

# **The Effect of SEC Reviewers on Comment Letters and Financial Reporting Quality**

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## **Abstract**

We investigate whether individual SEC reviewers exert significant influence on the outcome of the SEC's filing review process. Using a sample of comment letter conversations referencing company annual filings, we find that individual SEC reviewers play an economically and statistically significant role in explaining the cross-sectional variation in the filing review outcome. Moreover, we find that reviewer-specific effects reflected in the review outcome are positively associated with improved financial reporting quality subsequent to the issuance of a SEC comment letter. Finally, we trace the reviewer fixed effects to reviewer characteristics and find that reviewers' unique impacts on the review outcome are associated with their observable characteristics capturing ability, experience and expertise. However, we find limited evidence of the impact of these reviewer characteristics on the review outcome, suggesting these observable reviewer characteristics capture only a small portion of reviewer specific effects.

## **1. Introduction**

The U.S. Securities and Exchange Commission (SEC) reviews disclosures made by issuers to ensure their filings are in compliance with applicable financial reporting requirements such as Generally Accepted Accounting Principles (GAAP) and SEC reporting rules. For many years before the enactment of the Sarbanes-Oxley Act of 2002 (SOX), the SEC had selectively reviewed issuer filings made under the Securities Act of 1933 and the Securities Exchange Act of 1934. However, since the passage of SOX, the SEC has undertaken a review of each SEC registrant at least once every three years. When the SEC determines a company can improve the adequacy of its disclosure and/or enhance its compliance with the applicable reporting requirements, it sends a comment letter outlining its questions and concerns to the company. The SEC may send one or more follow-up letters after receiving a response from the issuer until all the commented issues are resolved.

With the public availability of SEC review outcomes (i.e., the SEC's correspondence with comment letter recipient firms), there has been a significant increase in research on the impact of SEC comment letters on firm behaviors in various areas (e.g., disclosure quality, accounting choices, tax policy, insider trading, etc.). Prior studies have also examined factors determining the outcome of SEC reviews, such as the likelihood of receiving a comment letter and the severity of issues noted when a comment letter is issued (Robinson et al. 2011; Johnston and Petacchi 2014; Cassell, Dreher, and Myers 2013). These studies typically focus on firm-level and market-level characteristics.<sup>1</sup> However, one potentially strong influence on SEC comment letters that has not been explored in the literature is the reviewer-specific effect. In this paper, focusing on firms that received at least one comment letter, we examine whether SEC reviewer fixed effects explain the severity of review outcomes such as the

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<sup>1</sup> Gunny and Hernis (2015) relate SEC resource constraints to the SEC review process and review outcomes.

number of comment topics identified in a comment letter and the time required to resolve the comments. We also examine whether the severity of review outcome attributable to reviewer effects explains the extent to which a comment letter recipient firm improves its financial reporting in the subsequent period.

Our focus on SEC reviewers is motivated by two factors. First, the literature on judgment and decision making has long recognized that individual characteristics play an important role in decision outcomes when individuals are faced with complex and unstructured tasks.<sup>2</sup> Recent empirical studies in accounting and finance have provided evidence consistent with this view by examining the impact of individuals on decision outcomes for various types of professionals such as corporate executives (Bertrand and Schoar 2003; Bamber, Jiang, and Wang 2010; Ge, Matsumoto, and Zhang 2011), judges (Chang and Schoar 2013) and academic journal referees (Welch 2014). Second, reviewing company filings for the adequacy of disclosure and compliance with the reporting rules is a complex and highly unstructured task. It requires a considerable amount of knowledge on the applicable accounting standards and the federal securities laws and regulations, and often involves a high level of subjective judgment. For example, according to the SEC, much of the review process involves “evaluating the disclosure from a potential investor’s perspective and asking questions that an investor might ask”. The reviewer may also choose to evaluate the disclosure adequacy based on other corroborating information besides the filing under review. The findings documented in the judgment and decision making literature and the task attributes of the SEC reviews, together, suggest that SEC reviewer style will have a significant impact on the extent of comments and the time required to resolve those

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<sup>2</sup> The individual characteristics considered by the literature include experience, personality and value (e.g., Hambrick and Mason 1984), cognitive style (e.g., McKeeney and Keen 1974), decision making style (e.g., Henderson and Nutt 1980), and knowledge and expertise (e.g., Abdolmohammadi and Wright 1987; Bonner 1990).

comments.

Using data on comment letters that reference annual company filings during the sample period of 2004 to 2013, we examine whether individual SEC reviewers play an important role in explaining the observed variation in filing review outcomes. Similar to prior studies that examine manager fixed effects on corporate decisions (Bertrand and Schoar 2003; Bamber, Jiang and Wang 2010; Ge, Matsumoto and Zhang 2011), we first estimate how much of the cross-sectional variation in the review outcome can be attributed to reviewer fixed effects. We compare the adjusted  $R^2$ s before and after including reviewer indicator variables on the right-hand side (RHS) of a baseline regression that includes industry and year indicator variables along with time-varying company-level characteristics that are known to affect review outcomes (Cassell, Dreher, and Myers 2013; Gunny and Hermis 2015). We also measure the magnitude of each individual SEC reviewer's influence on the review outcome by estimating the coefficient on each reviewer indicator variable. We refer to this incremental reviewer-specific fixed effect as the reviewer's *style*.

Our findings suggest that individual reviewers exert economically and statistically significant influence on the SEC filing review outcome. We consider three outcome variables: the number of comment topics identified in the comment letter (*Issues*), the number of rounds of communication between the SEC and the recipient firm (*Rounds*) and the number of days between the date of the originating comment letter and the date of the filing review closure (*Days*). We find that the adjusted  $R^2$  increases significantly when reviewer indicator variables are added to the RHS of the baseline regressions. The adjusted  $R^2$  goes up from 16.8% to 29.6% for *Issues*, from 5.6% to 8.8% for *Rounds*, and from 8.6% to 12.0% for *Days*. Consistent with the significant increases in the adjusted  $R^2$ , the percentage of the reviewer indicator variables with a statistically significant coefficient is much higher than the expected

percentage under the null hypothesis of no reviewer specific effects on the review outcome. We also find that the magnitude of the reviewer fixed effects is economically significant.

Next, we investigate whether reviewer style is associated with improved financial reporting subsequent to the issuance of a SEC comment letter. For all of the three review outcome variables we consider, *Issues*, *Rounds* and *Days*, we find that the magnitude of reviewer fixed effects is positively associated with the likelihood of a future restatement by comment letter recipient firms. This result suggests that firms are more likely to improve their financial reporting quality after receipt of a SEC comment letter if they are examined by a reviewer who is likely to identify more deficiencies in corporate filings and make greater demands on firms' responses.

Together, our findings suggest that both the costs incurred during the review process, borne by the SEC and the firm, and the benefits to the investing community, realized through improved financial reporting quality, could be influenced by individual SEC reviewer style. Therefore, our findings have important implications for understanding outcomes of the SEC filing review process and assessing that process's effectiveness.

