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**DOES THE PUBLIC DISCLOSURE OF
THE SEC'S OVERSIGHT ACTIONS
MATTER?**

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Abstract

This paper studies the effect of the public disclosure of the Securities and Exchange Commission (SEC)'s oversight activity on firms' financial reporting. We exploit a major change in the SEC's disclosure policy: in 2004, the SEC decided to make its comment-letter reviews publicly available. Using a novel dataset of SEC comment letters (CLs), we analyze the capital-market responses to firms' quarterly earnings releases during SEC reviews conducted before and after the policy change. We find that these responses increase significantly following the policy change. Consistent with public disclosure of CLs increasing market discipline, we find that this relative increase is stronger among firms with higher percentages of dedicated institutional investors or independent directors. In contrast, we do not find conclusive evidence that public disclosure of CLs increases SEC oversight intensity. Corroborating these results, we also document a set of changes firms make to their accounting reports during these reviews. Our results indicate that the public disclosure of regulatory oversight activities can enhance the effect of these activities.

JEL Classification: M41

Keywords: Disclosure Rules, SEC comment letters, SEC oversight

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ABSTRACT

This paper studies the effect of the public disclosure of the Securities and Exchange Commission (SEC)'s oversight activity on firms' financial reporting. We exploit a major change in the SEC's disclosure policy: in 2004, the SEC decided to make its comment-letter reviews publicly available. Using a novel dataset of SEC comment letters (CLs), we analyze the capital-market responses to firms' quarterly earnings releases during SEC reviews conducted before and after the policy change. We find that these responses increase significantly following the policy change. Consistent with public disclosure of CLs increasing market discipline, we find that this relative increase is stronger among firms with higher percentages of dedicated institutional investors or independent directors. In contrast, we do not find conclusive evidence that public disclosure of CLs increases SEC oversight intensity. Corroborating these results, we also document a set of changes firms make to their accounting reports during these reviews. Our results indicate that the public disclosure of regulatory oversight activities can enhance the effect of these activities.

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1. Introduction

A growing body of accounting research suggests that public enforcement plays a crucial role for effective financial reporting regulation (see Beyer et al., 2010, and Leuz and Wysocki, 2016, for reviews). However, relatively little is known about the elements of public enforcement that effectively ensure firms' compliance with accounting regulations (e.g., Coffee, 2007; Holthausen, 2009).¹ In times of limited public resources, regulators increasingly rely on the *public disclosure* of oversight activities to enforce regulation. For example, stress tests of banks are publicly disclosed and, recently, legislation to publicly disclose PCAOB inspection reports was reintroduced by U.S. Senators Chuck Grassley and Jack Reed. Proponents of this trend argue that disclosure of oversight activities provides market participants with critical information about firms, thereby enhancing *market discipline*, and can also impact the reputation of regulators, thereby increasing *regulatory discipline*. In a recent paper, Goldstein and Sapra (2013) develop a model to analyze these forces and provide guidance for disclosure policy in the context of banks' stress tests. In this paper, we provide empirical evidence on these potential benefits by investigating whether *public disclosure* of regulators' oversight activities enhances the effect of such activities.

We examine this question by exploiting a major change in the Securities and Exchange Commission's (SEC) policy regarding "comment letters" (henceforth "CLs" or "CL reviews"). As part of its oversight activities, the SEC's Division of Corporation Finance (DCF) routinely reviews firms' filings and communicates questions and concerns regarding firms' disclosures or compliance with accounting regulation to firms through comment letters that require response and remediation. Much of the Division's review involves evaluating the

¹ As notable exceptions, a few recent studies examine the consequences of heterogeneity in regulatory supervision (Blackburne, 2014; Bischof et al., 2016), proactive reviews of financial statements (Christensen et al., 2016b), new regulatory bodies such as the PCAOB (Gipper et al., 2016), and increases in enforcement (Christensen et al., 2013, 2016a).

filings from an investor's perspective and asking questions that an investor might ask when reading the document (SEC, 2015). Contrary to its prior policy, the SEC announced in 2004 that it would begin to publicly disseminate all comment and response letters related to reviews of corporate filings.

The disclosure of CLs could enhance *market discipline*. Such disclosure could strengthen the effect of the review process on firms' financial reporting by increasing the reputational concerns of corporate insiders, notably managers and directors. As the firm's interaction with the SEC becomes public knowledge failing to address the SEC's concerns satisfactorily could harm the insiders' reputations. Anecdotal evidence suggests that corporate executives appear to be deeply concerned with investor perceptions of comment letters and change their reporting practices in response to them (e.g., Dechow et al., 2016). For example, in a recent WSJ article, James Hoffmeister (Visa's Chief Accounting Officer) states that "whenever we get one of these letters, I take it as an opportunity to take a second look at what we're doing and if we can get better." (Shumsky, 2016), suggesting that executives might improve reporting practices even beyond the issues raised by the SEC. In addition, the public dissemination of CLs could also increase *regulatory discipline* by affecting the behavior of the SEC itself; when details of the CL process become subject to public scrutiny the SEC may exert more effort to protect its reputation.

Alternatively, public disclosure of CLs could weaken the effect of the review process if companies infer the SEC's oversight priorities from the letters sent to peer firms—thereby allowing firms to manage earnings in ways that are less likely to be the focus of SEC reviews. This alternative hypothesis is consistent with prior theoretical and empirical research demonstrating that corporate financial reporting is shaped by managers' anticipation of the

behavior of other market participants (Becker, 1968; Fischer and Verrecchia, 2000) and regulators (Kedia and Rajgopal, 2011; Blackburne, 2014; Heese et al., 2017).

Finally, it is also possible that the disclosure of comment letters is inconsequential. One view is that CL reviews could be ineffective and thus their disclosure is unlikely to have an effect. However, using samples of publicly disclosed CLs, various studies find that the CL process prompts firms to alter their disclosure and reporting behavior (e.g., Boone et al., 2013; Johnston and Petacchi, 2013; Brown et al., 2015; Bozanic et al., 2016). Thus, this view is inconsistent with prior accounting literature.² An alternative view is that, regardless of whether CLs are publicly disclosed, it is possible that firms will carefully address all comments, because failing to do so could lead to negative repercussions such as more frequent CL reviews or, in the extreme, a costly enforcement action (OIG, 2008a). Consequently, whether the public disclosure of CL reviews shapes the effect of these reviews is ultimately an empirical question.

Our empirical tests are based on a novel set of CLs related to 10-Ks from 1998 through 2013.³ As it includes years before and after the 2004 SEC disclosure policy change, this sample includes CLs that were publicly disclosed (which we refer to as “public conversations”) and CLs that were not publicly disclosed (“private conversations”). To analyze the effect of CL reviews, we study changes in firms’ quarterly financial reporting around the period of the conversation between a firm and the SEC about a given corporate filing, i.e., the period between the first and last letter sent by the SEC to the firm.

² There are additional arguments suggesting that CLs do matter. First, the SEC can obtain answers to questions that are frequently dodged, dismissed, or ignored when asked by investors or analysts, suggesting that these letters are material (Hollander et al., 2010). Second, the large backlog of Freedom of Information Act (FOIA) requests preceding the policy change suggests a vivid public interest in these letters (OIG, 2007). Third, the SEC believes that these letters prompt firms to change their reporting practices (OIG, 2008b). Finally, short-sellers use comment letters (Dechow et al., 2016).

³ While comment letters issued prior to the policy change were not disseminated to the public, we obtain information on these letters through FOIA requests.

If CLs have an effect on firms' reporting behavior, we expect to observe changes in financial reports issued during the conversation period (which we also refer to as "treatment" period). CLs are an expression of concern by the SEC regarding a firm's reporting and disclosure practices. The SEC states that it requires the firm to address these concerns by describing the requested adjustment in its response to the SEC and adjusting its financial reports following the receipt of the first letter accordingly (OIG, 2008b; PwC, 2014).⁴ Depending on the firm's response, the SEC issues additional comments, and continues the process until the firm resolves all comments to the SEC's satisfaction. When a firm has resolved all comments, the SEC provides the firm with a letter to confirm that its review is complete (SEC, 2015). While, in the case of private conversations, the effect of the review on firms' quarterly financial reporting would rely mainly on SEC oversight, in the case of public conversations this effect could be enhanced by market and regulatory discipline.

To measure changes in firms' reporting, we start by comparing the changes in short-window stock market reactions to earnings announcements (i.e., earnings response coefficients or ERCs) during the treatment period to the ERCs during two control periods of the same length immediately prior and subsequent to the conversation period (as explained below, we also examine specific actions taken by firms to change their accounting reports).⁵ We use ERCs for two reasons. First, ERCs directly relate to the SEC's objective to improve firms' disclosures and compliance with accounting regulation through CLs by evaluating firms' filings from an investor's perspective, because they are a function of the extent to which investors trust that a surprise in reported earnings reflects economic performance (e.g.,

⁴ For instance, John W. White, the former Director of the DCF, describes that changes prompted by CLs are reflected in firms' public reports long before the CLs are disseminated to the public (OIG, 2008b).

⁵ We focus on earnings announcements rather than SEC filings because prior work shows that these announcements are the most important disclosure event in terms of impact on security prices (e.g., Kothari, 2001, Basu et al., 2013), and are therefore commonly used in the accounting literature (e.g., Gipper et al., 2016). That said, we obtain identical inferences when we examine stock market reactions to SEC filings.

Holthausen and Verrecchia, 1988; Collins and Kothari, 1989).⁶ Second, ERCs also allow us to measure changes in reporting practices at specific points in time (i.e., before, during, and after a CL review), which facilitates the identification of the capital-market effects attributable to CLs. To gauge the effect of the disclosure policy change, we compare the effect of public conversations to that of private conversations. In other words, we test difference-in-differences among ERCs of quarterly earnings announcements along two dimensions: i) Treatment vs. control periods, and ii) public vs. private conversations.

The results of these tests are consistent with firms producing more informative accounting reports while being reviewed by the SEC after the 2004 disclosure policy change. For public conversations we observe an increase in ERCs during the conversation period. In contrast, for private conversations, we do not find evidence of a significant change in ERCs during the conversation period. These results are not unique to tests based on ERCs. Using the same research design, we find a consistent pattern in trading volume, accruals, financial statement narratives, and restatement likelihood. The effect of an average review is of modest magnitude (for public conversations we find an increase in ERC of approximately 10% during the treatment period) and temporary (reporting changes are concentrated in the conversation period). However, as the SEC reviews a large number of firms on a recurring basis, the aggregation of these effects across firms and years is economically important.

Next, we explore the mechanisms of our primary results. Consistent with public disclosure of CLs increasing managers' and directors' reputation incentives (and thus *market discipline*), we find that our results are stronger among firms with higher dedicated institutional ownership and higher percentage of independent directors. In contrast, we do not find conclusive evidence that our results are also driven by an increase in SEC oversight

⁶ Dechow et al. (2010) provide an overview of studies that use ERCs as a measure of firms' reporting quality.

intensity, i.e., *regulatory discipline*. In particular, we observe that, after the policy change, the duration of the reviews is shorter and CLs address fewer accounting topics. Moreover, before and after the policy change, all firms appear to be systematically subject to CL reviews rather than these reviews being conducted on a selective basis.

Next, we examine changes in firms' financial reports around private and public CL reviews more directly by focusing on three measures documented in prior literature as being related to improvements in firms' disclosures and compliance with accounting regulation: restatement likelihood, discretionary accruals, and length of narratives.⁷ We find that earnings announcements during public conversations (compared to earnings announcements during private conversations) contain relatively lower discretionary accruals (a reduction by -0.2 percentage points), and the associated filings have a lower restatement likelihood (a reduction by -2.5 percentage points) and include longer narratives (an increase by about 2,343 words). Compared to the average value of discretionary accruals (3%), restatement likelihood (11%), and length of narratives (25,500 words) of our sample firms, these differences are also economically substantive.

The research design of our tests has several features that collectively are intended to mitigate identification concerns. First, our research design exploits the fact that firms are subject to CL reviews at different times, mitigating concerns about parallel trends and other economic shocks or regulatory changes (e.g., Leuz and Wysocki, 2016). Second, benchmarking each firm against itself at different points in time reduces the possibility that firm-specific factors or time trends explain our findings. Third, because CLs are disseminated to the public only after the review is completed, our treatment period is less likely to be

⁷ Dechow et al. (2010) report that many studies use discretionary accruals and restatements as measures of reporting quality. Using a sample of publicly available CLs, Bozanic et al. (2016) find improvements in firms' disclosures following a CL review. Their main measure of disclosure quality is an index, which consists of various measures such as length, readability, and tone. The correlation between this index and length is 0.985, suggesting that length of narratives is a reasonable measure to capture improvements in disclosure practices.

confounded by a change in reporting credibility triggered by the market learning about the review, but unrelated to actual changes in financial reporting. Despite this, we conduct various additional analyses to further corroborate our inferences.

