consider the costs of management forecasts when making such decisions. For example, Verrecchia (1990) indicates that firms with less precise private information are more likely to withhold that information. Further, Chen, Matsumoto, and Rajgopal (2011) find that firms disclose more when earnings are easier to predict. Finally, Li (2010) finds that firms operating in more competitive industries issue fewer forecasts, which is consistent with proprietary cost considerations.[2]

2.3 Hypotheses Development

A body of research examines the interplay between financial reporting and voluntary disclosure and provides evidence they are substitutes for each other, depending on the specific setting and disclosure attributes analyzed. For example, Verrecchia (1990) suggests investors exert less pressure on managers to provide private information when they know more about the firm. Li (2013) documents that firms are more likely to accelerate material contract filings when their forward disclosures lack credibility. Further, Noh et al. (2019) provide evidence of a negative association between mandatory 8-K filings and voluntary disclosure. Finally, Guay et al. (2016) find that a lower amount of information accessibility, in the form of a higher complexity of mandatory disclosures, is associated with increases in voluntary disclosure. Thus, these studies provide evidence of a substitution effect between disclosure and financial reporting quality.

As discussed above, about 90 percent of client firms choose to stay with a damaged auditor office rather than switching to a different auditor as the costs of switching are often evidently greater than the benefits. Extant research suggests managers commit to an optimal level of disclosure given information demands and the net cost of providing disclosures. For clients that

[2] We note that Ali, Klasa, and Yeung (2014) argue Compustat-based competition measures are noisy. They instead use a U.S. Census-based measure and find the opposite result.

stay with their damaged auditor office, the damage provides a negative shock and signal regarding outsiders' perceived audit and financial reporting quality of the client firm. As a result, the information asymmetry between the client firm and outsiders increases, and in turn, demand for information from outsiders increases. Therefore, we believe the prior equilibrium between perceived audit quality, audit costs and voluntary disclosure levels are disrupted when an auditor office reputational damage event occurs, and we expect client firms will rationally respond to this by altering their disclosure actions to reach a new equilibrium.

Importing the substitute view between financial reporting and voluntary disclosure discussed above to the auditing setting, we expect firms to increase the number of management forecasts they issue to reach a new equilibrium after an auditor office reputation damage event. Because increasing management forecast levels is a manageable way to offset some of the negative perception by outsiders about a firm's financial reporting quality due to auditor office reputational damage, we predict that increasing disclosure is a first-order behavior client firms can implement to establish a new equilibrium. This leads to our first hypothesis, stated in alternative form:

HYPOTHESIS 1: *Audit client firms issue more management forecasts following an auditor office reputation damage event compared to firms that experience no such event.*

On the other hand, there are various reasons firms may not change disclosure policies after a reputation damage event. First, it is not clear to what extent such an event would impair the perceived financial reporting quality of other clients of the same auditor that perhaps do not exhibit similar misstatement issues. Second, investors do not always gain decision-useful information from all parts of the audit. For example, Burke, Hoitash, Hoitash, and Xiao (2023) provides evidence that investors do not react to critical audit matter (CAM) disclosures, and Doxey, Lawson, Lopez, and Swanquist (2021) provide evidence that investors do not react to information

about audit partner identity or component auditor participation. Given this, client firms may not feel it necessary to change disclosure levels in response to an auditor damage event. Finally, and related to the above, firms may not change disclosures if they believe audit quality is informative, but not significantly enough for market participants to justify the increased costs of management forecast disclosures.

Next, we move to cross-sectional predictions of changes in management forecasts. Healy and Palepu (2001) state that managers provide voluntary disclosures mainly to satisfy external information demands. Additionally, research demonstrates firms respond to these information demands through increases in earnings forecasts (Balakrishnan, Billings, Kelly, and Ljungqvist 2014; Lo 2014; Sethuraman 2019). In our setting, we similarly expect increases in management forecasts to vary with outsiders' information demands. The negative shock from the decrease in perceived audit quality due to auditor office reputation damage sends a signal to outsiders about lower perceived audited financial reporting quality. In turn, financial analysts demand more information to generate more accurate earnings forecasts (Lang and Lundholm 1996; Cotter, Tuna, and Wysocki 2006). For these reasons, we expect auditor office reputation damage will have a larger impact on firm disclosures when outside investors and market intermediaries demand more information from firms overall. This leads to our second hypothesis, stated in alternative form:

HYPOTHESIS 2: *The positive association between management forecasts and an auditor office reputation damage event is greater as outsider information demand increases.*

It is equally important to consider the costs of providing additional forecasts. Studies have established that proprietary costs constrain firms' incentives to provide voluntary disclosure based on competition with peer firms (e.g., Verrecchia 1990; Clinch and Verrecchia 1997). While somewhat mixed, studies support this proprietary cost hypothesis overall (e.g., Piotroski 1999;

Berger and Hann 2007; Verrecchia and Weber 2006; Li 2010; Huang, Jennings, and Yu 2017; Cao, Ma, Tucker, and Wan 2018). For example, Graham et al. (2005) find that competitive-based proprietary cost concerns are the second largest barrier to voluntary disclosure and that nearly 60 percent of firms surveyed agree or strongly agree that they limit voluntary disclosure of financial information to avoid "giving away company secrets" or otherwise harm their competitive position.

Further, the literature differentiates proprietary costs based on the nature of competition. Specifically, Verrecchia (1990) argues that greater competition constrains disclosure in post-entry markets, and Li (2010) provides evidence that competition from existing rivals, rather than competition from potential entrants, also constrains disclosure quantity. Based on this literature, we expect firms also consider proprietary costs, especially competition from existing rivals, when making disclosure policy decisions. These expectations lead to our third hypothesis, stated in alternative form:

HYPOTHESIS 3: *The positive association between management forecasts and an auditor office reputation damage event is weaker for firms with higher proprietary costs of disclosure.*

III. SAMPLE SELECTION, RESEARCH DESIGN AND DESCRIPTIVE STATISTICS

3.1 Sample Selection

We obtain firm financial data from Compustat, stock price data from the Center for Research in Security Prices (CRSP) files, audit and restatement data from Audit Analytics, and management forecast and analyst coverage data from the Institutional Brokers' Estimate System (I/B/E/S) database. We begin our sample period in 2003 to avoid the potential effects of Sarbanes-Oxley implementation.[3] We end the sample in 2019. We begin with 67,965 firm-year observations

[3] For robustness we rerun all tests using a subsample beginning in 2004 and find consistent results.

after merging Compustat and Audit Analytics. We delete 23,295 client observations that become damaged in year t to analyze only clients whose auditor office became damaged at least one year ago in order to allow at least one year for clients to change their disclosure preferences. Next, we delete 2,574 restating observations that cause the auditor reputation damage (i.e., clients that announce one or more "Big-R" non-reliance restatements in the previous three years). We then delete 7,378 observations that change their auditor office within the prior three years, as well as 3,211 observations that hire a new auditor office in year t that is different from their auditor office in the prior three years. This process controls for the possibility that clients alter their disclosure choices when they switch auditors as we do not retain any switching clients in either our treatment or control sample. We are left with 31,507 firm-year observations of non-switching audit clients of both damaged (our test firms) and non-damaged (our control firms) auditor offices for our main analyses. Our samples across different tests are often smaller than 31,507 due to missing data required to conduct these analyses.

3.2 Research Design

We test the effect of auditor office reputation damage on the number of client management forecasts (Hypothesis 1) using the following ordinary least squares model:

$$MF = \text{f}(DAMAGE, \text{Controls, Year/Industry Fixed Effects}) \quad (1)$$

The dependent variable *MF* is one of the following variables: *LnMF_ALL*, *LnMF_EARN*, or *LnMF_LINE*. Following prior studies (e.g., Ajinkya et al. 2005; Guay et al. 2016; Bourveau and Schoenfeld 2017), these three variables are measured as the logarithm of one plus the number of annual management forecasts, earnings forecasts, and forecasts of line items issued by a firm throughout a year, respectively.[4] We use these three different types of management forecasts to

[4] Our main conclusions remain unchanged if we define the dependent variable as a dichotomous variable based on an indicator of whether each of the three kinds of management forecasts occur at all in a year.

increase construct validity.[5] These three measures show relatively high correlations ranging from 0.62 to 0.87 suggesting that they all capture the same underlying management forecasts, but with somewhat different characteristics. Following Guay et al. (2016), we focus on the number of forecasts because this measure can be calculated for all firms and captured for different forms of forecasts.