Finally, we investigate whether differences in reviewer style can be explained by observable reviewer characteristics. We consider three observable characteristics that are potentially associated with reviewers' ability and/or experience – reviewer salary, job rank, and managerial responsibility. We find that reviewer fixed effects are positively correlated with these observable characteristics. Similarly, using reviewers' job classification (i.e. accountant vs. attorney) as a measure of reviewers' knowledge about accounting, we find that reviewer fixed effects tend to be larger for accountants. We also find that female reviewers tend to identify more issues for a given comment letter, and it generally takes them longer to resolve comment letters. These results, together, suggest that reviewers who have better

ability, more general experience, and accounting-specific knowledge tend to demonstrate greater individual fixed effects on review outcomes. The results also suggest that reviewers' gender potentially plays a weak role in the SEC review process because female reviewers appear to be more detail-oriented. Although these reviewer characteristics significantly influence the review outcomes, we note that there is still a significant unobservable component of the reviewer fixed effect. The increases in adjusted  $R^2$ s from adding reviewer style/fixed effects to the RHS of our baseline regressions are greater than the equivalent increases from adding observable reviewer characteristics. This indicates that these observable characteristics capture only a small portion of the reviewer fixed effect on the review outcome.

Our study is related to two streams of research. First, we expand the recent studies examining the determinants of SEC review outcomes (e.g., Cassell, Dreher, and Myers 2013) and potential benefits of the SEC filing review process (e.g., Bozanic, Dietrich and Johnson 2013; Johnston and Petacchi 2014). We highlight the importance of individual SEC reviewers, a new dimension which has not been explored by existing studies, and show that reviewer fixed effects have significant explanatory power for the review outcome and potential benefits to the investing community.

Second, we extend the line of literature that uses methods similar to ours to document the individual fixed effects of professionals, particularly corporate executives, by documenting another setting in which individual style matters (e.g., Bertrand and Schoar 2003; Bamber, Jiang and Wang 2010; Ge, Matsumoto and Zhang 2011).

We note that self-selection is a potential validity threat in a majority of these existing studies.. For example, managers with certain attributes may systemically choose firms with other certain attributes, or vice versa. Therefore, manager fixed effects on various corporate

and accounting policies could simply be a manifestation of the endogenous matching between managers and firms. We also note that manager style is likely to have a stronger effect on firm policies when managers have longer tenure and thus are more influential. However, estimating manager fixed effects requires a manager to work for at least two firms during the testing period, or else their indicator variable would be perfectly collinear with other time invariant firm characteristics. Thus, manager style studies tend to focus on managers with shorter tenure and systematically exclude those managers who have worked for a single firm and have long tenure. This sampling bias suggests that the studies examining manager style are likely to underestimate the effects of manager style on various firm policies. Compared to these studies, our study is less susceptible to the issues stemming from self-selection and sampling bias. Filing firms cannot choose or influence the way the SEC assigns review jobs to its reviewers, and reviewers typically cover multiple companies and industries. Therefore, the findings in our study are more generalizable.

The rest of the paper is organized as follows. Section 2 provides a brief description of how the SEC performs its review responsibilities as well as the SEC reviewers' role in the review process. Section 3 describes the sample construction process and key variable definitions, and discusses sample characteristics. Section 4 documents the importance of reviewer fixed effects for review outcomes and improvement in financial reporting quality, and discusses the differences in reviewer style in relation to observable reviewer characteristics. Section 5 summarizes our findings and concludes.

## **2. The SEC Filing Review Process**

The Division of Corporation Finance at the SEC is in charge of reviewing disclosures made in company filings to ensure the filings are in compliance with applicable reporting

requirements such as U.S. GAAP and SEC reporting rules. When the SEC reviews company filings, the extent of the review will depend on many factors, including the criteria set forth in Section 408 of SOX and the factors identified through the SEC's selective review criteria. The scope of a review may be (1) a full cover-to-cover review in which the SEC reviewer will examine the entire filing, (2) a financial statement review in which the reviewer will examine the financial statements and related disclosure, such as Management's Discussion and Analysis of Financial Condition and Results of Operations, or (3) a targeted issue review in which the reviewer will examine the filing for one or more specific disclosure items.

When the SEC identifies areas where a company can improve its disclosure or enhance its compliance with applicable reporting rules, it sends a comment letter outlining its questions and concerns to the company. In the comment letter, the SEC may request that the company provide additional information to better understand the company's disclosure, to revise existing disclosure or provide additional disclosure in previously issued filings, or to provide additional or different disclosure in future filings.

Once a company receives a comment letter from the SEC, it is required to respond to each comment in the letter. If the SEC is satisfied with the company's response, the filing review is closed. If not, the SEC sends one or more follow-up letters to the company until the company resolves all the comments in the letter. When the SEC completes a filing review, it makes its comment letter(s) and company response(s) public on the SEC's EDGAR system. The SEC makes this correspondence public no earlier than 20 business days following completion of the review.<sup>3</sup>

The Division of Corporation Finance performs its primary review responsibilities

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<sup>3</sup> Before January 2012, a filing review correspondence was released to the general public no earlier than 45 days following completion of the filing review. To further enhance the transparency of the filing review process, beginning January 1, 2012, the SEC started releasing the correspondence no earlier than 20 business days following review completion.

through the 12 Assistant Director (AD) offices within the Division. The Division assigns company filings to one of the 12 AD offices based on the industry membership of the company under review. Each AD office has a similar organizational structure. Each office has one assistant director, one senior assistant chief accountant, one legal branch chief and two accounting branch chiefs. An AD office generally employs 25 to 35 professionals, primarily accountants and lawyers. Appendix A shows the primary industry covered by each of the 12 AD offices within the Division of Corporation Finance.

There are two stages in the SEC's filing review process. In the first stage, examiners review company filings and find areas where the company can improve its disclosure or enhance its compliance with applicable financial reporting rules. In the second stage, a senior staff person collects comments from the first-level examiners and reviews the same filings again, along with the comments proposed by the examiners, in order to promote consistency in comments across filing reviews. This senior staff person is referred to as the reviewer in our study, and it is the reviewer who approves and signs the comment letter before the SEC sends the letter to the company.

There is some variation in what level of personnel comprises this group of reviewers. To gain a better insight into this, we manually examined the 135 comment letter conversations referencing company annual filings that were released to the public in March 2015. We report the results in Appendix B. The examination reveals the following: First, among the 135 comment letter conversations, 113 had only one reviewer and 22 had two reviewers. Second, in 104 of the 113 conversations with only one reviewer, the reviewer had the title of branch chief, senior assistant chief accountant, or assistant director. In all of the 22 conversations with two reviewers, at least one of the reviewers had the title of branch chief, senior assistant chief accountant, or assistant director. Finally, branch chief was the reviewer

in more than half of the 135 comment letter conversations. This examination indicates that the vast majority of comment letters are reviewed by the most experienced professionals in the AD offices before being sent to the companies under review.

### **3. Sample Construction, Variable Description and Sample Characteristics**

#### **3.1. Sample Construction and Variable Description**

We construct our sample using multiple sources of data. We collect data on comment letters and restatements from Audit Analytics and merge it with the data on auditors, internal control weaknesses and other firm characteristics from Compustat. The resulting sample consists of 12,932 observations from fiscal years 2004 to 2013. Steps to construct our comment letter sample are described in Appendix C. We begin our sample period in 2004 because the SEC began releasing comment letters after August 1, 2004. We end our sample period in 2013 to allow sufficient time for comment letter public releases and/or subsequent restatements to occur.

