

The Switch Up: An Examination of Changes in Earnings Management after Receiving SEC Comment Letters

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Abstract

Earnings management practices result in adverse consequences for investors and have led to increased attention from the Securities and Exchange Commission (SEC). To carry out the SEC's oversight role, the Division of Corporation Finance periodically reviews companies' filings and issues comment letters to monitor and enhance compliance with regulatory disclosure and accounting requirements. In this study, we examine whether the SEC's oversight role affects firms' earnings management behavior, particularly because of increased transparency and increased frequency of comment letters following the Sarbanes-Oxley Act of 2002 (SOX). Following attention bias theory, we expect that increased firm-specific scrutiny from the SEC, in the form of a comment letter, will cause management to reevaluate the cost of engaging in accruals-based earnings management and switch to real activities-based earnings management, that is less likely to be scrutinized in the SEC's review process. Consistent with our predictions, we find that accruals-based forms of earnings management decrease and that real activities-based forms of earnings management increase in the two years following the receipt of a comment letter. These results suggest that the comment letter process is effective in constraining accounting-related methods of earnings management but may have the unintended consequence of encouraging companies to switch to real activities-based forms of earnings management.

Keywords: SEC comment letters, earnings management

JEL Classifications: M41, M48

1. Introduction

The Securities and Exchange Commission (SEC) has long been concerned that earnings management practices result in adverse consequences for investors, including masking “the true consequences of management’s decisions,” and has often called for increased regulatory oversight of the financial reporting process.¹ To carry out the SEC’s oversight role, the Division of Corporation Finance periodically reviews companies’ filings and issues comment letters to monitor and enhance compliance with regulatory disclosure and accounting requirements. Specifically, under Section 408 of the Sarbanes-Oxley Act of 2002 (“SOX”), the SEC is required to review the periodic filings of all registrants at least once every three years. If the SEC identifies a potential deficiency in an accounting treatment or a disclosure that requires clarification, the SEC issues a comment letter to the company.² In this study, we examine the influence of SEC oversight, in the form of comment letter reviews, on firms’ earnings management practices.

Firms can manage earnings using one of two primary methods: accrual-based earnings management (“AEM”), such as using “cookie jar” reserves, and real earnings management (“REM”), such as manipulating the timing of discretionary expenses. Prior literature provides evidence of a cost-benefit trade-off between these two methods (e.g., Cohen, Dey, and Lys 2008; Zang 2012). As the cost of one earnings management practice increases, companies shift to other forms of earnings management. Cohen et al. (2008) document a decreasing trend in AEM and an increasing trend in REM in the years following the passage of SOX, suggesting that SOX

¹ See SEC Chairman Arthur Levitt’s 1998 speech at <http://www.sec.gov/news/speech/speecharchive/1998/spch220.txt>.

² Prior to SOX, the SEC reviewed periodic filings on a less frequent basis as the review focus was primarily concentrated on registration statements. Section 408 formalized the process to require that the SEC review the periodic filings of all registrants, including Form 10-K, at least once every three years, and provided a list of factors to consider in scheduling reviews more frequently than the three year minimum.

imposes increased regulatory scrutiny on AEM and that companies offset the constrained AEM by engaging in additional REM activities. Survey results confirm that, post-SOX, managers likely switched to REM activities because REM activities are more difficult to detect (Graham, Harvey, and Rajgopal 2005), but it is still unclear which provisions of SOX (or other concurrent factors) resulted in this shifting behavior from AEM to REM.

The comment letter review process underwent substantial changes post-SOX, including improved transparency (i.e., conversations are now available to the public) and increased frequency of reviews (i.e., higher probability of being reviewed). We expect that these regulatory changes of the SEC review process encourage companies to reduce their AEM and switch to more REM, because accounting issues (e.g., accruals) are often the focus of the SEC's reviews, and because the SEC is less likely to scrutinize real economic transactions underlying REM decisions.³

It is not clear whether the threat of review alone is enough to change firms' earnings management behavior or whether it is the receipt of an actual comment letter. Firms do not know the exact timing of the review process until they actually receive a comment letter, but they know that they will be reviewed by the SEC at least once every three years. Thus, it is possible that the threat of the review process alone may constrain AEM in any given year. However, attention bias theory suggests that the receipt of a comment letter serves as a salient and threatening cue that the company is being monitored by the SEC and suggests that management may react specifically to the receipt of a comment letter. SEC comment letters are a top priority item and are given immediate attention by senior company management including the Chief Executive Officer and Chief Financial Officer (Johnson 2010). Therefore, we expect that, in

³ As described on the SEC's website, "[t]he Division does not evaluate the merits of any transaction...." See <http://www.sec.gov/divisions/corpfin/cffilingreview.htm>.

addition to any behavior modifications accompanying the general threat of SEC review in the post-SOX period, companies will react to the receipt of an actual comment letter by reducing AEM and increasing REM.

To test whether SEC comment letters are associated with reduced AEM and increased REM, we augment the models in Zang (2012) by including an indicator variable for whether a firm has received a comment letter in the prior two years. We find that AEM significantly decreases and REM significantly increases in the two years after the receipt of the comment letter. These results are consistent with our hypothesis that after receiving a comment letter, companies reduce their accrual-based earnings management practices due to higher cost of regulatory scrutiny, but shift to more real earnings management, which is less likely to be the SEC's focus.

To alleviate concerns that our results are driven by general time trends or by selection bias of the SEC in determining which companies warrant a comment letter, we utilize a difference-in-differences design on a reduced sample. We first identify firms that receive comment letters and classify the two years following the receipt of a comment letter as the post period and the two years before the receipt of a comment letter as the prior period. We then match each comment letter firm with a control firm that does not receive a comment letter in the same sample period. This difference-in-differences research design results in the same inferences: firms decrease their levels of AEM and increase their levels of REM after the receipt of a comment letter, relative to the control sample.