The test variable, *DAMAGE*, is an indicator variable assigned to each client-year observation that equals one if that client's auditor office has become damaged in one or more of the previous three years (i.e., year t-1, t-2 or t-3), and zero otherwise.[6] An auditor office-year is defined as being damaged when one or more clients of that office announce a "Big-R" non-reliance restatement in that year. More succinctly, we calculate a specific client-year observation to be coded *DAMAGE=1* in year t (the year of analysis in all models) when its auditor office is associated with one or more client restatements over the previous three years.[7] We consider auditor office reputational damage during the previous three years, instead of just the prior year, because Francis and Michas (2013) show that office-level damage persists for up to five years.[8] Furthermore, this allows time for client firms to react to the damage event by altering the amount of management forecasts.

We control for firm characteristics that affect management forecast levels based on prior literature. We include *SIZE* as larger firms are expected to issue more management forecasts (Lang

[5] Following Chen et al. (2011), we measure the level of management forecasts using the logarithm of one plus the number of all forecasts, earnings forecasts, and line-item forecasts issued by a firm throughout year t (*LnMF_ALL*, *LnMF_EARN*, and *LnMF_LINE*). This measurement choice is based on our belief that the effects of management forecasts on the cost of equity capital are concave. For consistency, we use the logged management forecast variables in all analyses, but our results are similar in all tests if we use the raw number of management forecasts instead.

[6] Our results are similar if we define our test variable using a continuous variable calculated as the logarithm of one plus the number of "Big-R" non-reliance restatement announced by the clients of a client's auditor office in the previous three years.

[7] The restatement year here refers to the year during which the restatement was *announced* as this provides information to client firms and outsiders their auditor office is damaged, which instigates the decision to either stay with their auditor or leave and find a different auditor.

[8] Our conclusions remain unchanged if we consider only office-year damage events that occur in year t-1 instead of years t-3 through t-1.

and Lundholm 1993; Kasznik and Lev 1995). Prior studies provide mixed evidence on the association between profitability (*ROA*) and voluntary disclosure. The signaling hypothesis predicts a positive association, whereas the proprietary cost hypothesis predicts a negative association (Berger and Hann 2007). We also include *LEV* and *MTB* to control for demand for information (Huang et al. 2017). Extant studies find that firms with higher leverage issue more management forecasts (Huang et al. 2017). We do not provide a prediction on *MTB* because evidence of its association with disclosure levels is mixed in prior studies (e.g., Huang et al. 2017; Houston, Lin, Liu, and Wei 2019). We control for *LOSS* because prior studies find that loss-making firms issue fewer management forecasts (Ajinkya et al. 2005). Lo (2014) finds that R&D firms exhibit higher levels of disclosure to mitigate the negative effects of the associated higher information asymmetry and perceived credit risk on loan access. Further, Koo and Lee (2018) find that firm-level innovation is positively associated with the issuance and number of management revenue forecasts. Finally, we include return volatility *(RET_VOL)* as studies find management forecast numbers are lower when investors' uncertainty regarding future performance is higher (Waymire 1985; Guay et al. 2016).

We also include four auditor control variables to account for general auditor and auditor-office differences. The first is *BIG6* which equals one if a client is audited by one of the Big Four audit firms, Grant Thornton, or BDO. The second is *NATIONAL_LEADER* which equals one if a client's auditor is measured as the number one auditor in an industry in terms of total audit fees at the national level. The third, *CITY_LEADER,* is similar to the national leader variable except the auditor is the number one auditor at the metropolitan statistical area (i.e., city) level. Finally, *OFFICESIZE* is the number of public company audits that are performed by a client's auditor in a year. Since larger offices have more clients, and therefore an increased likelihood of suffering

reputational damage, as well as on average larger clients that are more likely to issue management forecasts, including office size mitigates these possible correlated omitted variable issues. For brevity, we refer the reader to the Appendix for detailed definitions of all variables. We calculate robust standard errors and cluster them at the firm level in all analyses.

3.3 Alternative Model Specification

Lawrence, Minutti-Meza, and Zhang (2011) argue that clients may choose their auditor, at least partially, based on their own characteristics, and that these characteristics may drive the higher Big Four audit quality results in the literature. Based on this, it is possible that clients also consider the *a priori* expectation their auditor office may become damaged at some point in time, and that this expectation and auditor choice decision is also driven by their own characteristics. If this is the case this possible selection bias could potentially drive our results. To mitigate this endogeneity concern we employ an alternative changes specification where we regress the year-over-year changes in management forecast levels on the changes in our test variable and all control variables. Thus, firms are held as their own control. As in our levels specification, we include year and industry fixed effects.

3.4 Investors' Information Demands

To test Hypothesis 2, the moderating effect of information demands on client firms, we expand equation (1) by introducing and interacting two variables that proxy for information demands by outsiders with our test variable of interest, *DAMAGE*.[9] Our first proxy for information demand is *ACOV*, which is the number of analysts covering a firm during year t. Prior studies document that analyst coverage is a proxy for investors' information demand (O'Brien and Bhushan 1990; Bhushan 1989; Ajinkya et al. 2005). We use an indicator variable of large firm size

[9] In all moderation tests (Tables 4 to 7), we follow the guidance in deHaan, Moon, Shipman, Swanquist, and Whited (2021) and interact all controls with the moderating variable. Our results are robust if we remove these interaction terms.

(*LARGE)* as our second proxy for information demand, where we split the sample at the median value of firm size as studies suggest investors demand more information from larger firms (King, Pownall, and Waymire 1990; Lang and Lundholm 1993; Kasznik and Lev 1995). A positive and significant coefficient on these two interactions would provide evidence consistent with Hypothesis 2, which predicts that clients of damaged offices with higher information demands will issue even more management forecasts to meet these higher information demands.

3.5 The Moderating Effect of Proprietary Costs of Disclosure

To test Hypothesis 3, the moderating effect of firm proprietary costs, we interact the test variable *DAMAGE* with two measures of firm-level proprietary costs.[10] The variable *PCOST1* is a text-based measure of firm-level total product similarity with other firms within the same industry. Specifically, firm-by-firm pairwise similarity scores are calculated by comparing the product descriptions of each pair of two firms using a cosine similarity method. Then, the firm-level product similarity measure, *PCOST1*, is calculated by aggregating the pairwise similarity score among pairs of a firm and firms within the same industry.[11] This measure captures firms' product-level rivalry by accounting for how similar a firm's products are to those of rival firms (Hoberg and Phillips 2016; Nguyen, Pham, and Qiu 2023). *PCOST2* is calculated as the firm-level amount of research and development expense scaled by total sales. According to prior studies, firms with higher R&D levels are likely to be faced with higher proprietary costs since the level of R&D expenditures signals firms' product innovation efforts (King, Pownall, and Waymire 1990; Ellis, Fee, and Thomas 2012; Bhattacharya, Chang, and Chiorean 2023). A negative coefficient on the

[10] We use firm-level measures of proprietary costs since they vary across firms within each industry (Tang 2010; Imhof, Seavey, and Watanabe 2022). Moreover, two firms within the same industry, especially when not adjacent, may not consider themselves as competitors in practice (Dedman and Lennox 2009).

[11] We thank Gerard Hoberg and Gordon Phillips for making this measure available. In constructing this variable, Hoberg and Phillips (2016) use industry classifications based on firm pairwise similarity scores from textual analyses of firm 10K product descriptions (TNIC industries).

two interaction terms would be consistent with Hypothesis 3, which predicts that clients will increase voluntary disclosures less in reaction to auditor office reputational damage as the proprietary costs of doing so increase.

3.6 Descriptive Statistics

Table 1 presents distributions for the variables used in our study. Again, sample sizes at times are reduced compared to our main sample of 31,507 observations for some of our later tests due to missing necessary data (Tables 3 and 6). In addition, in one test, we add back damaged firms that switched to another auditor after the damage event (Table 2, Panel B where N=34,718).

The mean number of management forecasts (*MF_ALL*) issued by the sample firms throughout the year is 4.62. The mean values for earnings forecasts (*MF_EARN*) and line-item forecasts (*MF_LINE*) are 2.13 and 2.10, respectively. In an expanded (untabulated) sample of both staying and switching clients, 90.5 percent of damaged clients stay with their damaged auditor office, which is comparable to the findings of Swanquist and Whited (2015) where their value is 87.7 percent. We find that 42 percent of client firms are damaged clients.[12] We also find an untabulated positive and statistically significant ($p<0.01$) correlation between auditor office reputational damage (*DAMAGE*) and our three management forecast variables. This provides initial univariate evidence consistent with Hypothesis 1.[13]

IV. RESULTS

4.1 Baseline Results

[12] For brevity, we use the term "damaged clients" to refer to clients with one or more auditor office-years from the previous three years (t-1, t-2, and t-3) that are damaged.