Our three review outcome variables and the reviewer indicator variables are based on data from the Audit Analytics database. The review outcome variables are the number of comment topics identified in the originating comment letter (*Issues*), the number of letters exchanged between the SEC and the firm before the filing review is closed (*Rounds*) and the number of days between the date of the originating comment letter and the date of the filing review closure (*Days*). To construct reviewer indicator variables, we identify the reviewer of the originating comment letter for each comment letter conversation in our sample and assign them a unique ID. Using the unique IDs, we then create an indicator variable for each reviewer.

We use the restatement data from Audit Analytics to construct a variable related to

actions firms take to improve their financial reporting quality after receiving a comment letter. *Followup\_Restatement* is an indicator variable that equals one if the firm makes a restatement within 365 days after receiving a comment letter from the SEC, and zero otherwise.

Variables related to reviewer characteristics are constructed using the information from FedsDataCenter.com which provides information on salary, job rank and job classification for a wide spectrum of federal employees for the years 2010 to 2014. Specifically, we construct the following variables. *Salary* is the SEC reviewer's 2010 salary. *Rank* is the SEC reviewer's job rank. *Manager* equals one if the SEC reviewer's job rank is 15 or higher, and zero otherwise. *Accountant* equals one if the SEC reviewer's job classification is 'Accountant', and zero otherwise.

Prior studies have identified several firm characteristics that are associated with the issuance and severity of SEC comment letters (e.g., Cassell, Dreher, and Myers 2013). To account for the possibility that certain reviewers tend to be assigned to firms that are more likely to have disclosure deficiencies in their filing, we control for these firm characteristics when estimating individual reviewer fixed effects. The firm characteristics we control for are as follows:

- *Concurrent\_Restatement*: Indicator variable equal to one if the firm makes a restatement during the fiscal year corresponding to the annual filings referenced by the comment letter conversation from which review outcome variables are derived.
- *FirmAge*: Number of years since the firm was first added to Compustat.
- *LnMV*: Natural log of the firm's market capitalization at fiscal year-end.
- *Loss*: Indicator equal to one if the firm had negative earnings before extraordinary items, and zero otherwise.
- *ROA*: Income before extraordinary items divided by average total assets.

- *SalesGrowth*: Percentage change in annual sales.
- *Segments*: Number of business segments.
- *MnA*: Indicator that equals one if the firm engaged in any mergers/acquisition transactions (i.e., has nonzero acquisition costs), and zero otherwise.
- *Restructuring*: Indicator variable that equals one if the firm has nonzero restructuring costs, and zero otherwise.
- *ExtFinancing*: External financing measured as the firm's year to year change in total debt plus net proceeds from the sale of common and preferred stock minus cash dividends paid scaled by lagged total assets.
- *LitigationRisk*: Indicator variable for high litigation risk, that equals one if the firm is in any of the following 4-digit SIC codes: 2833-2836, 3570-3577, 3600-3674, 5200-5961, 7370-7370, and zero otherwise.
- *Big4*: Indicator variable that equals one if the firm is audited by one of the Big 4 auditors, and zero otherwise.
- *ICMW*: Indicator variable for material weakness in the firm's internal controls. It equals one if the firm's auditor noted a material weakness in internal controls, and zero otherwise.

The formal definitions of the variables used in our study are provided in Appendix A.

### 3.2. Sample Characteristics

Panel A of Table 1 reports summary statistics for the firm-level variables that we use in our study. The first five columns of the panel report summary statistics for our comment letter sample, and the last two columns report mean and median values for the entire Compustat sample from 2004 to 2013. We find that firms in our comment letter sample are larger than an average Compustat firm in terms of market capitalization. This is not surprising

for two reasons. First, Section 408 of SOX requires the SEC to consider firms with the largest market capitalization first when it schedules filing reviews. Second, the data on auditor’s opinion of internal control is often unavailable for smaller reporting companies that are exempted from the requirement for an external audit of internal control over financial reporting. Also, the average firm in our sample tends to be older, more profitable, more frequently engaged in merger and acquisition and restructuring activities, and relies less on external financing.

[Insert Table 1 here]

Panel B of Table 1 presents summary statistics for the variables related to filing review outcomes, *Issues*, *Rounds* and *Days*, and the variable related to actions firms take in order to improve their financial reporting quality, *Followup\_Restatement*. We find that *Issues* has an average value of 9.8, indicating that an average firm in our sample receives comments on 9.8 distinct topics from the SEC. *Rounds* has an average value of 4.8, indicating that 4.8 letters are exchanged between the SEC and an average firm in our sample. The average value of *Days*, 73.2, indicates that, for an average firm, it takes 73.2 days from the date of the originating comment letter until the filing review is closed. Also, we find that, among the firms in our comment letter sample, approximately 8.4% make a restatement within 365 days after receiving the originating comment letter.

[Insert Table 2 here]

Table 2 presents the correlation matrix for the variables used in our regression analysis. As one may expect, the three review outcome variables have a strong positive correlation with each other. A comment letter with more identified issues is more likely to generate multiple rounds of correspondence, which in turn takes more days to complete. The correlation between *Rounds* and *Days* is particularly strong (0.751), perhaps suggesting that

*Rounds* and *Days* are more closely related constructs than *Rounds/Days* and *Issues*. A pattern worth noting is that these three review outcome variables are positively associated with *Followup\_Restatement*, providing univariate evidence that the severity of the comment letter outcome leads to increased likelihood a firm will take a subsequent action to improve their financial reporting quality.

## 4. Empirical Results

### 4.1. The Effect of Individual SEC Reviewer Style on the Filing Review Outcome

In order to examine how much of the observed variation in the SEC review outcomes is attributable to reviewer style, we estimate the following regression for each of the review outcome variable:

$$Y_{i,t} = a_0 + a_1 X_{i,t} + Year_t + Industry_i + \varepsilon_{i,t} \quad (1)$$

$$Y_{i,t} = b_0 + b_1 X_{i,t} + Year_t + Industry_i + Reviewer_j + v_{i,t} \quad (2)$$

where  $Y_{i,t}$  is one of the filing review outcome variables,  $X_{i,t}$  is a vector of time-varying firm-level characteristics,  $Year_t$  are year indicator variables,  $Industry_i$  are industry indicator variables based on the first two digits of the standard industrial classification code (SIC2),  $Reviewer_j$  are reviewer indicator variables, and  $\varepsilon_{i,t}$  is an error term. For each review outcome variable, we compare the adjusted  $R^2$ s from equations (1) and (2), and perform an F-test for the joint significance of the reviewer indicator variables to test for the existence of reviewer fixed effects.

Table 3 Panel A presents the ordinary least squares estimation of equations (1) and (2), and Table 3 Panel B presents distributional statistics for the reviewer indicator variable coefficients estimated in Panel A.