Two alternative explanations for our findings warrant special attention: First, it is possible that firms produce more informative earnings reports over time – independent of CL reviews. To rule out this possibility, we conduct falsification tests in which we randomize either the dates of the treatment period (i.e., we shift around the treatment period for firms receiving a CL) or the firms subject to reviews (i.e., we treat firms *not* receiving a CL as if they had received a CL). Results from these tests do not support this alternative explanation. Second, it is possible that the effect of CL reviews increases over time – independent of the policy change. To rule out this possibility, we conduct a falsification test in which we randomize the date of the SEC’s disclosure policy, and repeat our tests restricting the sample to a short window of time around the SEC’s disclosure policy. As explained later in the paper, within this window we are able to exploit *exogenous within-year* variation in the disclosure of CLs. Results from these tests do not support this alternative explanation.

Our study contributes to the growing body of research that documents the benefits of public enforcement on financial reporting (e.g., Ball et al., 2000, 2003; Bushman and Piotroski, 2006; Daske et al. 2008, 2013; Christensen et al., 2013, 2016a). We expand this literature by offering evidence that the effect of regulatory oversight can be enhanced by the *public disclosure* of regulators’ firm-specific oversight actions in the context of CL reviews.

We also contribute to the finance literature that studies “private” and “public” enforcement as alternative mechanisms to protect investors (e.g., La Porta et al., 2006; Jackson and Roe, 2009). While this literature suggests that public enforcement could be reinforced by the disciplining effect of market participants, there is little empirical evidence

of this complementary interaction. Our findings provide support for this interaction by suggesting that the *disclosure* of oversight actions can strengthen the effect of public enforcement through increased market discipline. By documenting the role of monitoring by both investors and corporate directors in the effectiveness of regulatory oversight, we also contribute to the accounting literature that studies investors' and directors' influence on firms' reporting (e.g., Bushee, 1998; Klein, 2002; Ferri and Sandino, 2009).

This paper also advances the growing literature on SEC comment letters. Prior studies have examined the characteristics of firms receiving CLs as well as the effect of these letters (e.g., Ettredge et al., 2011; Robinson et al., 2011; Boone et al., 2013; Cassell et al., 2013; Johnston and Petacchi, 2013; Gietzmann and Pettinicchio, 2014; Brown et al., 2015; Bozanic et al., 2016). Using our novel CL dataset, we extend this literature by studying whether the public disclosure of CLs enhances the effectiveness of these letters. Our findings also highlight the role of executives' and directors' reputation concerns with investors on the effects documented in this literature.

Finally, our findings are of interest to the SEC and policy makers in the U.S. and elsewhere. Under the 2007 Transparency Directive, for instance, European countries established CL mechanisms to improve existing enforcement regimes but have not made those reviews publicly available. Our findings suggest that the disclosure of oversight activities may help resource-constrained regulators to improve the effectiveness of their oversight.

The paper proceeds as follows. Section 2 provides institutional background on the SEC's comment letter process; Section 3 presents our main results; while Section 4 explores the sources of our main results. Section 5 explores alternative explanations for our findings, Section 6 describes additional tests, and Section 7 concludes.

2. Institutional background

2.1. The SEC's comment letter review process

The SEC is composed of several divisions, including the Division of Corporation Finance (DCF). DCF provides interpretive assistance to publicly listed companies with regards to SEC rules, which includes reviewing firms' financial reporting to monitor and enhance compliance, and improve disclosure. The review is designed to protect investors and is described by DCF as a "dialogue with a company about its disclosures" (SEC, 2015). Much of the DCF's review involves evaluating the disclosure from an investor's perspective and asking questions that an investor might ask when reading the document (SEC, 2015).

These reviews are conducted by one of 12 offices at the DCF, organized according to industry. Each is led by an assistant director, supervised by associate directors, and the deputy director and director of the DCF oversee the entire filing review process. Similar to other regulatory agencies, the DCF does not discuss the specifics of when and why certain firms are reviewed. If questions arise during a review, the DCF issues a comment letter to the firm. The comment letter is both an expression of concern by the SEC and an opportunity for the firm to respond to SEC questions about the firm's reporting practices. Typically, the SEC requires the firm to address these questions and concerns by adjusting its financial reports following the receipt of the first letter. The back and forth between the firm and the SEC will continue until the firm resolves all comments to the SEC's satisfaction. Consequently, the comment letter process varies considerably in duration to resolution and the number of intermediate rounds of formal questions and answers between the DCF and the firm. When the SEC's concerns are significant and substantively unresolved, the comment letter process can end with the firm making a restatement of past financial reports. In a few cases, the comment letter process terminates with the DCF recommending the case to the Division of

Enforcement. Typically, when a firm has resolved all comments, the SEC provides the firm with a letter to confirm that its review is complete (SEC, 2015).

2.2. *The 2004 disclosure policy change*

On June 24, 2004, the SEC announced the public release of comment and response letters related to corporate reports filed after August 1, 2004 “to expand the transparency of the comment letter process so that this information is available to a broader audience, free of charge” (SEC, 2004). The change in policy ensured that *all* comment letters were made available to *all* investors in a *timely* manner.⁸

The SEC’s policy change was prompted by a large backlog of FOIA requests (OIG, 2007). From 2002 to 2005, the backlog increased from 2,500 to 9,500 requests. The accumulation of FOIA requests caused distress to the SEC because public agencies are required to answer such requests within 20 working days. The timing of the policy change was unexpected. Instead of the SEC’s usual practice of seeking comments from the public, the agency announced this policy change through a press release. According to some commentators, the SEC intentionally deviated from its usual procedure to slow the accumulation of FOIA requests as soon as possible (OIG, 2007). The SEC began to publish the correspondence on EDGAR on May 12, 2005. Though the initial policy was to disseminate the letters no later than 45 days after the end of the review, beginning January 1, 2012, this was reduced to the current policy of 20 business days (SEC, 2011).

3. The informativeness of earnings announcements around comment letters

3.1. Data

⁸ While CLs could have been obtained via Freedom of Information Act (FOIA) requests prior to 2004, the dissemination of these letters prior to 2004 was very limited because the SEC often denied FOIA requests or exempted material from disclosure. For instance, in 2008, the SEC only accepted 13% of all FOIA requests, whereas other federal agencies accepted about 60% of FOIA requests (OIG, 2009). Gathering comment-letter information through FOIA requests is also burdensome and involves significant time. Finally, the number of letters the SEC disseminates through a FOIA request is restricted.

Our initial sample comprises all comment letter reviews conducted by the SEC from 1998 to 2013. Data on the universe of comment letter reviews publicly disclosed by the SEC starting in 2004 are collected from Audit Analytics. Data on the universe of comment letters reviews conducted before the 2004 policy change are obtained through FOIA requests. For each CL review before the 2004 policy change, the information provided by the SEC contains the recipient and the dates of the first and last letters of the conversation. Due to the data requirements of our empirical tests, we restrict our analysis to firms covered by CRSP, Compustat, and I/B/E/S, and exclude foreign private issuers filing either form 20-F or 40-F (these firms are subject to additional foreign regulatory oversight). We focus on CLs related to firms' 10-K filings, which comprise 77% of all periodic filing reviews conducted by the SEC. Our final CL sample consists of 14,191 CL reviews, of which 4,229 were initiated before the policy change. As stated above, we refer to these as “private conversations” and refer to the 9,962 publicly disclosed CLs as “public conversations.”

3.2. Stock market reaction to accounting information

To examine the effect of public disclosure of the SEC's oversight activity on firms' financial reporting, we analyze the informativeness of quarterly earnings announcements around SEC reviews. Specifically, we test whether the ERC of quarterly earnings announcements changes during CL reviews of firms' 10-K filings, and whether the change is different for private and public conversations (see Figure 1).

In our primary tests, we define the conversation period, i.e., the period between the first and last letter from the SEC, as the “treatment period” and compare the ERC of the quarterly earnings reported during the conversation period to that of the quarterly earnings reported during two control periods of the same length immediately prior and subsequent to the conversation period. For instance, if “x” is the length of the conversation period, the “Pre”

(“Post”) control period is defined as the x number of days prior to (subsequent to) the date of the first (last) letter of the conversation (see Figure 1).

– Please insert Figure 1 about here –

This research design requires excluding conversations in which the treatment period does not contain any earnings announcement. While this exclusion criterion causes some sample attrition, our final sample retains the vast majority (80%) of the sample conversations, namely 11,215 reviews with a total of 29,563 observations (the average treatment period includes 1.4 announcements). Moreover, prior literature shows that shorter conversations are less likely to include substantive comments (Cassell et al., 2013).⁹ As our research question relates to the effect of the CL disclosure, we test whether the coefficient on $UE_{it} * Treatment_Period_{it}$ is different for public and private conversations, using the following model:

$$\begin{aligned}
 CAR_{it} = & \beta_0 + \beta_1 * UE_{it} * Treatment_Period_{it} * Public_Conversation_{it} + \\
 & \beta_2 * UE_{it} * Treatment_Period_{it} + \beta_3 * UE_{it} * Public_Conversation_{it} + \\
 & \beta_4 * Treatment_Period_{it} * Public_Conversation_{it} + \beta_5 * UE_{it} + \beta_6 * Public_Conversation_{it} + \\
 & \beta_7 * Treatment_Period_{it} + \phi * Controls + \mu_i + \varepsilon
 \end{aligned} \tag{1}$$

where i and t refer to firms and quarterly announcement dates, respectively.¹⁰ CAR is the compounded return over the $(-1, +1)$ day window around the earnings announcement less the CRSP market return over the same period. UE is the unexpected earnings-per-share (EPS) divided by price. Unexpected EPS is defined as actual minus expected EPS, measured as the median analyst EPS forecast during the 90-day period before the disclosure of earnings.

$Treatment_Period$ is an indicator variable set to 1 if the quarterly earnings are announced

⁹ As described later in the paper, we conduct additional robustness tests to ensure that our results are not affected by excluding reviews whose conversation periods do not contain earnings announcements.

¹⁰ To control for outliers, in estimating our regressions we eliminate observations with studentized residuals greater than three in absolute value.

during the conversation period, and 0 otherwise. *Public_Conversation* equals 1 if the CL conversation is public (i.e., the CL review is related to annual reports filed after August 1, 2004), and 0 otherwise. Finding that β_l is different from zero would indicate that the change in ERC around the treatment period is different for public and private conversations.

Controls includes variables found by prior literature to be associated with the magnitude of a firm's ERC (e.g., Collins and Kothari, 1989; Easton and Zmijewski, 1989; Gipper et al., 2016). *Size* is the log of market value of equity (in millions of dollars) measured at the prior fiscal year-end. *BM* is the ratio of the book value of equity to the market value of equity, measured at the prior fiscal year-end. *Leverage* is the ratio of total liabilities to total equity, measured at the prior fiscal year-end. *Past>Returns* is the compounded return over one year prior to the earnings announcement less the CRSP market return over the same period. *Beta* is the coefficient from regressing daily returns for firm *i* on market returns over one calendar year, ending on the prior fiscal year-end date. *Persistence* is measured as the autocorrelation parameter from Foster's (1977) first-order autoregressive model in seasonally differenced earnings, estimated using the previous eight quarters. *Loss* equals 1 if quarterly earnings are negative, and 0 otherwise. As ERCs may differ for loss and profit firms (e.g., Hayn, 1995), we also include an interaction term between *UE* and *Loss*. The specification includes firm fixed effects to control for variation in a given firm's history of conversations with the SEC (firms are reviewed periodically by the SEC).

Alternatively, we also estimate the following model separately for private and public conversations (all variables are defined as before):

$$\begin{aligned}
 CAR_{it} = & \alpha_0 + \alpha_1 * UE_{it} * Treatment_Period_{it} + \alpha_2 * UE_{it} \\
 & + \alpha_3 * Treatment_Period_{it} + \phi * Controls + \mu_i + \varepsilon
 \end{aligned} \tag{2}$$

The coefficient α_l tests the difference in ERC (i.e., the coefficient on UE) between the treatment and control periods. This specification has the advantage of allowing us to include conversation fixed effects to control for the content of the letters and other idiosyncrasies of the reviews.

Table 1 presents the descriptive statistics for the sample of quarterly announcements used to estimate equations (1) and (2). As shown, the values of CAR and UE are similar in the two subsamples, mitigating the concern that there are systematic differences in these variables across the subsamples.

– Please insert Table 1 about here –

Table 2, panel A, presents the results of estimating equation (1), and panel B presents the results of estimating equation (2). In particular, the positive and significant coefficients on $UE*Treatment_Period*Public_Conversation$ presented in Table 2, panel A, columns 2 and 4, show that the difference in the change in ERCs during the treatment period between the subsamples of private and public conversations is statistically significant in all specifications, i.e., with or without firm fixed effects (column 2 and 4). The positive and significant coefficients on $UE*Treatment_Period$ presented in Table 2, panel B, columns 8-10, show that the increase in ERCs during the treatment period for public conversations is statistically significant in all specifications, i.e., including no, firm, or conversation fixed effects (columns 8, 9, and 10). Table 2, panel B, columns 5-7, show the opposite pattern among private conversations, although the evidence is statistically not significant.