[13] We note correlations between our test and control variables are low, with a maximum correlation of 0.16 between *DAMAGE* and *OFFICESIZE*. This indicates multicollinearity regarding our test variables is not of concern in our models. This conclusion is supported by variance inflation factor (VIF) values on our test variables that are below 3.0 in all regressions, well below the threshold of 10.0 indicated by Kennedy (2003).

Table 2, Panel A presents our baseline results for Hypothesis 1 on the association between auditor office reputational damage and the number of management forecasts. We find our test variable *DAMAGE* is positively and significantly associated with all three of our management forecast variables ($p<0.01$ in all cases, two-tailed).[14] This finding provides evidence that for staying clients with a damaged auditor office, the total number of forecasts issued by management is higher compared to clients of non-damaged auditor offices.[15] This result is consistent with the view that financial reporting quality and voluntary disclosures are substitutes for these firms. This result holds for all types of forecasts including earnings and line-item forecasts.[16] This result is also economically significant as the coefficients show that clients with a damaged auditor office are associated with an increase in the frequency of forecasts of between 5.15 and 10.29 percent compared to non-damaged clients.

Table 2, Panel B presents test results similar to those in Panel A, except here we add back 3,211 clients that switch auditors from year t-1 to t (and this is the only analysis in the study where our sample contains clients that switch auditors). We separate these clients into those that stay with (leave) their damaged auditor office using the variable *DAMAGE_STAY* (*DAMAGE_LEFT*). These two variables are otherwise measured identically. We find our increased disclosure results for clients of damaged auditor offices, the coefficients on *DAMAGE_STAY,* continue to hold ($p<0.01$). However, we find a statistically insignificant association between reputational damage and disclosure levels for clients who switch to a different auditor (the coefficient on *DAMAGE_LEFT*).

[14] All p-values are two-tailed throughout the study.

[15] We note the coefficients on our auditor control variables are not consistently statistically significant. We believe this reflects, and provides support for, the equilibrium we argue exists between perceived audit quality and management forecast levels. Therefore, we do not necessarily expect these auditor control variables will systematically vary with disclosure levels. However, we are conservative and include them to capture audit characteristics that could perhaps affect both reputational damage and disclosure levels.

[16] These results also hold if we scale the number of restatements by the total number of audit-office clients. Further, these results hold if we code auditor office *DAMAGE* equal to zero (one, two or three) depending on whether damage events do not occur from year t-3 through t-1 (occur in one, two or three of the years t-3 through t-1). We describe these tests in detail later in the sensitivity analyses section of the study.

This provides evidence that the two different client types reach new equilibria in different ways. Roughly 10 percent of clients choose to leave a damaged auditor office and find another auditor, but do not change the number of management forecasts they issue. Conversely, approximately 90 percent of clients of damaged offices choose to stay and achieve a new equilibrium by increasing the number of management forecasts they issue. It is also possible that firms can signal transparency and credibility in other ways instead of only increasing the amounts of management forecasts.

4.2 A Changes Specification

Table 3 presents our change analysis, which mirrors the results shown in Table 2. Columns (1) through (3) utilize the full sample, and columns (4) through (6) utilize a subsample excluding firm-year observations where the variable *dDAMAGE* is equal to -1 (as an audit office that goes from being contaminated to not contaminated is very different from the opposite situation).[17] Therefore, columns (4) to (6) provide a cleaner test of client firm reactions when their audit office *becomes* reputationally damaged. We find that changes in the reputational damage status of a client are positively and significantly ($p< 0.01$ in five out of six columns and $p<0.05$ in the last column) associated with changes in the number of management forecasts issued by firms in all six specifications. Thus, these results provide some confidence our results are not likely to be driven by firm-specific characteristics or selection concerns.

4.3 Outsider Information Demands as A Moderating Variable

Table 4 presents our results of testing Hypothesis 2 on whether outsider information demands increase the association between auditor office reputational damage and management forecasts. In both panels, we find that our information demand variables significantly increase the

[17] The percentage of observations with *dDAMAGE* in Table 3 taking the value of -1, 0, and 1 are 6.3, 85.1, and 8.5, respectively.

association between auditor office damage and the number of management forecasts issued, given the positive and significant coefficients on the interaction terms *DAMAGE*ACOV* in Panel A (two of the three specifications) and *DAMAGE*LARGE* in Panel B (all three specifications).[18] Taken together, Table 4 provides evidence that clients of damaged auditor offices issue even more management forecasts as outsider information demands increase. *Ex-ante*, it is possible that managers can use forecasted earnings, forecasted line items, or both to reduce information asymmetry. *Ex-post* we find that when analyst following is higher mangers are more likely to increase forecasts of line items instead of earnings, suggesting that firms choose different disclosure strategies given their different information environments.[19] Our Table 4 results provide additional evidence that clients that choose to stay with their damaged office reach new disclosure equilibria in response to auditor office reputational damage, depending on the level of demand for information from outsiders.

4.4 Client Firm Proprietary Costs of Disclosure

Table 5 presents our tests of Hypothesis 3 on whether increased client proprietary costs lead to a weaker association between auditor office reputational damage and management forecasts. In both panels using our two different firm-level proprietary cost measures, we find that the coefficients on the interaction terms, *DAMAGE*PCOST1* and *DAMAGE*PCOST2*, are

[18] We include joint tests for both cross-sectional analyses which yield statistical significance for all three measures in both panels.
[19] Both panels of Table 4 show some differences in earnings versus line-item forecast responses to auditor reputation damage. In Panel A where analyst coverage is our moderating variable, we believe the lack of an incremental change in earnings forecasts could be due to herding behavior on the part of analysts, and managers' anticipation of such herding behavior (Trueman 1994; Xue 2017). When managers know that at least a few analysts follow the firm, they know the additional information about earnings they have revealed in management earnings forecasts will likely be disseminated to other analysts. Thus, they are not incentivized to further increase the amount of earnings forecasts as analyst following rises. This is in contrast to the other types of management forecasts that analysts do not forecast as commonly. In Panel B where firm size is our moderating variable, we believe smaller firms choose only to issue more line-item forecasts to add to the credibility to the disclosures they are already providing, in line with Merkley et al. (2013). However, for larger firms that face much higher information demands in general, these firms choose both earnings and line-item forecast, which we believe reflects a different cost-benefit analysis for these larger, compared to the smaller, firms.

negative and significant ($p<0.01$ in five out of six columns across the two panels).[20] This indicates firms issue fewer management forecasts in reaction to auditor office reputational damage as the proprietary costs of doing so increase. Overall, our findings suggest that firms also consider the costs of disclosure when reaching a new disclosure equilibrium after their auditor office exhibits reputational damage.

4.5 Economic Consequences Tests

Next, we perform additional analyses of the economic consequences of management forecast levels after auditor office reputational damage. Extant studies suggest firms use voluntary disclosure to reduce their cost of capital (Botosan 1997; Graham et al. 2005; Baginski and Rakow 2012). Therefore, we examine whether firms can mitigate any negative effects on the cost of equity that may arise because of auditor office reputational damage by issuing more management forecasts.[21] Following Dhaliwal, Judd, Serfling, and Shaikh (2016), we measure firms' cost of equity capital (*COE*) as the average of four implied cost of equity estimates derived from four different models (i.e., Gebhardt, Lee, and Swaminathan 2001; Claus and Thomas 2001; Easton 2004; Ohlson and Juettner-Nauroth 2005). We then examine the association between the cost of equity capital and the interaction between management forecast levels and auditor office reputational damage.[22]

[20] Table 5, Panel B shows some differences in in earnings versus line-item forecast responses to auditor reputation damage. We suspect that the lack of significance for the interaction term between *DAMAGE*PCOST2* could be related to *PCOST2* containing measurement noise in capturing proprietary costs. This proxy for proprietary costs, which is the amount of research and development expenses scaled by total assets, captures only one portion of the overall proprietary costs faced by a firm. Therefore, we believe our *PCOST1* measure used in Table 5, Panel A, which takes into account the relative similarity of a firm to its direct competitors, is a more robust measure of these costs.

[21] Since the perceived audit quality of reputationally damaged offices is more likely to decrease when the restatement client experiences a negative stock market reaction, in this analysis we retain only damaged firms in offices where the restatement firm's three-day cumulative abnormal return around the restatement announcement date is negative. We note results are similar when we use a full sample that includes non-negative return restatements.