[Insert Table 3 Panel A & B here]

In Table 3 Panel A, the dependent variable for Columns (1) and (2) is *Issues*, the number of comment topics identified in the originating comment letter. The adjusted  $R^2$  in the baseline regression without SEC reviewer indicator variables is 16.8%. The adjusted  $R^2$  increases to 29.6% when reviewer indicator variables are added. The F-test result indicates that the increase in the adjusted  $R^2$  is statistically significant at the  $p < 0.00$  level. The results are similar for *Rounds* and *Days*, both measuring the length of communication between the SEC and the firm before the filing review is closed. When reviewer indicator variables are added to the regression model, the adjusted  $R^2$  increases from 5.7% to 8.8% for *Rounds* (Columns (3) and (4)) and from 8.6% to 12.0% for *Days* (Columns (3) and (4)). Both increases are significant at the  $p < 0.00$  level. These results provide strong evidence that reviewer style, as proxied by the reviewer indicator variables, has a statistically significant effect on review outcomes.

The results for control variables are generally similar to prior studies that examine the severity of comment letters (e.g., Cassell, Dreher, and Myers 2013; Gunny and Hermis 2015). For example, the number of comments in a comment letter (*Issue*) is larger for firms that restated their financial reports (Current Restatement) or reported a material weakness in internal controls (ICMW), and it takes longer (*Rounds* and *Days*) for these firms to resolve the comments. Similarly, loss incurring firms (Loss) receive more comments and take more time to resolve the comment issues. Larger firms measured by market capitalization tend to have a smaller number of comments when they receive a comment letter, but it takes longer to resolve the issues. The number of comments and time taken to resolve the comments are smaller for firms that are audited by Big 4 audit firms.

Having confirmed the statistically significant effect of reviewer style on comment

letter outcomes, we next examine the economic significance of the reviewer fixed effect in Table 3 Panel B. For this test, we use the coefficients on the reviewer indicator variables estimated from regressions in Table 3 Panel A, Columns (2), (4) and (6). Reviewer fixed effects for *Issues*, *Rounds*, and *Days* are denoted by *Issues FE*, *Rounds FE* and *Days FE*, respectively.

The second column from the left in Table 3 Panel B presents the percentage of reviewer indicator variables with a coefficient that is significantly different from zero at the 10% level (two-tailed). We find that *Issues FE* is statistically significant for over 40% the reviewers in our sample, while *Rounds FE* and *Days FE* are statistically significant for at least 20% of the reviewers in our sample. This result is consistent with the significant increases in the adjusted  $R^2$  documented in Panel A. Further, even in the absence of a true reviewer fixed effect, one may expect approximately 10% of the reviewer indicator coefficients to be different from zero at the 10% level by random chance. Yet our reported significance rates far exceed those expected by random chance and further evidence the existence of a structural reviewer fixed effect.

The remaining columns of Panel B present the distribution of reviewer fixed effect coefficients. The results reported in the columns show that the variation in the magnitude of reviewer fixed effects is economically significant. For example, we find the difference between reviewers at the 25<sup>th</sup> percentile of the distribution and reviewers at the 75<sup>th</sup> percentile is 5.76 for *Issues FE*, suggesting that compared to reviewers at the 25<sup>th</sup> percentile, reviewers at the 75<sup>th</sup> percentile write on average 5.82 more comments in their letter. The difference between the 25<sup>th</sup> percentile and 75<sup>th</sup> percentile of *Rounds FE* is 1.14, and the difference between the 25<sup>th</sup> percentile and 75<sup>th</sup> percentile of *Days FE* is 26.18. In other words, on average it takes an additional 1.14 letters and 26.18 days to resolve all the issues identified in

the comment letter when the letter is prepared by a reviewer at the 75<sup>th</sup> percentile. These differences are economically significant.

Taken together, the results reported in Table 3 indicate that individual SEC reviewers play an economically and statistically significant role in explaining the cross-sectional variation in filing review outcomes.

#### **4.2. Reviewer Fixed Effects and Improvement of Financial Reporting Quality**

We next investigate whether the reviewer style reflected in review outcomes is associated with the extent to which firms improve their financial reporting after receiving a comment letter. In particular, we group the sample firms by reviewer and determine the percentage of firms making a restatement within 365 days after receiving a comment letter for each reviewer. We then examine the relation between the magnitude of reviewer fixed effects and the percentage of firms making a follow-up restatement. Table 4 presents the results.

[Insert Table 4 here]

The results suggest that reviewer style has a significant impact on the likelihood of a financial report restatement subsequent to the issuance of a comment letter. For reviewers in the bottom 30% of *Issues FE*, 5.51% of firms make a follow-up restatement while 9.40% do for the reviewers in the top 30%. The results are similar for *Rounds FE* and *Days FE*. 3.94% of firms make a follow-up restatement for reviewers in the bottom 30% of *Rounds FE*, and 5.27% do for reviewers in the bottom 30% of *Days FE*. In comparison, 11.37% of firms make a follow-up restatement for reviewers in the top 30% of *Rounds FE*, and 11.22% do for reviewers in the top 30% of *Days FE*.

Overall, the results reported in Table 4 suggest that firms examined by a reviewer who

is likely to identify more deficiencies in corporate filings and make greater demands on firms' responses are more likely to improve their financial reporting quality after receiving a comment letter from the SEC.

#### **4.3. Reviewer Characteristics and Reviewer Fixed Effects**

The findings discussed above suggest that reviewer-specific effects have a significant impact on the review outcome, and the reviewer style reflected in the review outcome, in turn, affects the likelihood of improvement in financial reporting quality. The reviewer fixed effects we document are likely attributable to various individual attributes, such as ability, experience, specific knowledge, decision style, and personal values. In this section we attempt to provide additional insight on reviewer fixed effects by relating reviewers' attributes to their fixed effects on comment letter outcomes. For this test, we obtain information about reviewers' salary, job rank and professional expertise (i.e., accountants versus lawyers) from FedsDataCenter.com. We also determine reviewers' gender based on their first name and courtesy title used in the comment letter conversation.

First, we examine the relationship between the magnitude of reviewer fixed effects and reviewer salary. The results reported in Table 5 show that *Salary* has a positive relationship with the magnitude of reviewer fixed effects. For example, reviewers in the bottom 30% of *Issues FE* received an average annual salary of \$157,174 in 2010 while those in the top 30% of *Issues FE* received an average annual salary of \$173,916 in 2010.

Second, we examine the relationship between the magnitude of reviewer fixed effects and reviewer job rank (*Rank*). The results reported in Table 5 show that *Rank* has a positive relationship with the magnitude of reviewer fixed effects. For example, reviewers in the bottom 30% of *Rounds FE* have an average rank of 14.42 while those in the top 30% of *Rounds FE* have an average rank of 15.23, and this difference is significant at the  $p < 0.01$

level.

Third, we examine the relationship between the magnitude of reviewer fixed effects and managerial responsibility. The results reported in Table 5 show that *Manager* indicator variable has a positive relationship with the magnitude of reviewer fixed effects. For example, 34.0% of the reviewers in the bottom 30% of *Days FE* have a managerial rank while 58.3% of the reviewers in the top 30% of *Days FE* have a managerial rank.

Next, we examine the relationship between the magnitude of reviewer fixed effects and reviewers' job classification. The results reported in Table 5 show that *Accountant* indicator variable has a positive relationship with the magnitude of reviewer fixed effects. For example, 39.2% of the reviewers in the bottom 30% of *Rounds FE* are accountants while 69.2% of the reviewers in the top 30% of *Rounds FE* are accountants.