– Please insert Table 2 about here –

The evidence in Table 2 suggests that the SEC's 2004 disclosure policy enhanced the effect of the CL reviews. In particular, firms produce considerably more informative accounting reports during SEC reviews after the policy change. The documented effect of an

average review is of modest magnitude. While we do not find a significant change for private conversations, for public conversations we find a modest increase in ERC of approximately 10% during the treatment period (i.e., the coefficient on $UE*Treatment_Period$ compared to the coefficient on UE , which is about 1).¹¹

As we describe in more detail in Section 6, these effects are largely temporary and our results are robust to controlling for non-linearities (e.g., the interactions between UE and $Controls$ and the difference between profit and loss firms).

4. Mechanisms of the effect

The findings presented in the prior section suggest that the disclosure of the CLs has a significant effect on capital-market responses to firms' quarterly earnings announcements. In this section, we explore the mechanisms of this effect. First, to better understand the motivations underlying firms' changes in reporting behavior, we analyze two (not mutually exclusive) governance channels through which such disclosure might affect firms' reporting practices, namely i) managers' and directors' reputation concerns (or *market discipline*), and ii) monitoring by the SEC (or *regulatory discipline*). Second, to better understand the specific reporting changes driving the pattern in ERC, we examine improvements in firms' disclosures and compliance with accounting regulation in corporate financial reports issued around private and public CL reviews more directly.

4.1. Governance channels

4.1.1. Market discipline

The public disclosure of SEC comment letters could affect firms' reporting practices through executives' and directors' reputation concerns. First, the public dissemination of the

¹¹ The magnitude of our increase in ERC is modest in comparison to prior literature. For instance, Gipper et al. (2016), who examine capital-market responses to unexpected earnings releases following PCAOB inspections, document an increase in ERC of approximately 42%. Chen et al. (2014), who examine capital-market responses to unexpected earnings releases following material restatements, find a decrease in ERC of approximately 56% in the 11 quarters following the restatement.

correspondence between a firm and the SEC enables investors to eventually learn about the existence and content of the SEC review (the review is disclosed to the public shortly after the end of the review), thereby enhancing market discipline (e.g., Goldstein and Sapra, 2013). This could generate concerns among insiders in anticipation of the increased market discipline since failing to address the SEC's concerns satisfactorily could affect their reputation. These reputational concerns could affect insiders' reporting and disclosure behavior regardless of the materiality of the issues raised in the CL. For instance, Gietzmann and Isidro (2013) find that institutional investors reduce their equity holdings when firms receive a CL. Also, Gietzmann and Pettinicchio (2014) show that auditors reassess the reputation and litigation risk of their clients after the receipt of a CL.

To analyze whether the public disclosure of CLs affects firms' reporting practices through reputation concerns with investors, we partition our sample into firms with above/below median values of *% dedicated investors*, computed as the percentage of shares owned by "dedicated" institutions as defined by Bushee (1998).¹² These investors specialize in the monitoring of firms (Bushee, 1998) and are sophisticated in terms of assessing the quality of accounting reports (Gietzmann and Isidro, 2013). To analyze whether the public disclosure of CLs affects firms' reporting practices through board monitoring, we partition our sample into firms with above/below median values of *% independent directors*, defined as the percentage of the directors who qualify as "independent" according to the listing requirements of the exchange where the firm is quoted. As shown by prior literature, independent directors have strong reputational incentives and exert a monitoring role on financial reporting.

¹² Data on investor classification are retrieved from <http://acct3.wharton.upenn.edu/faculty/bushee/IIclass.html>.

Table 3 presents the results of these tests. The magnitude of the coefficient on $UE*Treatment_Period*Public_Conversation$ is larger in the two subsamples with above-median values of *% dedicated investors* and *% independent directors*. As shown in Table 3, the difference in this coefficient across subsamples is also statistically significant. This evidence is consistent with the contention that market discipline via reputation concerns and board monitoring are channels through which the public disclosure of CLs shapes the effect of these reviews.

– Please insert Table 3 about here –

4.1.2. Regulatory discipline

Aside from the usually emphasized role of disclosure in improving market discipline, Goldstein and Sapra (2013) emphasize another important benefit of disclosure: regulatory discipline. The public disclosure of comment letters could impact reputation of the SEC and thus also affect SEC behavior. As its oversight activity becomes subject to public scrutiny, the SEC might exert more effort to protect its reputation.

To explore whether the policy change affected SEC behavior, we first compare the characteristics of the CLs sent by the SEC before and after the change. This analysis is based on a random subsample of 217 conversations from the period before the policy change. While the SEC provided us with the dates and recipients of all CLs before the policy change, we were granted access to the full text of only 217 private conversations.¹³

We compare the characteristics of these 217 conversations to three benchmark sets of public CLs obtained from Audit Analytics. We use three benchmark sets to mitigate any concern that differences between the subsets of letters could be driven by sample selection.

¹³ Although we requested access to all CLs issued before the policy change, we were granted access to the full text of only a relatively small sample of private conversations. The SEC argued that our request had reached the maximum number of hours that can be devoted to one FOIA request without placing such request in a queue of more extensive FOIA requests.

As a first benchmark, we use all public CLs sent to the same 217 firms after the policy change. As a second benchmark, we use public CLs sent to firms that are similar to the 217 firms. Specifically, we match each of the random 217 firms to the firm in the same 4-digit SIC code with the closest value of *Size*, and obtain the first public conversation for each of these firms. As a third benchmark, we use all public CLs sent to firms in the CRSP-Compustat universe.

We classify the content of the CLs (both public and private) based on the taxonomy described in Appendix B. Specifically, in line with prior research (e.g., Cassell et al., 2013), we code the following variables.¹⁴ *Examination Length* is the number of days from the first letter to the last letter. *Time from filing date* is the number of days from the firm's 10-K filing to the start of the SEC's firm review (i.e., until the date of the first CL). *Total Comments* is the total number of unique topics raised by the SEC. *Accounting Comments* is the total number of comments classified as "Accounting Rules and Disclosure". *Accounting Core Comments* is the total number of accounting comments (sub)classified as "Accounts receivable & cash reporting issues," "Depreciation, depletion, or amortization reporting issues," "Expense (payroll, SGA, other) recording issues," "Inventory, vendor, and/or cost of sales issues," "Lease, leasehold issues (FAS 13 (98) and IAS 17)," "Liabilities, payables, and accrual estimate issues," "Revenue recognition (including deferred revenue) issues," "Percentage of completion issues," and "Research and Development issues".¹⁵ *Accounting Non-Core Comments* is the total number of comments classified as "Accounting Rules and Disclosure" and not coded as *Accounting Core Comments*. *Operational, Control and Risk Comments* is the total number of comments classified as such (see Appendix B for details).

¹⁴ For methodological consistency, the random sample of private letters is classified following the methodology used by Audit Analytics for the universe of publicly available letters. We retained Audit Analytics for this task.

¹⁵ This classification follows Cassell et al. (2013) and Palmrose and Scholz (2004).

Other Comments is the total number of comments not coded as *Accounting Comments* or *Operational, Control and Risk Comments*.

Number of Rounds is the number of letters from the SEC, representing the number of rounds from the first letter until the last letter of the conversation. *Unresolved comments* is an indicator variable that equals 1 if the firm has not resolved/replied to all comments raised by the SEC, and 0 otherwise. *Confidentiality requests* is an indicator variable that equals 1 if the firm has requested that some portion of the comment letter be redacted because the letter contains proprietary information, and 0 otherwise. *Extension requests* is an indicator variable that equals 1 if the firm has requested a time extension to reply to the SEC's comments, and 0 otherwise. Finally, *Involvement of a law firm* is an indicator variable that equals 1 if an external law firm is in copy on the CL, and 0 otherwise.

Table 4 presents the characteristics of the previously described subsets of CLs. Several patterns deserve comment. While Table 4 shows that the examination length is substantially shorter for public conversations, there is no significant difference in the number of rounds across all subsamples, suggesting that the turnaround is shorter for public conversations. This could be the result of firms (or the SEC) being more diligent in the process, or the SEC being more expeditious when processing firms' response letters. The significantly lower number of both general and accounting topics addressed in public conversations also suggests that the SEC is more expeditious after the policy change. We also find that the frequency of confidentiality requirements and extension requirements is significantly higher among public conversations. This is consistent with firms being more concerned about disclosing proprietary information when CLs are made publicly available.

It is possible that the differences documented in Table 4 are driven by SOX rather than by the 2004 SEC disclosure policy change. We examine this possibility by comparing

the characteristics of private conversations conducted before and after SOX. The only significant difference between these two types of private conversations is that, after SOX, the number of days from the firm's 10-K filing to the start of the SEC review is significantly shorter. These findings suggest that most of the differences we observe are unlikely to be driven by SOX.

That said, we acknowledge that the evidence in Table 4 is descriptive and does not have a unique interpretation. For example, the shorter examination length and lower number of comments in public conversations could be interpreted as the SEC being less thorough in these conversations. Thus, it is difficult to conclude from this evidence that the SEC's scrutiny of corporate filings is more intense after the policy change.

To further explore whether the policy change affected SEC behavior, we also analyze the determinants of receiving a CL before and after the policy change. As described in more detail in the Internet Addendum (included at the end of this document), the explanatory power of these models is small before and after the SEC disclosure policy change, suggesting that all firms are systematically subject to the filing reviews rather than these reviews being conducted on a selective basis. Thus, a change in the SEC's criteria to select firms to be reviewed is unlikely to explain our results.

– Please insert Table 4 about here –

4.2. Changes in firms' accounting reports

Our interpretation of the results from the prior tests is that firms produce more informative accounting reports during SEC reviews when these reviews are publicly disclosed. In those tests we employ ERCs as a measure of reporting changes. In this section, we explore changes in reporting behavior more directly by focusing on specific changes in firms' accounting reports documented in prior literature as being related to improvements in

firms' disclosures and compliance with accounting regulation. In particular, we test for systematic differences in the reported numbers and in their accompanying textual disclosures around public and private CL reviews.

We start by analyzing the magnitude of accruals during the conversation period for public and private conversations, which is a widely applied measure of reporting quality (e.g., Dechow et al., 2010). A difference in such magnitude would suggest that our ERC results reflect a change in reporting behavior. We estimate the following OLS regression:

$$Accruals_{it} = \delta_0 + \delta_1 * Treatment_Period_{it} * Public_Conversation_{it} + \delta_2 * Treatment_Period_{it} + \delta_3 * Public_Conversation_{it} + \phi * Controls + \mu_i + \varepsilon \quad (3)$$

where the dependent variable, *Accruals*, is defined as the absolute value of accruals in the quarterly accounting information scaled by total assets. Accruals are computed as $(\Delta CA - \Delta Cash) - (\Delta CL - \Delta STD - \Delta TP) - Dep$, where ΔCA is the change in current assets, $\Delta Cash$ is the change in cash/cash equivalents, ΔCL is the change in current liabilities, ΔSTD is the change in debt included in current liabilities, ΔTP is the change in income taxes payable, and *Dep* is the depreciation and amortization expense. *Controls* includes additional variables next to the ones used in prior tests. To filter out the variation in accruals driven by firms' economic conditions, we follow Dechow and Dichev (2002) and include past, current and future quarterly operating cash flows scaled by total assets, denoted as CFO_{t-1} , CFO_t and CFO_{t+1} . Consistent with prior studies, we also control for the variable *Big4 Audit*, which equals 1 if the company is audited by a Big Four accounting firm, and 0 otherwise (e.g., Dechow et al., 1996). In addition to firm fixed effects, we include year and quarter fixed effects to control for economic conditions and seasonality.

Next, we analyze the length of the narratives in the filings subsequent to the earnings announcements, because CLs often require firms to provide additional narrative disclosures.

This measure is motivated by a recent paper of Bozanic et al. (2016). Using a sample of publicly available CLs, Bozanic et al. (2016) find improvements in firms' disclosures following the receipt of a CL. As their main empirical measure of disclosure quality, they develop an index, which is a function of various measures such as length, readability, and tone. The correlation between this index and length is 0.985, suggesting that length of narratives is a reasonable measure to capture improvements in disclosure practices. We re-estimate equation (3) replacing the dependent variable with *Text_Length*, which is defined as the number of words (in thousands) in the 10-K or 10-Q following the earnings announcement (Loughran and McDonald, 2011).¹⁶

Finally, we analyze the frequency of restatements following the quarterly earnings announcements around CL reviews, because more informative financial reports are likely to be associated with a lower frequency of restatements (e.g., Dechow et al., 2010). We re-estimate equation (3) replacing the dependent variable with *Restatements*, defined as the number of restatements announced within 365 calendar days after the date of the earnings announcement.¹⁷

Table 5 presents the results of these tests. The coefficient on *Treatment_Period* **Public_Conversation* is negative and statistically significant in column (1), suggesting that, after the policy change, firms have lower discretionary accruals while under review. We also find that, after the policy change, earnings announcements during the conversation period are associated with filings with longer narratives, as indicated by the positive and significant coefficient on *Treatment_Period* **Public_Conversation* in column (2). Finally, we find that, after the policy change, earnings announcements in the conversation period are less likely to

¹⁶ We obtain this measure from Bill McDonald's website (http://www3.nd.edu/~mcdonald/Word_Lists.html).