[22] Following Dhaliwal et al. (2016), we control for firm size (*SIZE*), the market-to-book ratio (*MTB*), return on assets (*ROA*), leverage (*LEV*), return momentum (*MOMENTUM*), analyst forecast dispersion (*DISP*), analysts' forecast of long-term growth rate (*LTG*), value-weighted beta (*BETAVW*) and idiosyncratic risk (*IDRISK*).

Table 6 presents the empirical findings. First, we find that the coefficients on *DAMAGE* are positive and significant ($p<0.01$) in all three models. These coefficients capture the impact of reputational damage on the cost of equity for firms that do not issue any management forecasts. As expected, auditor office reputational damage is associated with a higher cost of equity for these firms. Second, the coefficients on the interaction term between reputational damage and management forecast levels are all negative and significant ($p<0.01$). This indicates that reputationally damaged firms can mitigate, to some extent, this negative effect of damage on their cost of equity capital by issuing more forecasts.[23]

As for the extent of the mitigation, we find the issuance of all forecasts partially mitigates the effects of damage for cost of equity (given the p-value of 0.0117 on the combined coefficients reported near the bottom of Table 6). There is complete mitigation when the test variable is based on earnings forecasts and line-item forecasts given the insignificant combined coefficients in these two models.

Because the calculation of implied cost of capital relies on analyst forecast data, which may be affected by auditor reputational damage (Francis et al. 2008), we explore realized returns as a secondary economic consequences outcome variable.[24] To do so we measure realized returns as the market-adjusted cumulative monthly abnormal return for a firm within a year (Baginski and Rakow 2012; Doyle, Lundholm, and Soliman 2003). We follow a similar model to that of the above cost of equity capital analyses, regressing realized returns on the interaction between management forecast levels and auditor office reputational damage.

[23] We note the coefficients on our forecast variables are negative and significant, consistent with previous studies' findings on the negative effects of disclosure levels on cost of capital (Francis, Nanda, and Olsson 2008).
[24] We note that management forecasts likely also affect analysts' forecasts, which could introduce endogeneity into our cost-of-capital calculation.

We present the results in Table 7. The coefficients on the interaction terms between reputational damage and management forecast levels are positive and significant in two out of three columns ($p<0.1$ and $p<0.05$, respectively), again providing some support for the conjecture that reputationally damaged firms can mitigate the negative effect of such damage on their realized returns by issuing more forecasts.

In untabulated analyses, we also find these disclosures can reduce analysts' forecast errors and dispersion. Taken together, this evidence indicates that an increase in disclosure levels provides significant economic benefits to damaged clients.

4.6 Restatement Spillover Effects

It is possible restating firms (i.e., the firms that caused the auditor reputation damage) can create a spillover effect to peer non-restating firms in the same industry that drives changes in disclosure levels for these peer firms, rather than due to an auditor reputation shock. To test this possibility we add back restating clients to our main sample and expand equation (1) by adding the variable *RESTATED*, which is equal to one when the firm is a restating firm, and 0 otherwise. We find the coefficients on *DAMAGE* remain positive and significant ($p<0.01$) in all three models. This finding is consistent with our main tabulated result that damaged, non-restating firms increase their level of disclosure. However, the coefficients on *RESTATED* are not significant in two out of three columns (and the third column is significant only at the $p<0.10$ level). Taken together, this finding is consistent with no peer spillover effect. Our finding here is also intuitive since investors view the disclosures by restating firms as less credible and, consequently, firms are less likely to use disclosures to respond to the reputation shock. Finally, we note that less than 10 percent of damaged firms operate in the same industry as the restating firm. Consequently, these findings

mitigate the concern our results are driven by industry spillover effects caused directly by restatements.

4.7 Sensitivity Analyses

We perform a battery of sensitivity analyses and discuss the untabulated results here. First, we augment our changes analysis in Table 3 with a difference-in-difference specification, while also matching damaged and non-damaged offices within the same office size quintile and year.[25] We then compare damaged and non-damaged offices after the matching in the post period and find a positive and significant interaction between reputation damage and our post-period indicator.[26] This provides additional evidence that firm-specific factors do not drive our results that client firms increase disclosure after an audit office reputation damage event.

Second, we define *DAMAGE* based on auditor office damage only in year t-1 (whereas in our main analysis we consider auditor office damage in years t-1, t-2, and t-3). Again, our results remain largely similar but are statistically weaker in three out of the 30 total tests. This is not entirely surprising as some firms likely take longer than others to implement disclosure level changes.

Third, we implement two alternative definitions for *DAMAGE.* We first alter this test variable by scaling the number of clients in an auditor office that restate over years t-3 through t-1 by the total number of clients of that office over those years. Thus, this continuous measure reflects the relative *magnitude* of the overall reputation damage event for a given auditor office. The second is a count variable based on the number of office years damaged over the previous

[25] We implement a one-to-many match (one damaged office to many non-damaged offices) to increase the power of our test (Shipman, Swanquist, and Whited 2017). Further, we retain only offices that are not damaged for at least three consecutive years so that offices are similar on this characteristic in the pre period.

[26] Our estimation includes a variable equal to one for clients of offices that become damaged at some point during our sample period (i.e., *TREAT*), a variable equal to one indicating the time period after a damage event for an auditor office (i.e., the *POST* period), and an interaction between the two (i.e., *TREAT***POST*), representing our difference-in-difference test variable in this specification.

three years. The results using both alternative variables indicate that the number of management forecasts issued continues to be positively and significantly ($p<0.05$) associated with auditor office reputation damage events measured in these ways.

Fourth, we consider only clients of Big 6 auditors (Deloitte, KPMG, EY, PwC, Grant Thornton, and BDO), as these auditors comprise most of our sample at 82 percent. We find our results are virtually identical to the vast majority of our tabulated results. Fifth, we find similar results for clients of non-Big 6 accounting firms. When testing the statistical differences in magnitudes, we find the results to be similar for subsamples of Big 6 and non-Big 6 accounting firms.

Sixth, given that the median firm in our sample issues no management forecasts, we rerun all our tests by replacing our dependent variables with dichotomous variables that indicate whether firms issue forecasts or not. Our results are qualitatively similar, although slightly weaker in some cases. This is not surprising as we lose variation in the number of forecasts.

Seventh, to explore the timing of the documented effect, we examine a dynamic model of how firms' levels of voluntary disclosure respond to auditor office reputation damage that occurred in year t-1, t-2, t-3, t-4, and t-5. Results suggest the management forecast responsea are persistent up to the fifth year after auditor reputation damage.

Finally, to mitigate the possibility the findings in Sletten (2012) are driving our results on the impact of auditor reputation damage on management forecasts, we perform two tests.[27] First, when regressing firms' three-day cumulative abnormal return (*CAR*) on our test variable *DAMAGE* as well as all other control variables in equation (1) we find that auditor reputation damage exhibits at most a marginally significant association with *CAR* ($p=0.175$). Second, if we replace *ROA* with

[27] Sletten (2012) provides evidence that restating firms exhibit negative stock market reactions, and that in turn spills over to peer firms' market returns. These firms then respond to this by altering management forecasts.

CAR as a control variable in our equation (1), we find it is not significantly associated with management forecasts in two of the three models (p=0.486, p=0.822), and is only marginally significant in the third model (p=0.130). Most importantly, our results on auditor reputation damage do not change. Therefore, these tests suggest the market reaction to peer restatements shown by Sletten (2012) is not driving our results on the effect of auditor reputation damage on management forecasts.

V. CONCLUSION

An auditor office reputational damage event occurs when one or more clients of an office issue a restatement of previously released financial statements. The announcement of such an event sends a negative signal about auditor office quality and reputation (Francis and Michas 2013), and leads to negative consequences such as the loss of audit clients (Swanquist and Whited 2015). However, due to the significant costs of switching auditors, roughly 90 percent of clients remain with a reputationally damaged auditor office. Therefore, we contribute to the literature by investigating how these non-switching clients respond to auditor office reputation damage to better understand the connection between audited financial reporting quality and voluntary disclosure, where the perceived audited financial reporting quality shock is caused by disruption of audit office reputation rather than directly by the client firm itself.

We expect firms to choose their optimal disclosure levels based on their own assessments of perceived audit quality, information needs and disclosure costs. An auditor office reputational damage event breaks this disclosure equilibrium as it increases the perceived information asymmetry between outsiders and the firm. Consequently, firms may increase their number of voluntary disclosures.