Finally, when we examine the relationship between the magnitude of reviewer fixed effects and the reviewer's gender, we find *Gender* is marginally negatively associated with *Days FE*.

These results suggest that reviewers who have better ability, more experience, and more accounting-specific knowledge tend to demonstrate a greater magnitude of individual fixed effects on review outcomes.

To determine how much of the reviewer fixed effect is explained by these individual attributes we estimate regression equation (2) after replacing reviewer indicator variables with reviewer attributes. Our interest in this test is two-fold. We are interested in testing whether these reviewer attributes are systematically associated with review outcomes (*Issue*, *Rounds*, and *Days*) in the cross-section of letter receiving firms, and if so, whether increases in the adjusted  $R^2$  from including these reviewer attributes are comparable to the increases in adjusted  $R^2$  from including reviewer indicator variables. Findings from these tests will help

us better understand the role individual reviewers play on SEC comment letters.

Table 6 presents the regression results.<sup>4</sup> Because reviewer salary, rank and managerial responsibility are likely to be correlated with one another, we add these measures to the regression model one at a time (Columns (1), (2), and (3)), as well as with different combinations (Columns (4) and (5)). *Accountant* and *Gender* are included in each regression.

The regression results in Table 6 indicate that, generally, most of the reviewer attribute variables are systematically related to review outcomes. For example, *Salary* is positively related to the review outcome variables in six out of nine specifications where it is included. *Manager* is positively associated with review outcome variables in five out of six specifications. *Accountant* is positively associated with review outcome variables in fifteen out of fifteen specifications. In total, the results suggest that reviewers with higher salary, that are managers, and that are accountants identify more issues and take more time to complete letter conversations.

Results for the *Rank* variable are somewhat mixed. It is positively related to review outcomes in four of six specifications, but it is negatively associated with review outcomes in Panel A Column (4). We are apt to explain *Rank*'s unusual result in Panel A Column (4) as a product of collinearity between *Rank* and *Salary*. But a conservative interpretation of the results leads to indeterminate inferences for the *Rank* variable.

Interestingly, *Gender* is positively related to *Issues* in five out of five specifications and positively related to *Rounds* in four out of five specifications. This would imply that female reviewers systematically identify more issues and require more correspondences before closing comment letter conversations.

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<sup>4</sup> Note that the number of observations in Table 6 is smaller than that of Table 3 due to the data availability of reviewer characteristics.

From the results in Table 6 we can also infer the degree to which the reviewer style from Table 3 is explained by observable reviewer characteristics. The last two columns in each panel of Table 6 replicate the results from Table 3 using the reduced Table 6 sample. Using these last two columns it is possible to compare the adjusted  $R^2$  of the baseline model without reviewer indicators or reviewer characteristics to the adjusted  $R^2$  of the model with reviewer indicators or reviewer characteristics added. What we find is that adding observable reviewer characteristics to the model does indeed improve the adjusted  $R^2$ . For example, in Panel A the adjusted  $R^2$  of the baseline model is 17.1%. Adding observable reviewer characteristics in Columns (1) – (8) results in a maximum adjusted  $R^2$  of 18.8%. While an improvement, it is much lower than 30.2% adjusted  $R^2$  of the model with reviewer indicator variables. The results in Panels B and C are less extreme but tell a similar story. In Panel B, adding reviewer characteristics results in a maximum adjusted  $R^2$  of 6.2% which is notably lower than the 8.9% for the model with reviewer indicator variables. In Panel C, adding reviewer characteristics results in a maximum adjusted  $R^2$  of 8.9% which is lower than the 12.1% for the model with reviewer indicators. From this analysis we conclude that while observable reviewer characteristics are associated with the review outcomes and the magnitude of reviewer fixed effects, they cannot by themselves explain as much variation in reviewer outcomes as the reviewer indicator variables. Thus, unobservable, individual qualities captured by the reviewer indicator variables make up a significant portion of the reviewer fixed effect.

## **5. Conclusion**

This paper examines whether individual SEC reviewers play an important role in explaining the observed cross-sectional variation in filing review outcomes. Using a sample of 12,932 comment letter conversations from the period of 2004 to 2013, we estimate the

incremental effects individual SEC reviewers on the severity of review outcomes (i.e., *Issues*, *Rounds*, *Days*) after controlling for various economic determinants of these review outcome measures identified in prior research, as well as industry and year indicator variables. Our results suggest that individual SEC reviewers exert economically and statistically significant influence on the SEC review outcomes. Additional tests further suggest that firms examined by a reviewer with a greater magnitude of fixed effect are more likely to improve their financial reporting quality after receiving the originating comment letter. These results suggest that the personal style of reviewers at the SEC has important implications for both the costs incurred during the review process, borne by the SEC and the firm, and the benefits to the investing community, realized through improved financial reporting quality.

Using reviewers' salary, job rank, and manager status as measures of reviewer ability and experience, and an indicator for whether or not a reviewer is classified as accountant as a measure of accounting expertise, we find that reviewer fixed effects are positively associated with a reviewers' ability, experience, and their accounting expertise. In cross-sectional regression analyses where we replace reviewer indicator variables with these reviewer characteristics, we find that reviewers' salary, job rank, and manager status are generally positively associated with the severity of filing review outcomes. However, when comparing the increases in adjusted  $R^2$  by these reviewer characteristics with those attributable to reviewer indicator variables, we find these observable characteristics capture only a small portion of reviewer fixed effects on the review outcome.

This study makes the following contributions. Broadly, it contributes to the literature on the impacts of financial regulation on firms and investors. Our findings suggest to the extent that the SEC's regulatory monitoring involves subjective judgments, individual monitors' observable and unobservable attributes (e.g., ability, experience, expertise,

cognitive and decision making style) have important implications for both the SEC and the financial market. More narrowly, it contributes to the literature on SEC comment letters by documenting individual reviewer style as an additional determinant of SEC review outcomes. Finally, the relatively exogenous nature of job assignment for reviewers in the SEC provides an ideal setting to further expand our understanding of the role of individual style on decision making, hence we contribute to the literatures on managers' style and decision making.

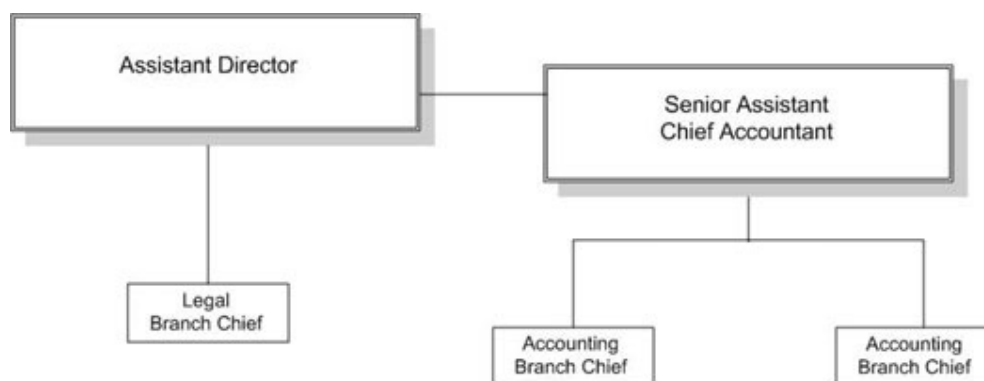
## APPENDIX A

### Assistant Director Offices within the Division of Corporation Finance

The Division of Corporation Finance at the U.S. Securities and Exchange Commission performs its primary review responsibilities through the 12 Assistant Director offices within the Division. Company filings are assigned to one of the 12 Assistant Director offices based on the company's industry membership. The primary industry covered by each Assistant Director office is as follows.