¹⁷ Using Audit Analytics' restatement data, we observe that the announcement of a restatement usually occurs within 365 days after the filing date of the restated report.

be followed by a restatement in the following months, as indicated by the negative and statistically significant coefficient on *Treatment_Period * Public_Conversation* in column (3). The magnitude of the coefficients on *Treatment_Period * Public_Conversation* in all three specifications is substantial when compared to the mean value of the corresponding dependent variable, namely *Accruals*, *Text_Length*, and *Restatements*.¹⁸ Overall, the evidence in Table 5 suggests that the public disclosure of CLs results in actual changes in firms' financial reporting and disclosure during the conversation period.¹⁹

– Please insert Table 5 about here –

5. Alternative explanations

5.1. Time trends in earnings informativeness or effectiveness of CL reviews

A potential concern about our inferences is that the empirical pattern we document could simply reflect a general time trend in ERC. In particular, it is possible that the information content of quarterly earnings increases over time due to institutional or economic changes unrelated to CL reviews or the 2004 SEC disclosure policy change.

5.1.1. Time trend in earnings informativeness unrelated to CL reviews

First, it is possible that firms produce more informative earnings reports over time – independent of CL reviews. Given that our research design tests within-year variation in ERCs (we find that the ERC of treated earnings announcements is higher than the ERC of control earnings announcements in the same year), it is unlikely that a general time trend in

¹⁸ The mean of *Accruals*, *Text_Length*, and *Restatements* is 0.03, 25.5, and 0.11, respectively.

¹⁹ We also analyze whether earnings announcements during the conversation period are more likely followed by price reversals. A price reversal would suggest that investors overreact to the accounting information (perhaps because they consider this information more credible) and subsequently adjust their views about the informativeness of these announcements (e.g., Ball and Brown, 1968). In particular, we re-estimate equation (1) and modify the measurement of the dependent variable, *CAR*, by compounding returns over the (+2, +90) window after the earnings announcement and subtract the market return compounded over the same horizon. In untabulated tests, we find a pattern qualitatively similar to that in Table 2, but the coefficient on *UE*Treatment_Period*Public_Conversation* is insignificant in all specifications. This suggests that our main results are unlikely to be driven by a market overreaction to earnings announcements during the conversation period.

ERC explains our results. In addition, our cross-sectional results showing that firms with higher dedicated ownership and percentage of independent directors have stronger ERCs cannot be explained by general time trends.

That said, we conduct several additional tests to completely rule out this alternative explanation. To begin with, we compute the average annual ERC in our sample and do not observe any persistent increase in ERCs during the sample period (untabulated). Next, we conduct two falsification tests in which we randomize the key elements of the analysis presented in Table 2. First, we randomize the date of the start of the treatment period and keep the length of the CL review, the date of the policy change, and the treatment firms the same as in Table 2. Second, we randomize the firms that receive a comment letter (i.e., we treat firms *not* receiving a CL as if they had received a CL) and keep the date of the policy change and the dates of the treatment periods the same as in Table 2.

If firms simply produce more informative earnings reports over time, we would expect to find results similar to our primary results in these two falsification tests. Each randomization procedure consists of 1,000 random draws of the randomized element and yields an empirical distribution of the coefficient β_1 . When comparing the coefficients estimated using the actual compared to the randomized data, we expect to observe that the coefficient based on actual data is significantly larger in both tests.

Table 6 presents the results of the falsification tests. In both randomization exercises, the p -values (in brackets) reveal a small probability that the coefficient estimated using the randomized data (β_1) is greater than the coefficient estimated using the actual data ($\widehat{\beta}_1$). Overall, these tests suggest that it is unlikely that our primary results are driven by a general time trend in the informativeness of earnings reports over time.

– Please insert Table 6 about here –

5.1.2. Time trend in effectiveness of CL reviews unrelated to policy change

Second, it is possible that the effect of CL reviews increases over time – independent of the 2004 public disclosure policy change. To rule out this possibility, we conduct an additional falsification test in which we randomize the date of the SEC’s disclosure policy, and keep the dates of the treatment periods and treatment firms the same as in Table 2. If the effect of CL reviews simply increases over time, we would expect to find results similar to our primary results when randomizing the date of the policy change. As reported in Table 6, we do not find support for this alternative explanation. As a caveat, the randomization of the date of the SEC’s policy change exhibits a small time-trend, i.e., in 1.9% of the times the randomized coefficient exceeds the coefficient using the actual disclosure policy event date.

Thus, we run additional tests to rule out the possibility that our results are simply driven by increases in the effectiveness of CL reviews over time. In particular, we re-estimate equation (1) restricting our analysis to reviews initiated in the calendar years 2004 and 2005. This analysis offers two advantages with respect to our main research design. First, focusing on a short window of time around the 2004 SEC policy change eliminates variation in the DCF’s budget and other potential sources of time trends in the effect of CL reviews. Second, this analysis further sharpens identification by exploiting random within-year variation in the disclosure of comment letters. Note that the policy change required the SEC to disclose CLs related to annual reports filed after August 1, 2004. As the filing date is mainly determined by the firm’s fiscal year-end, this regulatory cut-off introduces randomness into the public

disclosure of CL reviews.²⁰ As a result, we observe CL reviews in the year 2004 that were disclosed and CL reviews in 2005 that were not.

Table 7 shows the results restricting the sample to earnings announcements around reviews conducted in 2004 and 2005. The coefficient on $UE*Treatment_Period*Public_Conversation$ is positive and statistically significant in both specifications, suggesting that the effect we document is indeed related to the SEC's disclosure policy change.

– Please insert Table 7 about here –

Next, we also control for the budget of the SEC's Division of Corporation Finance because our results could be driven by an increase in SEC resources rather than by the 2004 disclosure policy change. As shown in Figure 2, the budget of the SEC's DCF has increased substantially since 1998, especially after 2004. However, as shown in Figure 2, the SEC has also issued an increasing number of CLs over the sample period, suggesting that the resources dedicated to each review have not followed a similarly increasing pattern.

– Please insert Figure 2 about here –

We repeat the analysis in Table 2 controlling for *SEC Budget* (defined as the fractional change in the DCF's budget at the time of the review, in constant 2013 million dollars), and the interaction of this variable with *UE* and *Treatment_Period*. As shown in Table 8, the coefficient on $UE*Treatment_Period*Public_Conversation$ is positive and statistically significant in all specifications. Thus, the evidence in Table 8, column 3 suggests that our primary results cannot be explained by SEC budget changes.

²⁰ The SEC announced the disclosure policy change on June 24, 2004. While firms could have filed their reports before August 1, 2004 to avoid the public disclosure of a potential CL review, the time from the announcement to the start of the new disclosure policy was very short, thus limiting this possibility. In fact, we do not observe any unusual filing patterns between June 24 and August 1 of that year.

Finally, to explicitly control for time variation in ERC, we interact the variable *UE* with time indicator variables (quarter and year indicators). As shown in Table 8, columns 1-2, including these interactions and the corresponding main effects does not affect the significance and the magnitude of the coefficient on *UE*Treatment*Public_Conversation*. That is, these additional controls do not affect our inferences.

Overall, these tests suggest that it is unlikely that our primary results are driven by a general time trend in the effectiveness of CLs over time.

– Please insert Table 8 about here –

5.2. Changes in reporting credibility

We also explore whether our inferences are confounded by concurrent changes in reporting credibility. For example, the market could learn about the SEC review during the conversation period and update its priors about the firm's credibility. While the correspondence between the SEC is made public only after the end of the review, it is possible (although relatively rare) that some firms disclose their conversation with the SEC during the conversation period.²¹

It is unlikely that changes in reporting credibility generate the ERC pattern we document. To begin with, our results in Table 5 are hard to reconcile with this alternative explanation. Recall that these results suggest that the reports issued around CL reviews are quantitative and qualitatively different. An interpretation of the documented ERC pattern fully reliant on reporting credibility would require no significant changes in the characteristics of these reports.

²¹ Firms are required to report their correspondence with the SEC in their 10-Ks if the conversation started six months prior to the fiscal year-end and is still ongoing. However, such cases are rare. In our sample, we find that less than 10% of the conversations last more than six months. Moreover, not all of the firms with conversations longer than six months are subject to the disclosure mandate because the rule also requires that the conversation is still ongoing at the time of the filing. The available evidence confirms that firms rarely disclose conversations with the SEC. Johnston and Petacchi (2013) randomly select 400 letters issued in 2004 and 2005 and find only four cases in which firms disclosed being subject to a review.

That said, we further check whether our results are affected by concurrent changes in firms' reporting credibility due to restatements or SEC enforcement actions. To do so, we include an additional control, *Prior_Irregularity* (which equals 1 if the firm makes an accounting restatement or has been subject to an SEC enforcement action in the 90 days prior to the announcement) and interact this variable with *UE* in equation (2). The percentage of our observations preceded by accounting irregularities is small (the mean of *Prior_Irregularity* is 4.14%). In untabulated tests, we find that the magnitude and statistical significance of *Treatment_Period*UE* are very similar to those in Table 2. Alternatively, we exclude all observations where *Prior_Irregularity* equals 1. Our inferences are unaffected.²² Overall, these tests suggest that it is unlikely that our main results are confounded by contemporaneous changes in reporting credibility.

6. Alternative research design choices

6.1. Abnormal trading volume

ERCs are estimated for a sample, and are thus not firm-specific and subject to measurement error. To address this concern, we use the abnormal trading volume around earnings announcements as an alternative measure for the informativeness of these announcements around SEC reviews.²³

In parallel to our main tests, we re-estimate equation (3) replacing the dependent variable with the abnormal trading volume around firm *i*'s earnings announcement at date *t*, *Abn_TradeVol* (subscripts omitted). This variable is computed as $\Delta Turnover - \Delta Turnover_{Mkt}$. $\Delta Turnover$ is the mean *Turnover* from 1 day prior to the earnings

²² We also explore whether our inferences are confounded by the market learning about a CL review in the "Post" control period, thereby affecting reporting credibility in that period. We repeat our analysis in Table 2, excluding all observations from the "Post" control period. In untabulated tests, we find that our inferences are intact.

²³ Prior literature often uses abnormal trading volume as a measure of the information content of a disclosure (e.g., Asthana and Balsam, 2001; Asthana et al., 2004; Leuz and Schrand, 2009).

announcement to 3 days after the announcement, less the mean *Turnover* over a window of 2 months (60 days) prior to the announcement to 5 days prior to the announcement (excluding any 3-day earnings announcement window days), divided by the standard deviation of *Turnover* over the same window. *Turnover* is the daily share turnover (daily trading volume scaled by number of shares outstanding). $\Delta Turnover_Mkt$ is constructed in the same way, replacing *Turnover* with *Turnover_Mkt*, which is the average daily trading volume of all firms in CRSP. Consistent with our prior tests based on ERCs, Table 9 shows that the abnormal trading volume around earnings announcements increases during the conversation period for public conversations. In contrast, although not statistically significant, the opposite pattern holds for the subsample of private conversations. Column 1 in Table 9 shows that the difference in abnormal trading volume around earnings announcements between private and public conversations is statistically significant.

– Please insert Table 9 about here –

6.2. *Alternative definitions of the treatment period*

An additional potential concern is that our prior tests may underestimate the length of the treatment period. To explore this possibility, we redefine the treatment (and control) period as the 180 days following the first letter (most conversations are conducted and disseminated in less than six months). In contrast to our primary research design, this research design does not exclude short CLs (i.e., reviews during which the firm does not issue any earnings announcements).

As shown in Table 10, the coefficient on $UE * Treatment_Period * Public_Conversation$ is positive and highly statistically significant with a similar magnitude as reported in Table 2. Table 10 also includes tests restricting the analysis to i) observations within the “Pre” control period and the treatment period and ii)

observations within the “Post” control period and the treatment period. The purpose of this analysis is to gauge whether the increase in ERC we document eventually decreases after several months following the closing of the review. Column 3 of the table suggests that this is indeed the case. That is, the effect of disclosing CL reviews appears to be temporary; while it may persist for a certain time after the end of the review, the effect eventually fades away after several months.²⁴

– Please insert Table 10 about here –

Finally, we contemplate the possibility that our inferences are affected by the length of the treatment period (and thus the number of earnings announcements included for each CL review). The length of the conversation is unlikely to drive our inferences because our tests include conversation fixed effects, which control for the characteristics of the conversation, including its length. That said, to further check that the number of earnings announcements per conversation does not affect our inferences, we modify our research design by including in our tests only the first earnings announcement within the treatment period and the prior earnings announcement (within the “Pre” control period). Our inferences are unchanged; untabulated results reveal that, for public conversations, the ERC of the first announcement within the treatment period is higher than that of the prior announcement. This pattern does not hold for private conversations.

6.3. Other robustness tests

In untabulated tests, we also explore the robustness of our primary results to four additional aspects of our research design. First, as announcements of annual earnings are likely more informative than interim quarterly announcements, we examine whether our

²⁴ We also repeat our analysis in Table 2 and redefine the treatment (and control) period as the 365 days following the first letter. Consistent with the pattern shown in Table 10, we do not continue to find results using this extended treatment period (untabulated).

results are driven by a higher frequency of annual (i.e., fourth-quarter) earnings announcements in the conversation period than in the control periods. Accordingly, we include an indicator variable for the fourth-quarter announcement and its interaction with *UE*. Our inferences are unaffected.