Consistent with this expectation, we find that firms with a damaged auditor office issue more management forecasts than firms with a non-damaged office. However, clients that switch from a damaged office to a non-damaged office do not change their management forecasts. This contrast suggests that non-switching firms make different disclosure cost-benefit assessments compared to switching firms. We further hypothesize and find that firms provide incrementally more disclosures when there are higher overall information demands. In addition, we find that firms of damaged offices provide incrementally fewer disclosures when the proprietary costs of doing so are higher. Finally, we document that increased management forecasts have market benefits for firms as we show that a reputational damage event is associated with higher costs of equity capital and reduced realized returns for firms that do not issue management forecasts. However, as firms increase their amounts of voluntary forecasts, the negative cost of equity consequences and reduced returns are mitigated.

Our findings provide insights into the incentives and costs of firms to change voluntary disclosure amounts in response to auditor office reputational damage events. Thus, we provide insights under a new and different scenario involving the external auditor. Our main finding that non-restating firms increase their disclosures contrasts with the repeated restating firms that issue fewer voluntary disclosures in response to their own restatements. Therefore, we highlight the auditor's role in this setting and extend prior research on audited financial reporting quality and disclosure (Li 2013; Noh, So, and Weber 2019; Guay et al. 2016; Ball et al. 2012; Frankel et al. 2021).

Our study should be informative for both researchers and practitioners interested in the economic outcomes of damaged auditor office reputations. Our analyses also contribute to the disclosure literature by highlighting a new disclosure incentive to offset a negative signal about

perceived audit quality. One caveat of our study is that we focus exclusively on auditor office reputation damage defined using client restatements. There are other possible measures that can be useful in indicating that an auditor office provides lower-quality audits than previously perceived. However, restatements are large 'shock' announcements that are meaningful to investors in providing a signal about poor audit quality.

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TABLE 1: DESCRIPTIVE STATISTICS

Variable	N	Mean	STD	25%	Median	75%
Outcome, Test and Moderating Variables						
MF_ALL	31,507	4.62	6.69	0.00	1.00	8.00
MF_EARN	31,507	2.13	3.87	0.00	0.00	4.00
MF_LINE	31,507	2.10	3.24	0.00	0.00	4.00
DAMAGE	31,507	0.42	0.49	0.00	0.00	1.00
DAMAGE_STAY	34,718	0.38	0.48	0.00	0.00	1.00
DAMAGE_LEFT	34,718	0.04	0.20	0.00	0.00	0.00
ACOV	31,507	8.65	8.70	2.00	6.00	13.00
LARGE	31,507	0.50	0.50	0.00	0.00	1.00
PCOST1	31,507	11.87	20.34	1.17	2.12	8.23
PCOST2	31,507	0.26	1.44	0.00	0.00	0.00
Control Variables						
SIZE	31,507	6.54	2.09	5.03	6.60	8.00
ROA	31,507	-0.03	0.24	-0.01	0.02	0.06
LEV	31,507	0.24	0.23	0.04	0.19	0.37
MTB	31,507	3.22	5.09	1.13	1.86	3.34
LOSS	31,507	0.28	0.45	0.00	0.00	1.00
RD	31,507	0.39	0.49	0.00	0.00	1.00
RET_VOL	31,507	0.12	0.08	0.06	0.09	0.15
BIG6	31,507	0.82	0.39	1.00	1.00	1.00
NATIONAL_LEADER	31,507	0.27	0.44	0.00	0.00	1.00
CITY_LEADER	31,507	0.54	0.50	0.00	1.00	1.00
OFFICESIZE	31,507	52.24	111.48	8.00	18.00	45
Additional Variables for Consequences Analysis (Tables 6 and 7)						
COE	13,500	0.05	0.04	0.03	0.05	0.07
MOMENTUM	13,500	0.19	0.50	-0.10	0.13	0.36
DISP	13,500	1.69	99.25	0.00	0.00	0.00
LTG	13,500	0.12	0.31	0.07	0.12	0.17
BETAVW	13,500	1.14	0.45	0.83	1.10	1.41
IDRISK	13,500	0.33	0.19	0.20	0.27	0.40
CAR	31,507	0.09	1.13	-0.43	0.07	0.63

Note: All variables are defined in the Appendix.

TABLE 2: AUDITOR OFFICE REPUTATIONAL DAMAGE AND MANAGEMENT FORECASTS

A: Main results

		Dependent Variable		
		(1) *LnMF_ALL*	(2) *LnMF_EARN*	(3) *LnMF_LINE*
Independent Variables	Pred.	Coeff. (t_stat)	Coeff. (t_stat)	Coeff. (t_stat)
DAMAGE	?	0.0979***	0.0502***	0.0844***
		(5.43)	(3.13)	(5.92)
SIZE	+	0.2044***	0.1393***	0.1166***
		(28.76)	(21.11)	(21.26)
ROA	?	0.3173***	0.1418***	0.3387***
		(9.44)	(5.00)	(13.27)
LEV	+	0.6301***	0.5093***	0.3902***
		(12.36)	(10.93)	(10.15)
MTB	?	-0.0057***	-0.0030**	-0.0013
		(-3.48)	(-2.06)	(-1.11)
LOSS	-	-0.1245***	-0.1343***	-0.0616***
		(-6.06)	(-7.68)	(-3.95)
RD	+	0.2458***	0.2070***	0.1943***
		(6.31)	(5.65)	(6.34)
RET_VOL	-	-0.4844***	-0.5991***	-0.1935**
		(-4.84)	(-7.19)	(-2.45)
BIG6	?	0.1739***	0.0559**	0.1452***
		(6.37)	(2.51)	(6.92)
NATIONAL_LEADER	?	-0.0209	-0.0052	-0.0289
		(-0.86)	(-0.23)	(-1.54)
CITY_LEADER	?	0.0237	0.0218	0.0133
		(1.23)	(1.23)	(0.89)
OFFICESIZE	?	-0.0003***	-0.0001*	-0.0002**
		(-3.23)	(-1.65)	(-2.15)
INTERCEPT	?	-0.5755***	-0.4396***	-0.3241***
		(-12.42)	(-10.97)	(-8.92)
N		31,507	31507	31507
R-squared		0.416	0.307	0.386
Year & Industry Fixed Effects		YES	YES	YES

B: Non-switching clients versus clients that switch auditors

		Dependent Variable		
		(1) *LnMF_ALL*	(2) *LnMF_EARN*	(3) *LnMF_LINE*
Independent Variables	Pred.	Coeff. (t stat)	Coeff. (t stat)	Coeff. (t stat)
DAMAGE_STAY	?	0.0992***	0.0509***	0.0845***
		(5.64)	(3.26)	(6.08)
DAMAGE_LEFT	?	0.0243	0.0055	0.0073
		(0.95)	(0.26)	(0.37)
SIZE	+	0.2054***	0.1392***	0.1176***
		(30.24)	(22.01)	(22.45)
ROA	?	0.3048***	0.1445***	0.3178***
		(9.75)	(5.50)	(13.44)
LEV	+	0.6184***	0.4923***	0.3868***
		(12.85)	(11.30)	(10.62)
MTB	?	-0.0054***	-0.0028**	-0.0011
		(-3.44)	(-2.05)	(-0.92)
LOSS	-	-0.1197***	-0.1282***	-0.0601***
		(-6.17)	(-7.79)	(-4.08)
RD	+	0.2356***	0.2012***	0.1872***
		(6.36)	(5.79)	(6.42)
RET_VOL	-	-0.4235***	-0.5317***	-0.1734**
		(-4.60)	(-6.94)	(-2.39)
BIG6	?	0.1748***	0.0601***	0.1433***
		(6.90)	(2.91)	(7.38)
NATIONAL_LEADER	?	-0.0219	-0.0051	-0.0316*
		(-0.94)	(-0.24)	(-1.75)
CITY_LEADER	?	0.0254	0.0208	0.0142
		(1.40)	(1.26)	(1.01)
OFFICESIZE	?	-0.0003***	-0.0001	-0.0002**
		(-3.23)	(-1.64)	(-2.12)
INTERCEPT	?	-0.9233***	-0.5353**	-0.7573***
		(-5.96)	(-2.19)	(-5.87)
P-value: *DAMAGE_STAY=DAMAGE_LEFT*		0.004	0.020	0.002
N		34,718	34,718	34,718
R-squared		0.421	0.309	0.390
Year & Industry Fixed Effects		YES	YES	YES

Note: *, **, and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively, two-tailed. T-statistics (in parentheses) are calculated based on standard errors clustered at the firm level. *LnMF_ALL* equals the logarithm of one plus the number of annual management forecasts issued by a firm throughout the year. *LnMF_EARN* equals the logarithm of one plus the number of annual earnings forecasts issued by a firm throughout the year. *LnMF_LINE* equals the logarithm of one plus the number of annual management forecasts of line items issued by a firm throughout the year. *DAMAGE* equals one if one or more auditor office years in the previous three years of a client are reputationally damaged and zero otherwise. *DAMAGE_STAY* equals one if (1) the client is reputationally damaged in year t (based on the definition of *DAMAGE*), and (2) the client uses an auditor office in year t that is the same as the damaged office in the previous three years, and zero otherwise. *DAMAGE_LEFT* equals one if (1) the client is reputationally damaged in year t and (2) the client uses an auditor office in year t that is different from the damaged office in the previous three years and zero otherwise. All other variables are defined in the Appendix.