Assistant Director Office	Primary Industry
1	Healthcare and Insurance
2	Consumer Products
3	Information Technologies and Services
4	Natural Resources
5	Transportation and Leisure
6	Manufacturing and Construction
7	Financial Services I
8	Real Estate and Commodities
9	Beverages, Apparel, and Mining
10	Electronics and Machinery
11	Telecommunications
12	Financial Services II

Each Assistant Director office has a similar organizational structure. It has one assistant director, one senior assistant chief accountant, one legal branch chief and two accounting branch chief.



## APPENDIX B

### Analysis of Reviewers in the Comment Letter Conversations Released in March 2015

For a comment letter conversation, the name and title of the reviewer are disclosed in the signature part of the originating comment letter from the SEC. We manually examine the 135 comment letter conversations referencing company annual filings that were released in March 2015. The result of the examination of reviewers' job titles can be summarized as follows:

First, among the 135 comment letter conversations, 113 had one reviewer and 22 had two reviewers.

Second, among the 113 comment letter conversations with only one reviewer, the reviewer has a job title of branch chief in 56 conversations, senior assistant chief accountant in 30 conversations and assistant director in 18 conversations.

Third, among the 22 comment letter conversations with two reviewers, one of the reviewers had a job title of branch chief in 13 conversations, senior assistant chief accountant in 7 conversations and assistant director in 15 conversations.

Fourth, in all of the 22 conversations with two reviewers, at least one of the reviewers had the title of branch chief, senior assistant chief accountant, or assistant director.

Lastly, a branch chief was the reviewer in 68 of the 135 comment letter conversations.

	Branch Chief	Senior Assistant Chief Accountant	Assistant Director	Other	Total
Conversations with only one reviewer	56	30	18	9	113
Conversations with two reviewers	13	7	15	9	44 (=22*2)

## APPENDIX C

### Sample Construction

Steps to construct our comment letter sample are summarized as follows:

Description of Steps	Number of Comment Letter Conversations After Each Step
# of distinct comment letter conversations in Audit Analytics comment letter database (August 2015 snapshot)	84,770
Step 1: Eliminate comment letter conversations that do not reference company annual filings (Forms 10-K, 10-K/A, 10-K405, 10-KSB, 10-KSB/A, 10-KT, 10-KT/A, 10KSB, 10KSB/A, 10KSB40, 10KT405, 20-F and 20-F/A)	24,804
Step 2: Eliminate comment letter conversations for which matching GVKEY, FYEAR and DATADATE are unavailable	20,220
Step 3: Eliminate comment letter conversations for which corresponding FYEAR is before 2004 or after 2013	20,093
Step 4: Eliminate comment letter conversations for which firm-level variables are unavailable or Audit Analytics does not provide reviewer identity	12,932

## APPENDIX D

### Variable Definitions

Variables related to time-varying firm characteristics are measured during or at the end of fiscal year  $t$  where fiscal year  $t$  is the most recent fiscal year corresponding to the annual filings referenced by the comment letter conversation from which review outcome variables, *Issues*, *Rounds* and *Days* are derived. *Followup\_Restatement* is measured during the 365-day period after the originating letter for the comment letter conversation is sent to the firm.

#### Panel A: Firm-Level Characteristics

Variable	Definition
<i>Concurrent_Restatement</i>	Indicator variable equal to one if the firm makes a restatement during fiscal year $t$ , and zero otherwise
<i>FirmAge</i>	Number of years since the firm was first added to Compustat
<i>LnMV</i>	Natural logarithm of market capitalization ( $prcc_f * csho$ ) at fiscal year-end
<i>Loss</i>	Indicator variable equal to one if the firm had negative earnings before extraordinary items ( <i>ib</i> ), and zero otherwise
<i>ROA</i>	Income before extraordinary items ( <i>ib</i> ) divided by average total assets
<i>SalesGrowth</i>	Percentage change in annual sales ( <i>revt</i> ) from fiscal year $t-1$ to fiscal year $t$
<i>Segments</i>	Number of business segments
<i>MnA</i>	Indicator variable equal to one if the firm has non-zero acquisition costs ( <i>aqc</i> ), and zero otherwise
<i>Restructuring</i>	Indicator variable equal to one if the firm has nonzero restructuring costs ( <i>rcp</i> ), and zero otherwise
<i>ExtFinancing</i>	Year-to-year change in total debt ( $dlc + dlnt$ ) plus net proceeds from the sale of common and preferred stock ( $sstk - prstk$ ) minus cash dividends paid ( <i>dv</i> ) scaled by lagged total assets
<i>LitigationRisk</i>	Indicator variable equal to one if the firm is in any of the following 4-digit SIC codes ( <i>sic</i> ): 2833-2836, 3570-3577, 3600-3674, 5200-5961, 7370-7370, and zero otherwise
<i>Big4</i>	Indicator variable equal to one if the firm is audited by one of the Big 4 auditors ( <i>au</i> ), and zero otherwise
<i>ICMW</i>	Indicator variable equal to one if the firm's auditor noted a material weakness in internal controls ( <i>auopic</i> ), and zero otherwise

\*Compustat variable names are indicated in the parentheses.

**APPENDIX D**  
(Continued)

**Panel B: Review Outcome Variables**

Variable	Definition
<i>Issue</i>	Number of comment topics identified in the originating comment letter
<i>Rounds</i>	Number of letters exchanged between the SEC and the firm before the filing review is closed
<i>Days</i>	Number of days between the date of the originating comment letter and the date of the filing review closure

**Panel C: Follow-Up Restatement**

Variable	Definition
<i>Followup_Restatement</i>	Indicator variable taking a value of one if the firm makes a restatement within 365 days after receiving a comment letter from the SEC, and zero otherwise

**Panel D: Reviewer Characteristics**

Variable	Definition
<i>Salary</i>	SEC reviewer's salary in 2010
<i>Rank</i>	SEC reviewer's job rank
<i>Manager</i>	Indicator variable equal to one if the SEC reviewer's rank is SK-15 or higher, and zero otherwise
<i>Accountant</i>	Indicator variable equal to one if the SEC reviewer's job classification is "Accountant", and zero otherwise
<i>Gender</i>	Indicator variable equal to one if the SEC's reviewer is female, and zero otherwise

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**TABLE 1**  
**Descriptive Statistics**

Panel A presents summary statistics for the firm-level variables that we use in our study. The first five columns report summary statistics for our comment letter sample, and the last two columns report mean and median values for the entire Compustat sample from 2004 to 2013. Panel B reports summary statistics for the variables related to filing review outcome and actions firms take in order to improve their financial reporting quality. The formal definitions of these variables are provided in Appendix D.