Second, we explore whether our results are affected by whether the firm files the 10-Q or 10-K within the (-1, +1) window around the announcement. Our inferences are not sensitive to controlling for this possibility. We repeat our tests using the filing dates of the 10-Q or 10-K corresponding to the earnings announcement. We find a similar empirical pattern.

Third, we explore whether our results are robust to extreme *UE* observations. Following prior literature (see Chen et al., 2014, and Gipper et al., 2016, for recent examples), we confirm that the pattern documented in Table 2 is not sensitive to excluding observations with studentized residuals larger than 2.5 in absolute value, excluding observations for which *UE* exceeds 100% in absolute value, winsorizing *UE* at the 1% and 2.5% thresholds, or estimating a weighted-least-squares (“robust”) regression that places less weight on estimates with large absolute residuals.

Fourth, we further check that our inferences are not confounded by potential nonlinearities not captured by our specification. Specifically, we explore whether the increase in ERC we document during the treatment period of public CL reviews is concentrated among firms reporting profits or among firms reporting losses. We do so by repeating the analysis for public CLs in Table 2, panel B, including an additional control, the interaction *UE*Treatment*Loss*, and also include interactions between *UE* and all *Controls*. The coefficient on this interaction is not statistically significant. In contrast, the coefficient on *UE*Treatment* remains positive and significant. These results suggest that the effect we

document is concentrated in firms reporting profits. This is consistent with prior research documenting that earnings announcements reporting profits are more informative than earnings announcements reporting losses.

7. Conclusions

In 2004, the SEC announced the decision to begin publicly disclosing its comment-letter reviews. We examine the effect of this policy change on firms' financial reporting by analyzing the stock market responses to firms' quarterly earnings releases during SEC reviews. We find that these responses are significantly stronger for publicly disclosed CLs. This pattern is robust to a host of tests that collectively mitigate identification and measurement concerns, suggesting that public disclosure of CLs enhances the effect of the reviews on firms' financial reporting.

We also explore the mechanisms of our main findings. Consistent with public disclosure of regulatory actions increasing *market discipline*, we find that our results are stronger among firms with a higher proportion of dedicated institutional investors and independent directors. In contrast, we do not find conclusive evidence that public disclosure of CLs increases *regulatory discipline*.

Our study contributes to the literature on public enforcement by showing that, in the context of SEC CLs, the effect of regulatory oversight can be enhanced by the public disclosure of firm-specific oversight actions. Our results also provide new insights into the complementary role of market discipline on the effectiveness of regulatory oversight.

We conclude by pointing out that our paper does not attempt to provide a complete cost-benefit analysis of the effects of the SEC's 2004 disclosure policy change. For instance, one common argument against disclosure is that it generates proprietary costs for the firm, whose information is being disclosed, arising from information leakage to competing firms.

Also, because our analysis is limited to equity investors, it is conceivable that this policy change also provides benefits to (and imposes costs on) other stakeholders. Furthermore, our study examines firm-specific reporting changes as a result of the policy change, but ignores potential spillover effects to non-CL firms. We leave the study of these issues to future research.

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Appendix A. Variable Definitions

The following variables are constructed using data from a proprietary dataset of comment letters obtained through FOIA requests [PRIVATE], Audit Analytics (Comment Letters, and Advanced Restatement Modules) [AA], Compustat [C], CRSP [CRSP], GAO Database (Restatements from 1998 to 2002) [GAO], Equilar [EQUILAR], Thomson Reuters and Bushee Investors' Classification [TR+BUSHEE], IBES [IBES], the SEC's Edgar database [EDGAR], and Loughran and McDonald (2011)'s textual analysis measures [LM].

A. Stock Price Reaction to Earnings Announcements

<i>CAR</i>	Compounded return over the (-1, +1) day window around the earnings announcement less the CRSP market compounded return over the same period. [CRSP]
<i>UE</i>	Unexpected EPS divided by price. Unexpected EPS is defined as actual minus expected earnings, where the expected value of earnings is calculated as the I/B/E/S forecast, which is the median analyst forecast of EPS during the 90-day period before the disclosure of earnings. [C+CRSP+IBES]
<i>Treatment_Period</i>	Indicator variable that is set to 1 if quarterly earnings are announced between the date of the initial SEC comment letter until the "no further comment" letter, and 0 otherwise. [AA+PRIVATE]
<i>Public_Conversation</i>	Indicator variable that equals one if the conversation is public, and 0 otherwise.
<i>Size</i>	The log of market value of equity (in millions of dollars) measured at the prior fiscal year-end. [CRSP]
<i>BM</i>	The ratio of the book value of equity to the market value of equity, measured at the prior fiscal year-end. [CRSP]
<i>Leverage</i>	The ratio of total liabilities to total equity, measured at the prior fiscal year-end. [C]
<i>Past>Returns</i>	Compounded return over one year prior to the earnings announcement less the CRSP market return over the same period. [CRSP]
<i>Beta</i>	Coefficient from regressing daily returns for firm <i>i</i> on market returns over one calendar year, ending on the prior fiscal year-end date. [CRSP]
<i>Persistence</i>	The autocorrelation parameter from Foster's (1977) first-order autoregressive model in seasonally differenced earnings using the previous eight quarters. [C]
<i>Loss</i>	Indicator variable that equals 1 if quarterly earnings are negative, and 0 otherwise. [C]
<i>% dedicated investors</i>	Percentage of shares owned by "dedicated" institutional investors as reported in 13-F filings. We categorize institutional investors as "dedicated" using data from http://acct3.wharton.upenn.edu/faculty/bushee/IIclass.html . [TR+BUSHEE]
<i>% independent directors</i>	Percentage of the board of directors that qualify as "independent" according to the listing requirements of the exchange where the firm is quoted. [EQUILAR]

B. Characteristics of SEC Comment Letters

<i>Examination Length</i>	Number of days from the first comment letter to the "no further comment" letter. [AA+PRIVATE]
<i>Time from filing date</i>	Number of days from the firm's 10-K filing to the start of the SEC review (i.e., until the date of the first comment letter). [AA+PRIVATE]
<i>Total Comments</i>	Total number of unique issues addressed in the comment letters. [AA+PRIVATE]

<i>Accounting Comments</i>	Total number of comments classified as “Accounting Rules and Disclosure”, as described in Appendix B. [AA+PRIVATE]
<i>Accounting Core Comments</i>	Total number of comments classified as “Accounting Rules and Disclosure” and (sub)classified as “Accounts receivable & cash reporting issues,” “Depreciation, depletion, or amortization reporting issues,” “Expense (payroll, SGA, other) recording issues,” “Inventory, vendor, and/or cost of sales issues,” “Lease, leasehold issues (FAS 13 (98) and IAS 17),” “Liabilities, payables, and accrual estimate issues,” “Revenue recognition (including deferred revenue) issues,” “Percentage of completion issues,” and “Research and Development issues,” as described in Appendix B. [AA+PRIVATE]
<i>Accounting Noncore Comments</i>	Total number of comments classified as “Accounting Rules and Disclosure” and not coded as <i>Accounting Core</i> . [AA+PRIVATE]
<i>Operational, Control and Risk Comments</i>	Total number of comments classified as such, as described in Appendix B. [AA+PRIVATE]
<i>Other Comments</i>	Total number of comments not coded as <i>Accounting Comments</i> or <i>Operational, Control and Risk Comments</i> . [AA+PRIVATE]
<i>Number of Rounds</i>	Number of letters from the SEC in the review, representing the number of rounds from the first letter until the “no further comment” letter. [AA+PRIVATE]
<i>Unresolved comments</i>	Indicator variable that equals 1 if the firm has not resolved/replied to all comments raised by the SEC, and 0 otherwise. [AA+PRIVATE]
<i>Confidentiality requests</i>	Indicator variable that equals 1 if the firm has requested that some portion of the comment letter be redacted because the letter contains proprietary information, and 0 otherwise. [AA+PRIVATE]
<i>Extension requests</i>	Indicator variable that equals 1 if the firm has requested an extension to reply to the comment letter, and 0 otherwise. [AA+PRIVATE]
<i>Involvement of a law firm</i>	Indicator variable that equals 1 if an external law firm is in copy in the conversation, and 0 otherwise. [AA+PRIVATE]

C. Additional Dependent Variables

<i>Accruals</i>	Absolute value of accruals in the quarterly accounting information scaled by total assets. Accruals are computed as $(\Delta CA - \Delta Cash) - (\Delta CL - \Delta STD - \Delta TP) - Dep$, where ΔCA is the change in current assets, $\Delta Cash$ is the change in cash/cash equivalents, ΔCL is the change in current liabilities, ΔSTD is the change in debt included in current liabilities, ΔTP is the change in income taxes payable, and Dep is the depreciation and amortization expense. [C+CRSP+IBES]
<i>Text_Length</i>	Number of words (in thousands) in the 10-K or 10-Q following the earnings announcement. [LM]
<i>Restatements</i>	Number of restatements within 365 calendar days after the date of the earnings announcement. [AA+GAO]
<i>Abn_TradeVol</i>	Abnormal trading volume computed as $\Delta Turnover - \Delta Turnover_Mkt$. $\Delta Turnover$ is defined as the mean $Turnover$ over the (-1, +3) day window around the earnings announcement less the mean $Turnover$ over the (-60, -5) window prior to the announcement divided by the standard deviation of $Turnover$ over the same window. $Turnover$ is daily share turnover (daily trading volume scaled by number of shares outstanding). $\Delta Turnover_Mkt$ is constructed in the same way replacing $Turnover$ with $Turnover_Mkt$, which is the average daily trading volume of all firms in CRSP. [CRSP]

Appendix B. Types of Comments

I. Accounting Rules and Disclosures

Accounts receivable & cash reporting issues	Acquisitions, mergers, and business combinations
Asset retirement obligation (FAS 143) issues	Asset sales, disposals, divestitures, reorganization issues
Balance sheet classification of assets issues	Capitalization of expenditures issues
Cash flow statement (FAS- 95 or IAS 7) classification errors	Changes in accounting estimates issues
Changes in accounting principles and interpretation	Comprehensive income (Equity Section) issues
Consolidation (Fin 46, variable interest, SIV, SPE & off-B/S)	Consolidation, foreign currency/inflation issue
Contingencies & Commit, legal, (FAS 5 or IAS 37)	Debt and/or equity classification issues
Debt, quasi-debt, warrants & equity (BCF) security issues	Deferred, stock-based and/or executive comp issues
Deferred, stock-based options backdating only	Deferred, stock-based SFAS 123 only (subcategory)
Depreciation, depletion or amortization reporting	Dividend and/or distribution issues
EPS, ratio and classification of income statement issues	Expense (payroll, SGA, other) recording issues
Fair value measurement, estimates, use (incl. VSOE)	Fin statement segment reporting ((FAS 131) subcategory) issues
Financial derivatives/hedging (FAS 133) accounting issues	Foreign (affiliate or subsidiary) issues
Gain or loss recognition issues	Intercompany accounting issues
Inventory, vendor and/or cost of sales issues	Investment in subsidiary/affiliate issues
Investments (SFAS 115) and cash and cash equivalents issues	Lease, leasehold issues (FAS 13 (98) and IAS 17)
Liabilities, payables, and accrual estimate issues	Loans receivable, valuation and allowances issues
Loss reserves (LAEs, Reinsurance) disclosure issues	Non-monetary exchange (APB 29, EITF 01-2) issues
Pension and related Employee Plan issues	Percentage of completion issues
PPE fixed asset (value/diminution) issues	PPE issues - Intangible assets and goodwill
Research and Development issues	Revenue recognition (incl. deferred revenue) issues
Subsidiary issues-- US or foreign (subcategory)	Tax expense/benefit/deferral/other (FAS 109) issues
Tax rate disclosure issues	

II. Operational, Control and Risk

Accuracy of financial statement given Disclosure Control and Internal Control (DC/IC) deficiency	Changes in internal controls (IC)—disclose
Incorrect language for DC/IC disclosure	Material weakness in DC/IC--disclose who discovered
Material weakness in DC/IC--fully disclose	Material weakness in DC/IC--impact on fin statements
Material weakness in DC/IC--proposed remedies	Non-effectiveness of DCs/ICs--needs to be stated explicitly
Timetable needed for remedy of DC/IC deficiency	8-K Disclosure issues
Business overview issues (MD&A)	Capital adequacy and/or calculation issues
Contingencies and Commitments (MD&A) disclosure issues	Contractual obligations
Credit ratings changes	Critical Accounting Policies and Estimates (MD&A)
Executive compensation plan disclosure issues	Intellectual Property risk and disclosure issues
Liquidity issues (MD&A)	Loan covenant violations/issues
Market risk disclosures	Oil, Gas and Mining Reserve reporting issues
Results of Operations (MD&A)	US GAAP reconciliation to Foreign GAAP issues
Valuation of assets, liabilities or equity issues	Risk Factors - Anti-takeover issues
Risk Factors - Accounting Policy Change	Risk Factors - Capital adequacy and liquidity restrictions
Risk Factors - Barriers to entry	Risk Factors - Clarify/quantify price volatility risks
Risk Factors - Change in shareholder rights	Risk Factors - Compensation levels and expense
Risk Factors - Climate change matters	Risk Factors - Conflicts of interest/related party issues
Risk Factors - Competition and competitors	Risk Factors - Credit risk for accounts receivable
Risk Factors - Credit restrictions	Risk Factors - Descriptive subheading issues
Risk Factors - Data protection and security breaches	Risk Factors - Dividend payments
Risk Factors - Dissent over merger or offer	Risk Factors - Fluctuations in currency or exchange rates
Risk Factors - Exchange listing issues	Risk Factors - Government regulatory effects/changes
Risk Factors - Going concern	Risk Factors - Ineffective internal or disclosure controls
Risk Factors - Inadequate disclosure issues	Risk Factors - Information technology
Risk Factors - Information about industry	Risk Factors - International operations
Risk Factors - Intellectual property rights	Risk Factors - Legal exposures, reliance, claims etc.
Risk Factors - Investments at risk	Risk Factors - Limited operating history
Risk Factors - Licensing or regulatory agency approvals	Risk Factors - Market for offered securities
Risk Factors - Loss reserves may prove inadequate	Risk Factors - Merging and acquiring risks
Risk Factors - Market for products or services	Risk Factors - Reliance on certain personnel
Risk Factors - Operating losses	Risk Factors - Remove language downplaying or mitigating risk
Risk Factors - Reliance on suppliers, customers, governments	Risk Factors - Revenue sources
Risk Factors - Remove or specify generic risks	Risk Factors - Share dilution issues
Risk Factors - Seasonal fluctuations	Risk Factors - Tax positions and assumptions
Risk Factors - Substantial debt	Risk Factors - Unbundle discrete risks
Risk Factors - Technology reliance, feasibility, etc.	