TABLE 3: CHANGES MODEL SPECIFICATIONS (HYPOTHESIS 1)

		Dependent Variable					
		Full sample			Subsample dropping observations with *dDAMAGE* = -1		
		(1) *dLnMF_ALL*	(2) *dLnMF_EARN*	(3) *dLnMF_LINE*	(4) *dLnMF_ALL*	(5) *dLnMF_EARN*	(6) *dLnMF_LINE*
		Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
Independent Variables	Pred.	(t_stat)	(t_stat)	(t_stat)	(t_stat)	(t_stat)	(t_stat)
dDAMAGE	?	0.0423***	0.0266***	0.0354***	0.0433***	0.0313***	0.0280**
		(4.60)	(3.44)	(4.46)	(3.15)	(2.73)	(2.51)
dSIZE	+	0.0531***	0.0283***	0.0351***	0.0547***	0.0291***	0.0355***
		(6.46)	(4.43)	(5.18)	(6.44)	(4.40)	(5.10)
dROA	?	0.0003	-0.0143	0.0165	0.0013	-0.0145	0.0190
		(0.01)	(-0.96)	(0.88)	(0.06)	(-0.97)	(0.99)
dLEV	+	0.0210	-0.0251	0.0067	0.0247	-0.0218	0.0094
		(0.45)	(-0.69)	(0.17)	(0.53)	(-0.59)	(0.24)
dMTB	?	-0.0011	-0.0006	-0.0006	-0.0013	-0.0007	-0.0008
		(-1.10)	(-0.77)	(-0.73)	(-1.30)	(-0.80)	(-0.93)
dLOSS	-	-0.0542***	-0.0426***	-0.0278***	-0.0559***	-0.0449***	-0.0268***
		(-5.02)	(-4.76)	(-3.27)	(-5.08)	(-4.98)	(-3.09)
dRD	+	-0.1301***	-0.0548	-0.1157***	-0.1126**	-0.0458	-0.1054**
		(-2.59)	(-1.60)	(-2.58)	(-2.26)	(-1.35)	(-2.35)
dNATIONAL_LEADER	?	0.0479***	0.0119	0.0372**	0.0469***	0.0110	0.0350**
		(2.73)	(0.80)	(2.49)	(2.58)	(0.71)	(2.29)
dCITY_LEADER	?	-0.0306**	-0.0146	-0.0200*	-0.0305**	-0.0131	-0.0212**
		(-2.37)	(-1.37)	(-1.93)	(-2.31)	(-1.19)	(-2.02)
dOFFICESIZE	?	-0.0000	0.0000	0.0002	0.0000	0.0000	0.0003*
		(-0.07)	(0.06)	(1.42)	(0.16)	(0.29)	(1.67)
INTERCEPT	?	0.0738	0.0118	0.1041**	0.0639	0.0052	0.0987**
		(1.36)	(0.21)	(2.30)	(1.11)	(0.09)	(2.01)
N		29,979	29,979	29,979	28,084	28,084	28,084
R-squared		0.019	0.016	0.019	0.019	0.016	0.019
Year & Industry Fixed Effects		YES	YES	YES	YES	YES	YES

Note: *, **, and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively, two-tailed. T-statistics (in parentheses) are calculated based on standard errors clustered at the firm level. All variables are based on the year-over-year change transformation of the variables. *DAMAGE* equals one if one or more auditor office years in the previous three years of a client are reputationally damaged and zero otherwise. *LnMF_ALL* equals the logarithm of one plus the number of annual management forecasts issued by a firm throughout the year. *LnMF_EARN* equals the logarithm of one plus the number of annual earnings forecasts issued by a firm throughout the year. *LnMF_LINE* equals the logarithm of one plus the number of annual management forecasts of line items issued by a firm throughout the year. All other variables are defined in the Appendix.

TABLE 4: OUTSIDER INFORMATION DEMANDS (HYPOTHESIS 2)

A: Analyst Coverage

		Dependent Variable		
		(1) *LnMF_ALL*	(2) *LnMF_EARN*	(3) *LnMF_LINE*
Independent Variables	Pred.	Coeff. (t stat)	Coeff. (t stat)	Coeff. (t stat)
DAMAGE	?	0.0585***	0.0523***	0.0262
		(2.59)	(2.79)	(1.52)
*DAMAGE*ACOV*	+	0.0041**	-0.0000	0.0059***
		(2.12)	(-0.00)	(3.80)
ACOV	+	0.0786***	0.0462***	0.0538***
		(9.34)	(6.57)	(8.08)
SIZE	+	0.2063***	0.1609***	0.1004***
		(22.38)	(19.78)	(14.68)
ROA	?	0.1550***	0.0643**	0.1749***
		(4.08)	(2.03)	(6.05)
LEV	+	0.4208***	0.2460***	0.2540***
		(6.81)	(4.61)	(5.58)
MTB	?	-0.0094***	-0.0065***	-0.0027
		(-3.89)	(-3.24)	(-1.62)
LOSS	-	-0.1271***	-0.0743***	-0.1046***
		(-5.18)	(-3.65)	(-5.70)
RD	+	0.1708***	0.1119***	0.1310***
		(4.02)	(2.82)	(3.86)
RET_VOL	-	-0.1877*	-0.0409	-0.2182***
		(-1.73)	(-0.48)	(-2.60)
BIG6	?	-0.0042	-0.0608**	0.0216
		(-0.13)	(-2.45)	(0.91)
NATIONAL_LEADER	?	-0.0057	-0.0209	0.0023
		(-0.16)	(-0.68)	(0.09)
CITY_LEADER	?	0.0309	-0.0041	0.0312*
		(1.29)	(-0.20)	(1.73)
OFFICESIZE	?	-0.0003**	-0.0002*	-0.0000
		(-2.03)	(-1.67)	(-0.20)
INTERCEPT	?	-0.8357***	-0.5749**	-0.6074***
		(-5.14)	(-2.15)	(-4.53)
P-value: *DAMAGE+DAMAGE*ACOV*=0		0.004	0.003	0.049
Interactions of Moderators with Controls		YES	YES	YES
N		31,507	31,507	31,507
R-squared		0.439	0.324	0.412
Year & Industry Fixed Effects		YES	YES	YES

B: Firm Size

		Dependent Variable		
		(1) *LnMF_ALL*	(2) *LnMF_EARN*	(3) *LnMF_LINE*
Independent Variables	Pred.	Coeff. (t stat)	Coeff. (t stat)	Coeff. (t stat)
DAMAGE	?	0.0547**	0.0243	0.0351**
		(2.48)	(1.42)	(2.10)
*DAMAGE*LARGE*	+	0.1005***	0.0596**	0.1060***
		(3.33)	(2.26)	(4.52)
LARGE	+	0.3882***	0.2613***	0.1411**
		(5.18)	(4.03)	(2.43)
ROA	?	0.4082***	0.2321***	0.3074***
		(12.75)	(9.42)	(12.48)
LEV	+	0.4646***	0.3245***	0.3524***
		(8.16)	(7.29)	(8.35)
MTB	?	0.0000	-0.0008	0.0021
		(0.01)	(-0.59)	(1.49)
LOSS	-	-0.1203***	-0.0865***	-0.0843***
		(-5.06)	(-4.71)	(-4.71)
RD	+	0.1410***	0.0904**	0.0678**
		(3.21)	(2.43)	(1.97)
RET_VOL	-	-0.6203***	-0.4538***	-0.4574***
		(-6.06)	(-5.85)	(-5.80)
BIG6	?	0.3403***	0.1767***	0.2464***
		(12.11)	(8.47)	(11.56)
NATIONAL_LEADER	?	0.0204	0.0039	0.0132
		(0.62)	(0.15)	(0.52)
CITY_LEADER	?	0.0729***	0.0374**	0.0432**
		(3.15)	(2.15)	(2.46)
OFFICESIZE	?	-0.0001	0.0000	0.0001
		(-0.40)	(0.26)	(0.56)
INTERCEPT	?	-0.1804	-0.0323	-0.3357***
		(-0.97)	(-0.11)	(-2.74)
P-value: *DAMAGE+DAMAGE*LARGE*=0		0.000	0.000	0.000
Interactions of Moderators with Controls		YES	YES	YES
N		31,507	31,507	31,507
R-squared		0.401	0.303	0.383
Year & Industry Fixed Effects		YES	YES	YES