**Panel A: Comparison of Comment Letter Sample to Compustat Universe**

Variable	Comment Letter Sample					Compustat	
	Mean	Standard Deviation	P25	Median	P75	Mean	Median
<i>Concurrent_Restatement</i>	0.077	0.267	0	0	0	0.071	0
<i>FirmAge</i>	21.205	15.966	9	16	28	15.193	11
<i>LnMV</i>	7.186	1.819	5.830	7.118	8.370	5.226	5.214
<i>Loss</i>	0.247	0.431	0	0	0	0.420	0
<i>ROA</i>	0.013	0.146	0.000	0.031	0.075	-0.293	0.010
<i>SalesGrowth</i>	0.074	0.205	-0.006	0.033	0.133	0.084	0.018
<i>Segments</i>	2.338	2.161	1	1	4	1.591	1
<i>MnA</i>	0.453	0.498	0	0	1	0.297	0
<i>Restructuring</i>	0.299	0.458	0	0	1	0.183	0
<i>ExtFinancing</i>	0.047	0.251	-0.051	-0.006	0.048	0.326	0.003
<i>LitigationRisk</i>	0.212	0.409	0	0	0	0.199	0
<i>Big4</i>	0.841	0.366	1	1	1	0.610	1
<i>ICMW</i>	0.053	0.223	0	0	0	0.057	0

**Panel B: Summary Statistics for Key Variables**

Variable	Mean	Standard Deviation	Min	P25	Median	P75	Max
<i>Issues</i>	9.786	7.610	1	4	8	13	38
<i>Rounds</i>	4.825	2.320	2	3	4	6	14
<i>Days</i>	73.151	66.218	2	29	52	92	373
<i>Followup_Restatement</i>	0.084	0.278	0	0	0	0	1

**TABLE 2**  
**Correlation Matrix**

This table presents correlations between the variables that are used in the regression analyses in our study. The formal definitions of the variables used in this table are provided in Appendix D.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>1</b> <i>Issues</i>																
<b>2</b> <i>Rounds</i>	0.291															
<b>3</b> <i>Days</i>	0.233	0.751														
<b>4</b> <i>Followup_Restatement</i>	0.035	0.100	0.097													
<b>5</b> <i>Concurrent_Restatement</i>	0.045	0.002	0.022	0.050												
<b>6</b> <i>FirmAge</i>	-0.003	-0.007	-0.032	-0.016	-0.019											
<b>7</b> <i>LnMV</i>	-0.098	0.009	0.028	-0.061	-0.046	0.337										
<b>8</b> <i>Loss</i>	0.047	0.049	0.045	0.050	0.065	-0.149	-0.366									
<b>9</b> <i>ROA</i>	-0.011	-0.037	-0.037	-0.047	-0.044	0.135	0.352	-0.649								
<b>10</b> <i>SalesGrowth</i>	0.035	0.007	0.007	0.003	-0.003	-0.118	0.030	-0.175	0.205							
<b>11</b> <i>Segments</i>	0.040	0.000	-0.012	-0.002	-0.004	0.228	0.184	-0.071	0.084	0.004						
<b>12</b> <i>MnA</i>	0.059	0.022	0.006	0.019	-0.021	0.066	0.228	-0.130	0.118	0.131	0.151					
<b>13</b> <i>Restructuring</i>	0.035	-0.004	-0.026	0.006	0.036	0.158	0.118	0.086	-0.040	-0.126	0.141	0.160				
<b>14</b> <i>ExtFinancing</i>	0.008	0.030	0.031	0.056	0.009	-0.165	-0.120	0.194	-0.345	0.221	-0.057	0.023	-0.100			
<b>15</b> <i>LitigationRisk</i>	-0.019	0.011	-0.009	0.007	0.008	-0.087	-0.045	0.133	-0.131	0.068	-0.071	-0.043	0.064	0.052		
<b>16</b> <i>Big4</i>	-0.054	-0.052	-0.053	-0.013	0.002	0.140	0.379	-0.093	0.107	-0.029	0.116	0.104	0.151	-0.096	0.018	
<b>17</b> <i>ICMW</i>	0.073	0.048	0.074	0.086	0.171	-0.055	-0.134	0.115	-0.083	0.041	0.009	-0.012	0.009	0.058	0.002	-0.073

**TABLE 3**  
**SEC Reviewer Effects on Filing Review Outcome**

This table examines the effect of individual SEC reviewers on the filing review outcome. Panel A presents the regression results and reports the results of the univariate analysis of the estimated reviewer fixed effects. The formal definitions of the variables used in Panel A are provided in Appendix D. t-statistics are shown in parentheses. \*, \*\*, and \*\*\* denote the statistical significance at the 10%, 5%, and 1% level, respectively.

**Panel A: Regression Results**

RHS Variables	Dependent Variable					
	<i>Issues</i>		<i>Rounds</i>		<i>Days</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Concurrent_Restatement</i>	0.721*** (3.07)	0.700*** (3.22)	0.033 (0.43)	0.018 (0.24)	4.309** (2.01)	3.450 (1.63)
<i>FirmAge</i>	-0.006 (-1.28)	-0.009** (-2.11)	0.003** (2.13)	0.004** (2.44)	-0.022 (-0.53)	-0.023 (-0.56)
<i>LnMV</i>	-0.125*** (-2.77)	-0.056 (-1.33)	0.090*** (6.14)	0.078*** (5.30)	4.241*** (10.28)	3.546*** (8.58)
<i>Loss</i>	0.921*** (4.70)	0.870*** (4.78)	0.233*** (3.65)	0.217*** (3.44)	8.786*** (4.91)	7.984*** (4.51)
<i>ROA</i>	2.201*** (3.58)	0.648 (1.13)	-0.131 (-0.66)	-0.167 (-0.84)	-2.467 (-0.44)	-1.930 (-0.35)
<i>SalesGrowth</i>	0.107 (0.31)	0.194 (0.60)	0.190* (1.68)	0.198* (1.77)	2.152 (0.68)	2.096 (0.67)
<i>Segments</i>	0.093*** (2.90)	0.071** (2.39)	0.009 (0.91)	0.013 (1.22)	0.404 (1.38)	0.546* (1.88)
<i>MnA</i>	0.609*** (4.42)	0.596*** (4.66)	0.055 (1.22)	0.049 (1.11)	-0.735 (-0.59)	-0.188 (-0.15)
<i>Restructuring</i>	0.564*** (3.74)	0.471*** (3.37)	0.023 (0.48)	0.016 (0.33)	-0.261 (-0.19)	0.289 (0.21)
<i>ExtFinancing</i>	0.669** (2.37)	0.772*** (2.95)	0.182** (1.98)	0.201** (2.21)	4.531* (1.76)	4.191* (1.65)
<i>LitigationRisk</i>	-1.900*** (-7.12)	-0.149 (-0.54)	0.409*** (4.71)	0.174 (1.82)	11.847*** (4.87)	3.114 (1.16)
<i>Big4</i>	-0.900*** (-4.80)	-1.042*** (-5.98)	-0.402*** (-6.60)	-0.408*** (-6.76)	-11.954*** (-6.99)	-12.491*** (-7.37)
<i>ICMW</i>	0.876*** (3.06)	0.773*** (2.92)	0.437*** (4.71)	0.423*** (4.61)	17.884*** (6.86)	17.065*** (6.63)
Year Indicator Variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry Indicator Variables	Yes	Yes	Yes	Yes	Yes	Yes
SEC Reviewer Indicator Variables	No	Yes	No	Yes	No	Yes
R <sup>2</sup>	0.1742	0.3100	0.0632	0.1064	0.0926	0.1377
Adjusted R <sup>2</sup>	0.1684	0.2959	0.0567	0.0881	0.0862	0.1200
Number of Observations	12,932	12,932	12,932	12,932	12,932	12,932
F-test on SEC Reviewer Fixed Effects	F-statistic = 14.68 p-value = 0.0000		F-statistic = 3.60 p-value = 0.0000		F-statistic = 3.90 p-value = 0.0000	