III. Other

Event Disclosure issues	Registration issues
Federal Securities Laws	Tender Offers issues
Legal Matters and Supreme Court Decisions	Other Disclosure Matters

Figure 1. Research Design

This figure illustrates the research design of the primary tests. The figure presents separately the research design for earnings announcements around reviews that were not publicly disclosed by the SEC (“Private Conversations”) and for earnings announcements around reviews that were publicly disclosed by the SEC (“Public Conversations”). Private conversations are CLs related to 10-Ks filed before August 1, 2004 and public conversations are CLs related to 10-Ks filed after August 1, 2004. The treatment and control periods are defined as follows. For each SEC review of a firm’s 10-K filing, the treatment period is defined as the conversation period, i.e., the period between the date of the first comment letter and the date of the “no further comment” letter. The two control periods, “Pre” and “Post,” are defined as the periods with the same length (i.e., “x” days) as the conversation period prior to and subsequent to the conversation period. The length of the conversation period differs across firms. We test whether the effect of the SEC reviews is different across public and private conversations, using the following model:

$$CAR_{it} = \beta_0 + \beta_1 * UE_{it} * Treatment_Period_{it} * Public_Conversation_{it} + \beta_2 * UE_{it} * Treatment_Period_{it} + \beta_3 * UE_{it} * Public_Conversation_{it} + \beta_4 * Treatment_Period_{it} * Public_Conversation_{it} + \beta_5 * UE_{it} + \beta_6 * Public_Conversation_{it} + \beta_7 * Treatment_Period_{it} + \phi * Controls + \mu_i + \varepsilon$$

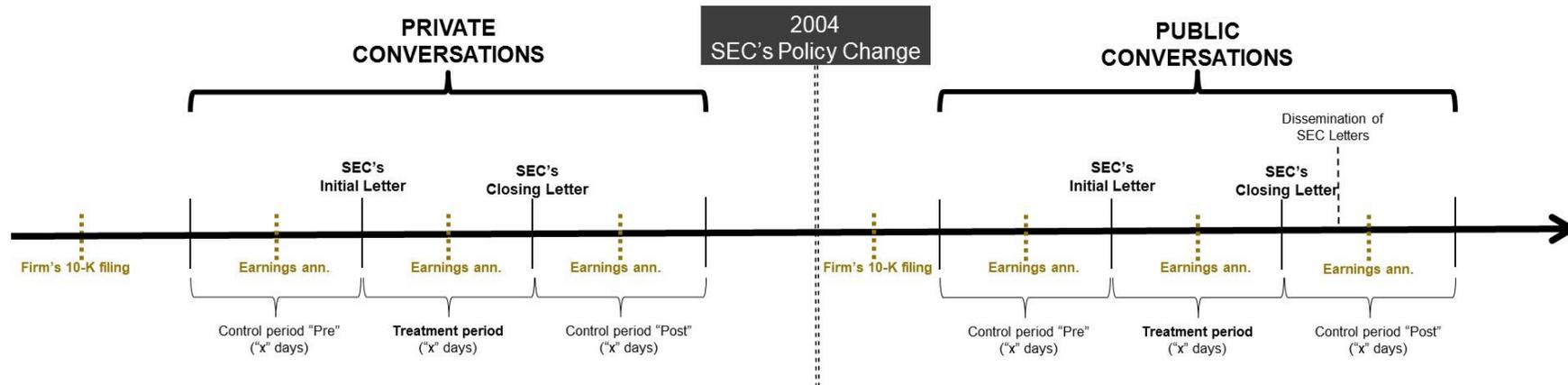


Figure 2. SEC Budget and Volume of Comment Letters

This figure shows the budget of the SEC’s Division of Corporation Finance expressed in constant 2013 millions of dollars (left axis, in blue) and the number of 10-K filing reviews (right axis, in red).

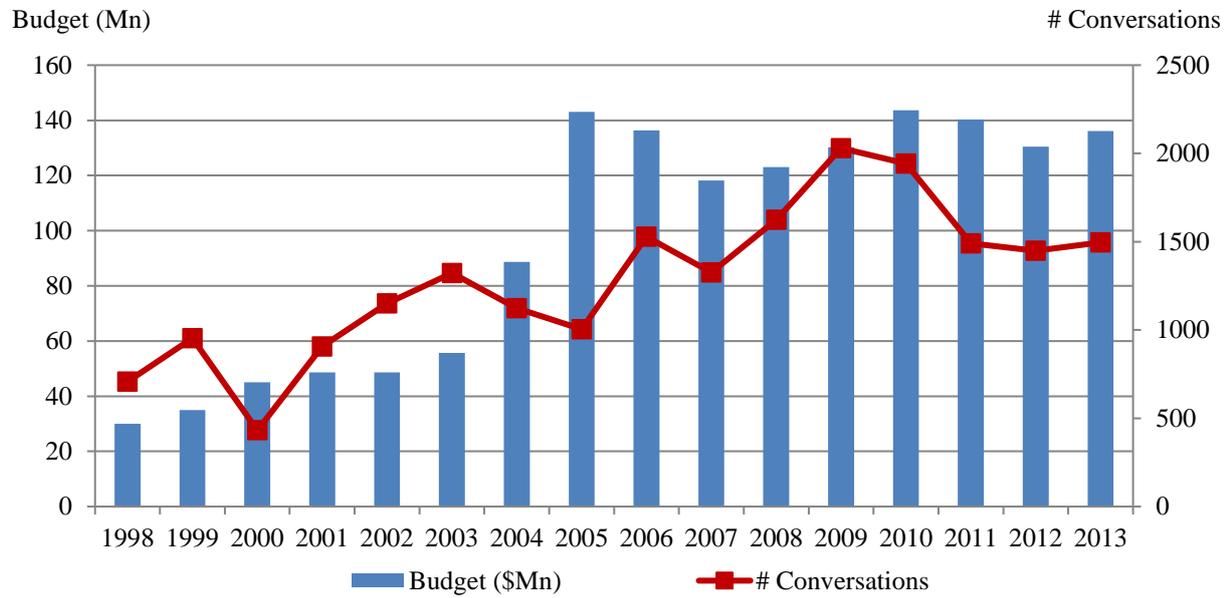


Table 1. Descriptive Statistics

This table presents descriptive statistics for our sample of quarterly earnings announcements around SEC reviews. For each firm receiving a comment letter, the sample includes the earnings announcements in the period between the first and last comment letter (the “*Treatment Period*”) and in two control periods of the same length before and after the treatment period (the “Pre” and “Post” control periods). The subsample “*Private conversations*” includes quarterly earnings announcements around 3,292 reviews that were not publicly disclosed by the SEC. The subsample “*Public conversations*” includes quarterly earnings announcements around 7,923 reviews that were publicly disclosed by the SEC. Variables are defined in Appendix A.

Variables:	<i>Private conversations</i> (Reviews are NOT disclosed) (N = 10,401)			<i>Public conversations</i> (Reviews are disclosed) (N = 19,162)		
	Mean	Median	Std	Mean	Median	Std
<i>CAR</i>	0.002	0.002	0.100	0.002	-0.001	0.095
<i>UE</i>	-0.002	0.000	0.084	-0.002	0.001	0.079
<i>Size</i>	6.836	6.672	1.898	7.259	7.161	1.853
<i>BM</i>	0.513	0.407	0.885	0.523	0.427	0.605
<i>Leverage</i>	0.249	0.224	0.221	0.218	0.186	0.208
<i>Past>Returns</i>	0.160	0.012	0.913	0.092	-0.004	0.624
<i>Beta</i>	1.417	1.289	0.805	1.290	1.253	0.534
<i>Persistence</i>	0.135	0.100	0.632	0.134	0.079	0.803
<i>Loss</i>	0.295	0.000	0.456	0.248	0.000	0.432

Table 2. Stock Price Reaction to Earnings Announcements around SEC Comment Letters

This table reports the results of estimating the stock price reaction to quarterly earnings announcements around SEC comment letters. Panel A pools private and public conversations and tests for differences between the two subsamples of conversations. Panel B presents results separately for earnings announcements around reviews that were not publicly disclosed by the SEC (“*Private Conversations*”) and for earnings announcements around reviews that were publicly disclosed by the SEC (“*Public Conversations*”). Columns 5-7, panel B, present results for private conversations, and column 8-10, panel B, present results for public conversations. All variables are defined in Appendix A. Standard errors are clustered by quarter. *, ** and *** denote statistical significance at the 10%, 5% and 1% (two-tail) levels, respectively.

Panel A. Pooled sample

Independent variables:	Dependent variable: <i>CAR</i>			
	<i>All sample observations</i>			
	(N=29,563)			
	(1)	(2)	(3)	(4)
<i>UE*Treatment_Period*Public_Conversation</i>		0.163***		0.214***
		(2.71)		(2.87)
<i>UE*Treatment_Period</i>		-0.048		-0.098
		(-0.83)		(-1.35)
<i>Treatment_Period*Public_Conversation</i>		-0.001		-0.001
		(-0.58)		(-0.45)
<i>UE*Public_Conversation</i>		0.016		0.019
		(0.66)		(0.89)
<i>Public_Conversation</i>		-0.001		0.001
		(-0.39)		(0.40)
<i>Treatment_Period</i>		-0.001		-0.002
		(-0.70)		(-0.79)
<i>UE</i>	0.659***	0.648***	0.781***	0.795***
	(4.33)	(4.76)	(4.78)	(5.66)
<i>Size</i>	-0.001*	-0.001*	-0.008***	-0.008***
	(-1.89)	(-1.77)	(-5.21)	(-5.22)
<i>BM</i>	0.001	0.001	0.001	0.001
	(1.11)	(1.22)	(0.43)	(0.36)
<i>Leverage</i>	0.002	0.002	0.000	-0.001
	(0.97)	(0.83)	(0.02)	(-0.08)
<i>Past>Returns</i>	0.000	-0.000	0.001	0.001
	(0.05)	(-0.00)	(0.77)	(0.72)
<i>Beta</i>	0.000	0.000	-0.002	-0.002
	(0.07)	(0.00)	(-1.07)	(-1.03)
<i>Persistence</i>	0.002**	0.002**	0.001	0.001
	(2.03)	(2.05)	(1.48)	(1.48)
<i>Loss</i>	-0.021***	-0.021***	-0.016***	-0.016***
	(-14.17)	(-14.02)	(-7.62)	(-7.47)
<i>UE*Loss</i>	-0.609***	-0.625***	-0.729***	-0.772***
	(-3.83)	(-4.42)	(-4.30)	(-5.33)
<i>Firm Fixed Effects</i>			YES	YES
Adjusted R ²	0.025	0.026	0.059	0.061

Table 2. Stock Price Reaction to Earnings Announcements around SEC Comment Letters (cont'ed)

Panel B. Separating private and public conversations

Independent variables:	Dependent variable: <i>CAR</i>					
	<i>Private Conversations</i>			<i>Public Conversations</i>		
	(N = 10,401)			(N = 19,162)		
	(5)	(6)	(7)	(8)	(9)	(10)
<i>UE*Treatment_Period</i>	-0.007 (-0.19)	-0.050 (-1.06)	-0.073 (-1.59)	0.113*** (4.26)	0.115*** (5.91)	0.098*** (3.46)
<i>Treatment_Period</i>	-0.001 (-0.56)	-0.001 (-0.42)	-0.001 (-0.62)	-0.003* (-1.88)	-0.003* (-1.95)	-0.002 (-1.11)
<i>Main effects</i>	YES	YES	YES	YES	YES	YES
<i>Controls</i>	YES	YES	YES	YES	YES	YES
<i>Firm Fixed Effects</i>		YES			YES	
<i>Conversation Fixed Effects</i>			YES			YES
Adjusted R ²	0.015	0.071	0.045	0.034	0.061	0.055

Table 3. Cross-Sectional Partitions

This table analyzes cross-sectional variation in the stock price reaction to quarterly earnings announcements around SEC comment letters. The sample is partitioned based on two metrics. First, *% dedicated investors* is computed as the percentage of shares owned by “dedicated” institutional investors as reported in 13-F filings. Second, *% independent directors* is computed as the percentage of the board directors that qualify as “independent” according to the listing requirements of the exchange where the firm is quoted. *High (Low)* refers to observations with above (below) median values of the previous two metrics. The tests are based on 29,563 observations. *Controls* includes the same variables as in Table 2. All variables are defined in Appendix A. Standard errors are clustered by quarter. *p*-values at the bottom correspond to testing the hypothesis of equality of coefficients across subsamples. *, ** and *** denote statistical significance at the 10%, 5% and 1% (two-tail) levels, respectively.