Note: *, **, and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively, two-tailed. T-statistics (in parentheses) are calculated based on standard errors clustered at the firm level. *LnMF_ALL* equals the logarithm of one plus the number of annual management forecasts issued by a firm throughout the year. *LnMF_EARN* equals the logarithm of one plus the number of annual earnings forecasts issued by a firm throughout the year. *LnMF_LINE* equals the logarithm of one plus the number of annual management forecasts of line items issued by a firm throughout the year. *DAMAGE* equals one if one or more auditor office years in the previous three years of a client are reputationally damaged, and zero otherwise. *ACOV* equals the number of analysts covering a firm in year t. *LARGE* equals one if the natural logarithm of a firm's market value of equity in year t is greater than the sample median value, and zero otherwise. All other variables are defined in the Appendix.

TABLE 5: CLIENT FIRM PROPRIETARY COSTS OF DISCLOSURE (HYPOTHESIS 3)

A: Proprietary Cost based on firm product similarity (*PCOST1*)

		Dependent Variable		
		(1) *LnMF_ALL*	(2) *LnMF_EARN*	(3) *LnMF_LINE*
Independent Variables	Pred.	Coeff. (t stat)	Coeff. (t stat)	Coeff. (t stat)
DAMAGE	?	0.1230***	0.0608***	0.1083***
		(5.85)	(3.21)	(6.46)
*DAMAGE*PCOST1*	-	-0.0028***	-0.0011***	-0.0026***
		(-5.84)	(-2.77)	(-7.57)
PCOST1	-	0.0184***	0.0126***	0.0145***
		(13.23)	(10.80)	(14.16)
SIZE	+	0.2337***	0.1602***	0.1396***
		(28.15)	(20.71)	(21.87)
ROA	?	0.2225***	0.0805**	0.2842***
		(5.63)	(2.42)	(9.42)
LEV	+	0.5511***	0.5183***	0.2808***
		(9.38)	(9.55)	(6.26)
MTB	?	-0.0061***	-0.0019	-0.0021
		(-3.14)	(-1.12)	(-1.43)
LOSS	-	-0.0950***	-0.1213***	-0.0319*
		(-4.10)	(-6.09)	(-1.82)
RD	+	0.2344***	0.2028***	0.1824***
		(5.91)	(5.40)	(5.93)
RET_VOL	-	-0.1433	-0.4880***	0.1517
		(-1.23)	(-4.93)	(1.63)
BIG6	?	0.3227***	0.1358***	0.2643***
		(9.40)	(4.79)	(9.81)
NATIONAL_LEADER	?	0.0184	0.0145	0.0018
		(0.65)	(0.54)	(0.08)
CITY_LEADER	?	-0.0010	0.0073	-0.0076
		(-0.04)	(0.33)	(-0.41)
OFFICESIZE	?	-0.0003***	-0.0002*	-0.0002**
		(-3.27)	(-1.74)	(-2.25)
INTERCEPT	?	-1.3143***	-0.7820***	-1.0858***
		(-8.91)	(-3.00)	(-8.13)
P-value: *DAMAGE+DAMAGE*PCOST1*=0		0.000	0.001	0.000
Interactions of Moderators with Controls		YES	YES	YES
N		31,507	31,507	31,507
R-squared		0.438	0.324	0.407
Year & Industry Fixed Effects		YES	YES	YES

B: Proprietary Cost based on R&D intensity (*PCOST2*)

		Dependent Variable		
		(1) *LnMF_ALL*	(2) *LnMF_EARN*	(3) *LnMF_LINE*
Independent Variables	Pred.	Coeff. (t stat)	Coeff. (t stat)	Coeff. (t stat)
DAMAGE	?	0.0999***	0.0511***	0.0868***
		(5.39)	(3.09)	(5.92)
*DAMAGE*PCOST2*	-	-0.0086**	-0.0028	-0.0107***
		(-2.44)	(-0.97)	(-4.25)
PCOST2	-	0.0631	-0.0265	0.0372
		(1.03)	(-0.39)	(0.74)
SIZE	+	0.2127***	0.1456***	0.1225***
		(29.49)	(21.68)	(21.96)
ROA	?	0.2757***	0.1234***	0.3171***
		(7.47)	(4.00)	(11.32)
LEV	+	0.5804***	0.4812***	0.3447***
		(10.88)	(9.88)	(8.56)
MTB	?	-0.0046***	-0.0018	-0.0004
		(-2.62)	(-1.19)	(-0.34)
LOSS	-	-0.0859***	-0.1091***	-0.0303*
		(-4.06)	(-6.03)	(-1.89)
RET_VOL	-	-0.4257***	-0.5763***	-0.1383*
		(-4.01)	(-6.51)	(-1.65)
BIG6	?	0.1811***	0.0597***	0.1519***
		(6.47)	(2.61)	(7.04)
NATIONAL_LEADER	?	-0.0091	0.0021	-0.0212
		(-0.37)	(0.09)	(-1.10)
CITY_LEADER	?	0.0271	0.0233	0.0163
		(1.37)	(1.28)	(1.06)
OFFICESIZE	?	-0.0003***	-0.0001	-0.0001*
		(-2.89)	(-1.41)	(-1.81)
INTERCEPT	?	-0.9368***	-0.5343*	-0.7810***
		(-5.56)	(-1.94)	(-5.66)
P-value: *DAMAGE+DAMAGE** *PCOST2*=0		0.000	0.002	0.000
Interactions of Moderators with Controls		YES	YES	YES
N		31,507	31,507	31,507
R-squared		0.419	0.308	0.388
Year & Industry Fixed Effects		YES	YES	YES

Note: *, **, and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively, two-tailed. T-statistics (in parentheses) are calculated based on standard errors clustered at the firm level. *LnMF_ALL* equals the logarithm of one plus the number of annual management forecasts issued by a firm throughout the year. *LnMF_EARN* equals the logarithm of one plus the number of annual earnings forecasts issued by a firm throughout the year. *LnMF_LINE* equals the logarithm of one plus the number of annual management forecasts of line items issued by a firm throughout the year. *DAMAGE* equals one if one or more auditor office years in the previous three years of a client are reputationally damaged, and zero otherwise. *PCOST1* equals the total product similarity with other firms within a TNIC industry. *PCOST2* equals the level of research and development expense scaled by total sales for firm *i* at the end of year *t*. All other variables are defined in the Appendix.

TABLE 6: COST OF EQUITY CAPITAL ANALYSIS

		Dependent Variable = *COE*		
		(1)	(2)	(3)
Definition of MF		*LnMF_ALL*	*LnMF_EARN*	*LnMF_LINE*
		Coeff.	Coeff.	Coeff.
Independent Variables	Pred.	(t_stat)	(t_stat)	(t_stat)
DAMAGE	+	0.0048***	0.0033***	0.0031***
		(3.55)	(3.06)	(2.58)
*DAMAGE*LnMF*	-	-0.0025***	-0.0027***	-0.0020***
		(-4.08)	(-4.05)	(-2.74)
LnMF	-	-0.0129***	-0.0161***	-0.0114***
		(-4.99)	(-5.48)	(-3.44)
SIZE	-	-0.0038***	-0.0037***	-0.0035***
		(-7.07)	(-8.16)	(-7.43)
MTB	-	-0.0006***	-0.0007***	-0.0005***
		(-4.42)	(-5.83)	(-4.37)
ROA	?	0.0270***	0.0280***	0.0294***
		(5.61)	(6.34)	(6.23)
LEV	+	0.0281***	0.0263***	0.0232***
		(7.27)	(8.27)	(6.28)
MOMENTUM	-	0.0024**	0.0017*	0.0014
		(2.18)	(1.76)	(1.41)
DISP	+	-0.0000	-0.0000	-0.0000
		(-1.16)	(-1.19)	(-1.14)
LTG	+	0.0033	0.0047**	0.0029
		(1.49)	(2.54)	(1.38)
BETAVW	+	-0.0024	-0.0000	-0.0012
		(-1.57)	(-0.00)	(-0.88)
IDRISK	+	-0.0199***	-0.0177***	-0.0142***
		(-3.84)	(-3.90)	(-2.91)
INTERCEPT	?	0.0807***	0.0770***	0.0756***
		(5.55)	(5.45)	(5.04)
P-value: *DAMAGE+DAMAGE*LnMF*=0		0.0117	0.3910	0.1719
Interactions of Moderators with Controls		YES	YES	YES
N		13,500	13,500	13,500
R-squared		0.240	0.237	0.235
Year & Industry Fixed Effects		YES	YES	YES