**TABLE 3**  
**(Continued)**

**Panel B: Analysis of Reviewer Fixed Effects**

Variable	% of Reviewer Indicator Variables with a Coefficient Significant at the 10% Level	Size Distribution of Reviewer Fixed Effects				
		10 <sup>th</sup> Percentile	25 <sup>th</sup> Percentile	50 <sup>th</sup> Percentile	75 <sup>th</sup> Percentile	90 <sup>th</sup> Percentile
<i>Issues FE</i>	40.7%	-5.380	-3.090	-1.061	2.669	4.959
<i>Rounds FE</i>	22.4%	-1.216	-0.617	-0.070	0.526	1.193
<i>Days FE</i>	23.3%	-35.180	-19.671	-5.590	6.505	28.439

**TABLE 4**  
**SEC Reviewer Effects on Improvement in Financial Reporting Quality**

This table examines the association between the reviewer style reflected in the review outcome and the extent to which firms improve its financial reporting after receiving a comment letter. In particular, we group the sample firms by reviewer and determine the percentage of firms making a follow-up restatement for each reviewer, and then examine its relation with the magnitude of reviewer fixed effects. The formal definition of follow-up restatement is provided in Appendix D.

**Panel A: *Issues FE* and % of Follow-Up Restatements**

	Mean	Median
Bottom 30%	5.51%	0.00%
Middle 40%	7.53%	8.33%
Top 30%	9.40%	7.47%
Difference (Top-Bottom)	3.89%	7.47%
t-statistic / z-statistic	1.50	2.79

**Panel B: *Rounds FE* and % of Follow-Up Restatements**

	Mean	Median
Bottom 30%	3.94%	0.00%
Middle 40%	6.96%	7.00%
Top 30%	11.37%	8.06%
Difference (Top-Bottom)	7.43%	8.06%
t-statistic / z-statistic	3.04	3.27

**Panel C: *Days FE* and % of Follow-Up Restatements**

	Mean	Median
Bottom 30%	5.27%	0.00%
Middle 40%	6.25%	6.67%
Top 30%	11.22%	7.69%
Difference (Top-Bottom)	5.96%	7.69%
t-statistic / z-statistic	2.29	2.48

**TABLE 5****Reviewer Characteristics and Reviewer Effects on Filing Review Outcome**

This table examines the relation between observable reviewer characteristics and reviewer fixed effects on the review outcome. Reviewers' salary, rank, managerial responsibility, job classification and gender are considered their observable characteristics. *Salary*, *Rank*, *Manager* and *Accountant* are constructed using the information obtained from FedsDataCenter.com. *Gender* is determined based on each reviewer's first name and courtesy title used in the comment letter conversation. The formal definitions of the variables used in this table are provided in Appendix D.

**Panel A: Reviewer Characteristics and *Issues FE***

Group based on <i>Issues FE</i>	<i>Salary</i>		<i>Rank</i>		<i>Manager</i>		<i>Accountant</i>		<i>Gender</i>	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Bottom 30%	157,174	152,032	14.67	14	0.429	0	0.451	0	0.412	0
Middle 40%	166,419	164,307	14.78	14	0.441	0	0.691	1	0.368	0
Top 30%	173,916	173,674	15.12	15	0.633	1	0.577	1	0.404	0
Difference (Q4-Q1)	16,742	21,642	0.45	1	0.204	1	0.126	1	-0.008	0
t-statistic / z-statistic	3.27	3.28	2.00	2.17	2.05	2.01	1.28	1.27	-0.08	-0.08

**Panel B: Reviewer Characteristics and *Rounds FE***

Group based on <i>Rounds FE</i>	<i>Salary</i>		<i>Rank</i>		<i>Manager</i>		<i>Accountant</i>		<i>Gender</i>	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Bottom 30%	159,035	157,681	14.42	14	0.229	0	0.392	0	0.451	0
Middle 40%	168,347	164,852	14.90	15	0.613	1	0.647	1	0.397	0
Top 30%	170,178	170,400	15.23	15	0.617	1	0.692	1	0.327	0
Difference (Q4-Q1)	11,143	12,719	0.81	1	0.388	1	0.300	1	-0.124	0
t-statistic / z-statistic	2.15	1.96	3.53	3.78	4.12	3.81	3.18	3.04	-1.29	-1.29

**TABLE 5**  
**(Continued)**

**Panel C: Reviewer Characteristics and *Days FE***

Group based on <i>Days FE</i>	<i>Salary</i>		<i>Rank</i>		<i>Manager</i>		<i>Accountant</i>		<i>Gender</i>	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Bottom 30%	157,366	152,032	14.56	14	0.340	0	0.373	0	0.510	1
Middle 40%	170,150	167,936	14.97	15	0.559	1	0.676	1	0.338	0
Top 30%	168,915	170,834	15.02	15	0.583	1	0.673	1	0.346	0
Difference (Q4-Q1)	11,549	18,802	0.46	1	0.243	1	0.300	1	-0.164	-1
t-statistic / z-statistic	2.17	2.07	2.10	2.40	2.47	2.40	3.17	3.04	-1.69	-1.67

**TABLE 6**  
**SEC Reviewer Characteristics and Filing Review Outcome**

This table examines the relation between observable reviewer characteristics and review outcome, and then compares the increases in the adjusted  $R^2$  by the reviewer characteristics with those by reviewer indicator variables. In each panel, *Salary*, *Rank* and *Manager* are added to the RHS of the regression model one at a time (Columns (1), (2), and (3)), as well as in different combinations (Columns (4) and (5)). *Accountant* and *Gender* are included on the RHS of each regression model in Columns (1) to (5). Columns (6) and (7) report the adjusted  $R^2$ s from the regressions without observable reviewer characteristics on the RHS. The regression specifications in Columns (6) and (7) are identical to equations (1) and (2). The number of observations in this table is slightly smaller than that of Table 3 due to the data availability of observable reviewer characteristics. The formal definitions of the variables used in this table are provided in Appendix D. t-statistics are shown in parentheses. \*, \*\*, and \*\*\* denote the statistical significance at the 10%, 5%, and 1% level, respectively.

### Panel A: Regression Results when the Dependent Variable is *Issues*

[illegible]