Independent variables:		Dependent variable: CAR			
		<i>% dedicated investors</i>		<i>% independent directors</i>	
		<i>High</i> (1)	<i>Low</i> (2)	<i>High</i> (3)	<i>Low</i> (4)
<i>UE*Treatment_Period*Public_Conversation</i>	β	0.600*** (2.66)	0.107** (2.19)	0.556** (2.51)	0.146** (2.33)
<i>Main effects</i>		YES	YES	YES	YES
<i>Double interactions</i>		YES	YES	YES	YES
<i>Controls</i>		YES	YES	YES	YES
<i>Firm Fixed Effects</i>		YES	YES	YES	YES
Adjusted R ²		0.054	0.070	0.061	0.063
Ho: $\beta_{High} = \beta_{Low}$ (<i>p</i> -value)		<0.001		0.014	

Table 4. Characteristics of Firms' Conversations with the SEC

This table presents average characteristics of comment letters from 1998 to 2013. Private conversations are comment letters that were not publicly disclosed. Public conversations are comment letters that were publicly disclosed. The subsample of private conversations includes 217 conversations corresponding to 217 randomly selected firms for which we obtained comment letters through a FOIA request. For the remaining observations in the subsample of private conversations we only have access to the dates of the first and last letter of each review. We compare the characteristics of the random subsample of private conversations to three sets of observations in the population of public conversations. First, we compare the 217 random private conversations to all public conversations of the same firms. Second, we compare the 217 random private conversations to public conversations of firms from the same industry and closest in size. Third, we compare the random 217 private conversations to the entire population of public conversations. All variables are defined in Appendix A.

Variables:	<i>Private conversations</i>		<i>Public conversations</i>			Difference (<i>p</i> -value)		
	Random conversations (N=217) (1)	Entire population (N=3,292) (2)	Random conversations (N=724) (3)	Matched pairs (N=217) (4)	Entire population (N=7,923) (5)	(1)-(3)	(1)-(4)	(1)-(5)
<i>Examination Length (days)</i>	126.83	130.71	84.29	85.54	83.48	<.0001	<.0001	<.0001
<i>Time from filing date (days)</i>	150.89	154.69	117.26	136.57	142.69	<.0001	0.104	0.202
<i>Comments:</i>								
<i>Total</i>	15.35	n.a.	8.72	11.45	9.02	<.0001	<.0001	<.0001
<i>Accounting</i>	10.38	n.a.	4.38	6.42	4.30	<.0001	<.0001	<.0001
<i>Core</i>	2.91	n.a.	1.06	1.83	1.12	<.0001	<.0001	<.0001
<i>Non-Core</i>	7.47	n.a.	3.32	4.59	3.18	<.0001	<.0001	<.0001
<i>Operational, Control and Risk</i>	2.51	n.a.	2.17	2.19	2.53	0.004	0.130	0.928
<i>Other</i>	2.46	n.a.	2.17	2.83	2.20	0.210	0.250	0.140
<i>Number of rounds</i>	2.95	n.a.	2.76	2.71	2.78	0.033	0.039	0.020
<i>Unresolved comments</i>	0.000	n.a.	0.001	0.005	0.003	0.584	0.312	0.417
<i>Confidentiality requests</i>	0.12	n.a.	0.22	0.18	0.20	0.002	0.064	0.002
<i>Extension requests</i>	0.04	n.a.	0.20	0.20	0.25	<.0001	<.0001	<.0001
<i>Involvement of a law firm</i>	0.23	n.a.	0.22	0.25	0.39	0.813	0.635	<.0001

Table 5. Quarterly Accounting Information around Comment Letters

This table analyzes the magnitude of accruals in quarterly earnings announcements around SEC comment letters, the length of the narrative in the corresponding filing as well as the number of restatements following those announcements. Column 1 presents results of an OLS regression where the dependent variable, *Accruals*, is defined as the absolute value of the total accruals in the accounting information corresponding to the earnings announcement (see Appendix A for a detailed description of the computation of total accruals). Column 2 presents results of an OLS regression where the dependent variable, *Text_Length*, is defined as the number of words (in thousands) in the filing (10-K or 10-Q) corresponding to the earnings announcement. Column 3 presents results of an OLS regression where the dependent variable, *Restatements*, is defined as the number of restatements within 365 calendar days after the date of the earnings announcement. *Treatment_period* is defined as the period between the first and last comment letter. The pre and post control periods are defined as the periods of the same length as the treatment period before and after the treatment period. *Controls* includes the same variables as in Table 2. In Column 1 *Controls* also includes the variables *Big4 Audit* (indicator variable that equals 1 if the company has been audited by a “Big Four” accounting firm, and 0 otherwise) as well as past, current and future quarterly operating cash flows scaled by total assets, denoted as CFO_{t-1} , CFO_t and CFO_{t+1} . All variables are defined in Appendix A. The results are based on a sample of 29,563 observations. Standard errors are clustered by quarter. *, ** and *** denote statistical significance at the 10%, 5% and 1% (two-tail) levels, respectively.

Independent variables:	Dependent variable:		
	<i>Accruals</i> (1)	<i>Text_Length</i> (2)	<i>Restatements</i> (3)
<i>Treatment_Period*Public_Conversation</i>	-0.002** (-2.02)	2.343*** (3.12)	-0.025** (-2.24)
<i>Main effects</i>	YES	YES	YES
<i>Controls</i>	YES	YES	YES
<i>Firm Fixed Effects</i>	YES	YES	YES
<i>Quarter Fixed Effects</i>	YES	YES	YES
Adjusted R ²	0.278	0.360	0.470

Table 6. Falsification Tests

This table presents falsification tests on the stock price reaction to quarterly earnings announcements around SEC comment letters. The table reports distributional characteristics of the coefficients β_1 obtained from three randomization procedures based on the following equation:

$$CAR_{it} = \beta_0 + \beta_1 * UE_{it} * Treatment_Period_{it} * Public_Conversation_{it} + \beta_2 * UE_{it} * Treatment_Period_{it} + \beta_3 * UE_{it} * Public_Conversation_{it} + \beta_4 * Treatment_Period_{it} * Public_Conversation_{it} + \beta_5 * UE_{it} + \beta_6 * Public_Conversation_{it} + \beta_7 * Treatment_Period_{it} + \phi * Controls + \varepsilon$$

i and t refer to firms and quarterly announcement dates, respectively. The three randomization procedures are as follows. Row (1) presents results from randomizing the date of the start of the treatment period (i.e., the period between the first and last letter). This procedure keeps the actual distance between the first and the last letter, the actual date of the policy change, and the actual treatment firms, but shifts around the treatment period for firms receiving a comment letter. Row (2) presents results from randomizing the firms that receive comment letters. This procedure keeps the actual date of the policy change and the actual dates of the treatment periods, but treats firms not receiving a CL as if they had received a CL. Row (3) presents results from randomizing the date of the SEC policy change to publicly disclose comment letters. This procedure keeps the actual dates of the treatment periods and the actual treatment firms, but shifts around the date of the policy change. Each randomization procedure takes 1,000 random draws of the randomized element. p -values (in brackets) reflect the probability that the coefficient estimated using the randomized data (β_1) is equal to the coefficient estimated using the actual data ($\widehat{\beta}_1=0.214$). Variables are defined in Appendix A.

	$\widehat{\beta}_1$	β_1	$H_0: \beta_1 = \widehat{\beta}_1$ [p -value]
	<i>Actual data</i>	<i>Estimated data</i>	
(1) Randomizing the treatment period	0.214	-0.008	[<0.001]
(2) Randomizing the treatment firms	0.214	0.018	[<0.001]
(3) Randomizing the date of the policy change	0.214	0.070	[<0.001]

Table 7. Short Window around the SEC’s Policy Change

This table reports results of estimating the stock price reaction to quarterly earnings announcements around SEC comment letters restricting the analysis to conversations initiated in 2004 and 2005, i.e., during the months around the policy change. Column 1 reports results for the calendar year 2005, and Column 2 reports results for the calendar years 2004 and 2005. *Controls* includes the same variables as in Table 2. All variables are defined in Appendix A. Standard errors are clustered by quarter. *, ** and *** denote statistical significance at the 10%, 5% and 1% (two-tail) levels, respectively.

Independent variables:	Dependent variable: <i>CAR</i>	
	Year= 2005 (N= 1,573) (1)	2004<=Year<=2005 (N= 3,023) (2)
<i>UE*Treatment_Period*Public_Conversation</i>	0.498** (2.12)	0.531** (2.35)
<i>Main effects</i>	YES	YES
<i>Double interactions</i>	YES	YES
<i>Controls</i>	YES	YES
<i>Firm Fixed Effects</i>		YES
Adjusted R ²	0.091	0.086

Table 8. Time Trends and SEC Resources

This table reports results of estimating the stock price reaction to quarterly earnings announcements around SEC comment letters controlling for changes in the annual budget of the SEC and time trends. *SEC Budget* is defined as the fractional change in the annual SEC budget at the time of the conversation (in constant 2013 dollars). Columns 1 and 2 control for time trends by interacting *UE* with quarter or year fixed effects. Column 3 controls for changes in the SEC budget. *Controls* includes the same variables as in Table 2. All variables are defined in Appendix A. Standard errors are clustered by quarter. *, ** and *** denote statistical significance at the 10%, 5% and 1% (two-tail) levels, respectively.

Independent variables:	Dependent variable: <i>CAR</i>		
	<i>All sample observations (N=29,563)</i>		
	(1)	(2)	(3)
<i>UE*Treatment_Period*Public_Conversation</i>	0.272*** (2.95)	0.241*** (2.99)	0.222*** (2.85)
<i>UE*Treatment_Period*Public_Conversation*SEC Budget</i>			0.012 (0.12)
<i>UE*Quarter Fixed Effects</i>	YES		
<i>UE*Year Fixed Effects</i>		YES	
<i>Main effects</i>	YES	YES	YES
<i>Double interactions</i>	YES	YES	YES
<i>Controls</i>	YES	YES	YES
<i>Firm Fixed Effects</i>	YES	YES	YES
Adjusted R ²	0.071	0.064	0.063

Table 9. Trading Volume around Earnings Announcements

This table presents results for an analysis of changes in abnormal trading volume around earnings announcements. Column 1 pools private and public conversations and tests for differences between the two subsamples. Columns 2 and 3 present results separately for earnings announcements around comment letters that were not publicly disclosed by the SEC (“*Private Conversations*”) and for earnings announcements around comment letters that were publicly disclosed by the SEC (“*Public Conversations*”). *Controls* includes the same variables as in Table 2. All variables are defined in Appendix A. The results are based on a sample of 29,563 observations. Standard errors are clustered by announcement date. *, ** and *** denote statistical significance at the 10%, 5% and 1% (two-tail) levels, respectively.

Independent variables:	Dependent variable: <i>Abn_TradeVol</i>		
	<i>Pooled</i> (N= 29,563) (1)	<i>Private</i> <i>Conversations</i> (N= 9,798) (2)	<i>Public</i> <i>Conversations</i> (N= 19,765) (3)
<i>Treatment_Period*Public_Conversation</i>	0.117** (2.30)		
<i>Treatment_Period</i>	-0.043 (-1.07)	-0.039 (-0.94)	0.069** (2.27)
<i>Main Effects</i>	YES	YES	YES
<i>Controls</i>	YES	YES	YES
<i>Firm Fixed Effects</i>	YES	YES	YES
Adjusted R ²	0.123	0.096	0.143

Table 10. Alternative Definition of the Treatment Period

This table analyzes the stock price reaction to quarterly earnings announcements around SEC comment letters using an alternative definitions of the treatment period. In particular, the treatment period is defined as the *180 calendar days* following the date of the first comment letter. Correspondingly, the “*Pre*” and “*Post*” control periods are defined, respectively, as the 180 calendar days preceding the date of the reception of the first comment letter, and the 180 calendar days after the end of the treatment period. Column 1 pools private and public conversations and tests for differences between the two subsamples of conversations. Column 2 presents results including only observations in the Treatment period and the “*Pre*” control period. Column 3 presents results including only observations in the Treatment period and the “*Post*” control period. *Controls* includes the same variables as in Table 2. All variables are defined in Appendix A. Standard errors are clustered by quarter. *, ** and *** denote statistical significance at the 10%, 5% and 1% (two-tail) levels, respectively.