Note: *, **, and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively, two-tailed. T-statistics (in parentheses) are calculated based on standard errors clustered at the firm level. *COE* equals the mean implied cost of equity calculated based on four models, following Dhaliwal et al. (2016). *LnMF* equals the logarithm of one plus the number of management forecasts. *LnMF_ALL* equals the logarithm of one plus the number of annual management forecasts issued by a firm throughout the year. *LnMF_EARN* equals the logarithm of one plus the number of annual earnings forecasts issued by a firm throughout the year. *LnMF_LINE* equals the logarithm of one plus the number of annual management forecasts of line items issued by a firm throughout the year. *DAMAGE* equals one if one or more auditor office years in the previous three years of a client are reputationally damaged and zero otherwise. All other variables are defined in the Appendix.

TABLE 7: REALIZED RETURN ANALYSIS

		Dependent Variable = *CAR*		
		(1)	(2)	(3)
Definition of MF		*LnMF_ALL*	*LnMF_EARN*	*LnMF_LINE*
		Coeff.	Coeff.	Coeff.
Independent Variables	Pred.	(t_stat)	(t_stat)	(t_stat)
DAMAGE	-	-0.0005	0.0043	0.0076
		(-0.02)	(0.17)	(0.28)
*DAMAGE*LnMF*	+	0.0253*	0.0351**	0.0290
		(1.72)	(2.10)	(1.51)
LnMF	+	-0.0051	0.0217	-0.0604
		(-0.12)	(0.41)	(-1.08)
SIZE	+	0.0049	0.0014	0.0026
		(0.56)	(0.18)	(0.33)
ROA	+	0.3585***	0.3611***	0.3621***
		(4.53)	(4.72)	(4.65)
LEV	-	-0.0547	-0.0373	-0.0677
		(-0.71)	(-0.52)	(-0.89)
MTB	+	0.0108***	0.0114***	0.0094***
		(2.73)	(3.34)	(2.61)
INTERCEPT	?	-0.2115	-0.2017	-0.1993
		(-1.19)	(-1.14)	(-1.15)
P-value: *DAMAGE+DAMAGE*LnMF*=0		0.250	0.057	0.086
Interactions of Moderators with Controls		YES	YES	YES
N		31,507	31,507	31,507
R-squared		0.105	0.106	0.106
Year & Industry Fixed Effects		YES	YES	YES

Note: *, **, and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively, two-tailed. T-statistics (in parentheses) are calculated based on standard errors clustered at the firm level. *CAR* equals market-adjusted cumulative monthly abnormal return over year *t*. *LnMF_ALL* equals the logarithm of one plus the number of annual management forecasts issued by a firm throughout the year. *LnMF_EARN* equals the logarithm of one plus the number of annual earnings forecasts issued by a firm throughout the year. *LnMF_LINE* equals the logarithm of one plus the number of annual management forecasts of line items issued by a firm throughout the year. *DAMAGE* equals one if one or more auditor office years in the previous three years of a client are reputationally damaged and zero otherwise. All other variables are defined in the Appendix.

THE APPENDIX: VARIABLE DEFINITIONS

Variable		Definition
Outcome, Test and Moderating Variables		
LnMF_ALL	=	the logarithm of one plus the number of annual management forecasts issued by a firm throughout a year [IBES]
LnMF_EARN	=	the logarithm of one plus the number of annual earnings forecasts issued by a firm throughout a year [IBES]
LnMF_LINE	=	the logarithm of one plus the number of annual management forecasts of line items (such as sales, capital expenditures, and operating profits) issued by a firm throughout a year [IBES]
DAMAGE	=	one if one or more auditor office-years in the previous three years (i.e., year *t-1*, *t*-2 or *t-3*) of a specific client are reputationally damaged, and zero otherwise. An auditor office-year is defined as being damaged when one or more clients of that office announce a "Big-R" non-reliance restatement (i.e., a restatement issued along with an 8-K Item 4.02 disclosure) in that year [Audit Analytics]
DAMAGE_STAY	=	one if the following two criteria are met: (1) the client is reputationally damaged in year *t* (based on the definition of *DAMAGE*) and (2) the client uses an auditor office in year *t* that is the same as the damaged office in the previous three years, and zero otherwise [Audit Analytics]
DAMAGE_LEFT	=	one if the following two criteria are met: (1) the client is reputationally damaged in year t (based on the definition of *DAMAGE*) and (2) the client uses an auditor office in year t that is different from the damaged office in the previous three years, and zero otherwise [Audit Analytics]
ACOV	=	the number of analysts covering firm *i* in year *t* [IBES]
LARGE	=	one if the natural logarithm of the market value of equity for a firm is greater than the sample median value, and zero otherwise. [COMPUSTAT]
PCOST1	=	total product similarity with other firms within a TNIC industry [Hoberg and Phillips 2016]
PCOST2	=	the level of research and development expense scaled by total sales for firm *i* at the end of year *t* [COMPUSTAT]
Control Variables		
SIZE	=	the natural logarithm of the market value of equity for firm *i* at the end of year *t* [COMPUSTAT]
ROA	=	income before extraordinary items scaled by total assets for firm *i* in year *t* [COMPUSTAT]
LEV	=	total long-term debt scaled by total assets for firm *i* in year *t* [COMPUSTAT]
MTB	=	market value of equity scaled by the book value of equity for firm *i* at the end of year *t* [COMPUSTAT]
LOSS	=	one if income before extraordinary items is less than zero for firm *i* in year *t*, and zero otherwise [COMPUSTAT]
RD	=	one if research and development expense is greater than zero for firm *i* in year *t*, and zero otherwise [COMPUSTAT]
RET_VOL	=	the standard deviation of monthly stock returns for firm *i* in year *t*, with a minimum of six months of returns required [CRSP]
BIG6	=	one if a client's auditor in year *t* is a Big 6 auditor (Deloitte, KPMG, EY, PwC, Grant Thornton or BDO), and zero otherwise [Audit Analytics]
NATIONAL_LEADER	=	one if a client's auditor in year *t* is the number one auditor in an industry in terms of total audit fees at the national level, and zero otherwise [Audit Analytics]
CITY_LEADER	=	one if a client's auditor office in year t is the number one auditor office in an industry in terms of total audit fees at the MSA level, and zero otherwise [Audit Analytics]
OFFICESIZE	=	the number of public company audits that are performed by a client's auditor office in year *t* [Audit Analytics]

Additional Variables for Cost of Equity Capital analysis (Tables 6 and 7)		
COE	=	the mean value of implied cost of equity calculated based on four models (i.e., Gebhardt et al. 2001; Claus and Thomas 2001; Easton 2004; Ohlson and Juettner-Nauroth 2005), subtracting the yields on 10-year treasury bonds (i.e., risk-free rate), following Dhaliwal et al. (2016) [COMPUSTAT, CRSP, Federal Reserve Bank, IBES]
MOMENTUM	=	the stock return for firm *i* over year *t* [CRSP]
DISP	=	the standard deviation of analyst earnings per share forecasts made by analysts in year *t* for year *t+1*, scaled by the end-of-year stock price in year *t* [IBES]
LTG	=	the median value of analysts' forecasts of long-term growth rates for firm *i* in year *t* [IBES]
BETAVW	=	the coefficient from regressing daily returns for firm *i* over year *t* on contemporaneous CRSP value-weighted market returns, corrected for nonsynchronous trading (Scholes and Williams 1977) [CRSP]
IDRISK	=	the idiosyncratic risk, calculated as the annualized standard deviation of the residuals regressing daily returns for firm *i* over year *t* on contemporaneous CRSP value-weighted market returns, corrected for nonsynchronous trading (Scholes and Williams 1977) [CRSP]
CAR	=	Market-adjusted cumulative monthly abnormal return over year *t* [CRSP]

VI.