Independent variables:	Dependent variable: <i>CAR</i>		
	<i>Pooled</i> (N= 63,576) (1)	<i>Treatment period</i> & <i>“Pre” control</i> <i>period</i> (N= 43,433) (2)	<i>Treatment period</i> & <i>“Post” control</i> <i>period</i> (N= 41,146) (3)
<i>UE*Treatment_Period*Public_Conversation</i>	0.264*** (2.71)	0.282*** (3.04)	0.263*** (2.71)
<i>Main effects</i>	YES	YES	YES
<i>Double interactions</i>	YES	YES	YES
<i>Controls</i>	YES	YES	YES
<i>Firm Fixed Effects</i>	YES	YES	YES
Adjusted R ²	0.057	0.062	0.052

Internet Addendum “Determinants of the SEC Review”

In this addendum we analyze the determinants of receiving a CL related to firms’ 10-K filings using logistic regression estimation. We follow Cassell et al. (2013) and include three sets of determinants, namely *i*) those explicitly mentioned in Section 408 of SOX,²⁵ *ii*) firm characteristics, and *iii*) monitoring characteristics. The definitions of the variables corresponding to these three sets of determinants are included in Appendix IA (except the variables already defined in Appendix A).

We perform the analysis separately for the periods before and after the policy change. Table IA below presents the details of the tests and the results. Consistent with filing reviews being conducted systematically over the cross-section of public firms rather than on a selective basis, the model’s ability to explain SEC firm selection based on specific firm characteristics is very low in both periods (as the area under the ROC curve of the model is lower than 0.7 in both periods).²⁶ However, the model’s explanatory power is marginally higher for private conversations. Overall, these findings suggest that the selectivity of firms subject to a CL review decreases (although only marginally) over the sample period.

²⁵ While the SEC already aimed to review each firm at least once every three years before the Sarbanes-Oxley Act of 2002 (OIG, 2000), Section 408 of SOX made the three-year frequency a requirement. SOX also mentions the following specific factors the SEC should consider when deciding which firms to review more frequently: “(1) issuers that have issued material restatements of financial results; (2) issuers that experience significant volatility in their stock price as compared to other issuers; (3) issuers with the largest market capitalization; (4) emerging companies with disparities in price to earnings ratios; (5) issuers whose operations significantly affect any material sector of the economy; and (6) any other factors that the Commission may consider relevant.”

²⁶ The ROC curve plots the probability of detecting a true signal (*sensitivity*) and a false signal ($1 - \textit{specificity}$) for the entire range of possible cut-off points (Kim and Skinner, 2012). The area under the ROC curve (AUC), which ranges from 0 to 1, provides a measure of the model’s ability to discriminate. A value of 0.5 indicates no ability to discriminate, while a value of 1 indicates perfect ability to discriminate. A greater area indicates a better performance of the model. The usual convention is that a model with an area of less than 0.7 is considered to have no discrimination ability, a model with an area between 0.7 and 0.8 is considered to have acceptable discrimination ability, and a model with an area between 0.8 and 0.9 is considered to have excellent discrimination ability.

Appendix IA. Variable Definitions

The following variables are constructed using data from a proprietary dataset of comment letters obtained through FOIA requests [PRIVATE], Audit Analytics (Comment Letters, Auditor Changes, Late Filers, Internal Controls, Advanced Restatement Modules) [AA], Compustat [C], CRSP [CRSP], GAO Database (Restatements from 1998 to 2002) [GAO], AGR MSCI (Metrics and Scores Modules) [AGR].

<i>Letter</i>	Indicator variable that equals 1 if the firm receives a comment letter related to its 10-K filing in that year, and 0 otherwise. [AA+PRIVATE]
SOX Section 408 Criteria:	
<i>Emerging Firms</i>	Indicator variable that equals 1 if the firm-year is in the bottom quartiles of both firm age and Earnings to Price ratio, and 0 otherwise. [C+CRSP]
<i>Id. Volatility</i>	Standard deviation of the residuals from a market model using daily stock returns for the year ending at the close of the prior 10-K report. [CRSP]
<i>IC. Weaknesses</i>	Indicator variable that equals 1 if the firm has disclosed at least a quarterly internal control weakness (Section 302) within the previous year, and 0 otherwise. [AA]
<i>Restatement</i>	Indicator variable that equals 1 if the firm has restated its financial reports in the previous year, and 0 otherwise. [AA+GAO]
Other Firm Characteristics:	
<i>ROA</i>	Return on assets (earnings before extraordinary items scaled by total assets). [C]
<i>Sales Growth</i>	Change in annual sales from year $t-1$ to year t . [C]
<i>Difficult to Price</i>	Amount of intangible assets scaled by total assets. [C]
<i>Restructuring</i>	Indicator variable that equals 1 if the company has experienced restructuring or reorganization in the previous year, and 0 otherwise. [AGR]
<i>M&A</i>	Indicator variable that equals 1 if the company has performed an M&A corporate transaction during the previous two years, and 0 otherwise. [AGR]
<i>External Financing</i>	Sum of equity and debt financing scaled by total assets. [C]
<i>Complexity</i>	Number of non-empty and unique segment industry codes reported in the Compustat Segments database. [C]
<i>Late Filer</i>	Indicator variable that equals 1 if the company experienced a delay in one of its filings in the previous year, and 0 otherwise. [AA]
Monitoring Characteristics:	
<i>Board Dependent %</i>	Percentage of board members who are insiders. [AGR]
<i>Insiders Stock Sales</i>	Number of shares sold by officers and directors scaled by the number of shares outstanding. [AGR]
<i>Manager Changes</i>	Number of managers that left the firm in the previous year. [AGR]
<i>Big4 Audit</i>	Indicator variable that equals 1 if the company has been audited by a Big Four accounting firm, and 0 otherwise. [C]
<i>Auditor Resignation</i>	Indicator variable that equals 1 if the auditor resigned in the previous year, and 0 otherwise. [AA]
<i>Auditor Dismissal</i>	Indicator variable that equals 1 if the auditor was dismissed in the previous year, and 0 otherwise. [AA]
<i>Lawsuit</i>	Indicator variable that equals 1 if the firm has been the subject of a securities class action lawsuit in the previous year, and 0 otherwise. [AGR]
<i>SEC Investigation</i>	Indicator variable that equals 1 if the firm has been subject to an SEC enforcement action in the previous year, and 0 otherwise. [AGR]

Table IA. Determinants of Receiving a Comment Letter

This appendix analyzes the determinants of receiving an SEC comment letter. Panel A presents descriptive statistics (mean values) for the measures of the determinants of receiving an SEC comment letter. *Pre- Policy Change* refers to the period prior to the SEC's 2004 policy change regarding the public disclosure of comment letters (i.e., 1998-2004). *Post- Policy Change* refers to the period after the SEC's 2004 policy change (i.e., 2005-2013). Panel B presents results of a multivariate logistic analysis of the annual determinants of receiving an SEC comment letter. In panel B, *Letter* equals 1 if the firm receives an SEC comment letter related to its 10-K filing in that year, and 0 otherwise. In panel B, the *p*-value at the bottom corresponds to testing whether the areas under the ROC curves (AUC) in the two subsamples (columns (5) and (6)) differ. The area under the ROC curve provides a measure of the model's ability to discriminate. A greater area indicates a better performance of the model (a value of 0.5 indicates no ability to discriminate, while a value of 1 indicates perfect ability to discriminate). All variables are defined as in Appendix IA. Standard errors are clustered by year. *, **, and *** denote statistical significance at the 10%, 5%, and 1% (two-tail) levels, respectively.

Panel A. Descriptive statistics

Variables:	<i>Pre- Policy Change</i> (1998-2004) (N=20,759)		<i>Post- Policy Change</i> (2005-2013) (N=23,599)	
	Letter (1)	No letter (2)	Letter (3)	No letter (4)
<i>SOX Section 408 Criteria:</i>				
<i>Emerging Firm</i>	0.055	0.051	0.048	0.035
<i>Size</i>	6.027	6.681	6.305	6.997
<i>Id. Volatility</i>	0.567	0.544	0.431	0.411
<i>I.C. Weaknesses</i>	0.005	0.004	0.104	0.092
<i>Restatement</i>	0.041	0.058	0.105	0.094
<i>Other Firm Characteristics:</i>				
<i>Loss</i>	0.271	0.310	0.284	0.248
<i>Leverage</i>	0.220	0.250	0.205	0.228
<i>ROA</i>	-0.030	-0.041	-0.031	-0.002
<i>Sales Growth</i>	0.338	2.818	1.329	0.414
<i>Difficult to Price</i>	0.102	0.128	0.143	0.159
<i>Restructuring</i>	0.096	0.167	0.086	0.115
<i>M&A</i>	0.303	0.445	0.528	0.596
<i>External Financing</i>	0.047	0.043	0.031	0.014
<i>Complexity</i>	1.398	1.592	1.416	1.528
<i>Late Filer</i>	0.023	0.023	0.077	0.064
<i>BM</i>	0.593	0.562	0.611	0.599
<i>Past Returns</i>	0.236	0.185	0.110	0.119
<i>Beta</i>	0.798	0.915	1.128	1.159
<i>Monitoring Characteristics:</i>				
<i>Board Dependent %</i>	0.216	0.206	0.166	0.161
<i>Insiders Stock Sales</i>	0.004	0.004	0.006	0.005
<i>Manager Changes</i>	0.465	0.565	0.671	0.691
<i>Big4 Audit</i>	0.833	0.901	0.762	0.827
<i>Auditor Resignation</i>	0.003	0.003	0.012	0.008
<i>Auditor Dismissal</i>	0.033	0.052	0.040	0.032
<i>Lawsuit</i>	0.025	0.031	0.022	0.029
<i>SEC Investigation</i>	0.002	0.004	0.005	0.007

Table IA. Determinants of Receiving a Comment Letter (cont'ed)

Panel B. Multivariate analysis

Independent variables:	Dependent variable: <i>Letter</i>	
	<i>Pre- Policy Change (1998-2004) (N=20,759) (5)</i>	<i>Post- Policy Change (2005-2013) (N=23,599) (6)</i>
<i>SOX Section 408 Criteria:</i>		
<i>Emerging Firm</i>	-0.279*** (-3.36)	-0.138 (-1.63)
<i>Size</i>	0.183*** (3.36)	0.322*** (6.81)
<i>Id. Volatility</i>	-0.543 (-0.16)	15.330*** (8.72)
<i>I.C. Weaknesses</i>	-0.420*** (-6.77)	0.092 (1.01)
<i>Restatement</i>	0.145*** (2.79)	-0.089 (-1.39)
<i>Other Firm Characteristics:</i>		
<i>Loss</i>	0.309*** (2.94)	0.076 (1.24)
<i>Leverage</i>	0.432*** (3.85)	0.191** (2.37)
<i>ROA</i>	-0.134 (-1.44)	0.097 (0.96)
<i>Sales Growth</i>	0.001*** (4.38)	-0.000 (-1.02)
<i>Difficult to Price</i>	0.299*** (3.63)	0.102 (1.42)
<i>Restructuring</i>	0.202* (1.67)	0.033 (0.39)
<i>M&A</i>	0.393** (2.56)	0.085*** (2.97)
<i>External Financing</i>	-0.004 (-0.03)	-0.104 (-1.27)
<i>Complexity</i>	0.073*** (4.12)	0.003 (0.10)
<i>Late Filer</i>	-0.101** (-2.22)	-0.053 (-1.02)
<i>BM</i>	0.072** (2.43)	0.142*** (2.66)
<i>Past Returns</i>	-0.001 (-1.54)	-0.001 (-0.86)
<i>Beta</i>	0.112 (0.88)	-0.087 (-1.64)
<i>Monitoring Characteristics:</i>		
<i>Board Dependent %</i>	0.075 (0.23)	0.415 (1.64)

<i>Insiders Stock Sales</i>	-1.064 (-0.76)	-0.907 (-0.99)
<i>Manager Changes</i>	0.013 (0.32)	0.000 (0.02)
<i>Big4 Audit</i>	0.304*** (2.61)	-0.039 (-0.87)
<i>Auditor Resignation</i>	0.050 (0.22)	-0.089 (-1.07)
<i>Auditor Dismissal</i>	0.407*** (4.06)	-0.061 (-0.97)
<i>Lawsuit</i>	-0.207 (-1.10)	-0.036 (-0.55)
<i>SEC Investigation</i>	0.334 (1.23)	0.146 (0.87)
<i>Constant</i>	-3.591*** (-11.69)	-3.148*** (-9.96)
Pseudo-R ²	0.045	0.037
Area under ROC Curve (AUC)	0.649	0.628
Ho: AUC (1) = AUC (2)		<i>p</i> -value <0.01