The results of our study provide important implications for regulators. Although we find that the SEC comment letter process has the positive outcome of constraining questionable accrual-based accounting practices, it also has the potentially unintended negative outcome of

increasing real activities manipulation, which may be even more costly to investors in the long run. Therefore, regulators should be mindful of a more complete picture of the earnings management consequences of the comment letter process.

Our study makes two primary contributions to the literature. First, it contributes to the growing literature on the consequences of SEC comment letters. Cassell, Dreher, and Myers (2013, p.1902) call for future research on the benefits of the comment letter process, including whether it leads to “improved subsequent reporting quality.” Most of the extant literature on the benefits of the comment letter process focuses on the impact of disclosure changes following the receipt of a comment letter (e.g., Johnston and Petacchi, 2014; Bens, Cheng, and Neamtiu 2015; Bozanic, Dietrich, Johnson, 2015; Brown, Tian, Tucker 2015). These studies provide evidence that comment letters lead to improved disclosure, greater cross-firm consistency, more transparent information environments, and lower information asymmetry. However, the SEC explicitly states that the purpose of the comment letter process is “to monitor and enhance compliance with the applicable disclosure *and* accounting requirements” (emphasis added).⁴ Therefore, our study complements this extant literature by providing evidence on the impact of the comment letter process on accounting choices relating to earnings management.

Second, we contribute to the earnings management literature by examining the influence of a regulatory mechanism (i.e., the SEC comment letter process) on companies’ earnings management behavior. Cohen et al. (2008) find evidence of a decrease (increase) in AEM (REM) after SOX, and they call for a greater understanding of the underlying mechanisms of SOX that contribute to this earnings management trend. We posit that SEC comment letters might be one of the mechanisms. SOX 408 resulted in a significant increase in the frequency of SEC periodic

⁴ See <http://www.sec.gov/divisions/corpfin/cffilingreview.htm>.

filing reviews and the resultant number of comment letters. Shortly after SOX, the SEC decided to make the comment letter correspondence publicly available after the completion of each review. Therefore, complementing Cohen et al. (2008), we investigate whether the specific regulatory mechanism of the SEC comment letter process leads to a change in AEM and REM in the post-SOX period. Specifically, our results suggest that the receipt of a comment letter, rather than just the increased threat of SEC review or other general regulatory changes, contributes to decreases in AEM and increases in REM. We also complement Zang (2012), which considers a general change in regulatory scrutiny following SOX as a cost to AEM. In contrast, we examine a distinct corporate event and a specific regulatory mechanism (i.e., the receipt of a comment letter) that changes the relative costs of AEM and REM. As our sample is entirely in the post-SOX period, the effects we find of companies switching from AEM to REM following the comment letter process are incremental to the on average pre/post SOX trends documented in the prior literature.

The remainder of the paper is organized as follows: Section 2 provides background information on the SEC's filing review process, discusses prior comment letter and earnings management literature, and develops our hypotheses. We discuss our data and research design in Section 3 and report the sample selection procedure and empirical results in Section 4. Section 5 concludes.

2. Background, Related Literature, and Hypothesis Development

2.1. SEC Comment Letters

The mission of the SEC is to protect investors. Past SEC chairpersons have often criticized earnings management practices, accusing managers of strategically distorting their

operating results. Among other impacts, these practices make it difficult for investors to assess firm performance and prospects. In a 1998 speech, SEC Chairman Arthur Levitt proposed a plan to crack down on these abuses. He stated in part, "... the SEC's review and enforcement teams will reinforce these regulatory initiatives. We will formally target reviews of public companies that ... appear to manage earnings."⁵

One of the largest divisions of the SEC is the Division of Corporation Finance, which oversees the ongoing reporting obligations of public companies to improve disclosure transparency. This role is intended to arm investors with the necessary information to make an informed investment decision and to mitigate earnings management or other practices that inhibit informational transparency. Earnings management is not a new area of concern, but it continues to be an enforcement and review target for the SEC.⁶

The SEC filing review process underwent substantial changes following SOX. SOX Section 408 mandates that the SEC review every registrant's periodic filings at least once every three years. Prior to that provision, the ongoing periodic reports, such as Form 10-K, were much less frequently reviewed. When they were reviewed, the focus was primarily concentrated on transactional filings, such as IPOs or other security offerings requiring registration statements. In June 2004, the SEC decided to make comment letter correspondence publicly available following each review, in order to increase the transparency of the process.

The SEC devotes substantial resources to the filing review process.⁷ The receipt of a comment letter is also viewed by firms' top management as a significant regulatory event,

⁵ <http://www.sec.gov/news/speech/speecharchive/1998/spch220.txt>.

⁶ See, for example http://www.daypitney.com/news/docs/dp_3351.pdf.

⁷ Approximately 80% of the employees within the Division of Corporation Finance are directly involved in the filing review process. This division has an annual budget of about \$150 million (see <http://www.sec.gov/about/reports/sec-fy2016-budget-request-by-program.pdf>).

requiring their immediate attention (Johnson 2010). The initial comment letter includes a request for managers to submit a written response within 10 business days or to propose an alternative timeframe. The SEC staff may issue follow-up comment letters, and the correspondence continues until all issues are resolved. After the completion of the review, the correspondence is publicly released on the SEC's EDGAR website. Comment letter releases have the potential of disciplining management's accounting and disclosure practices because investors and other market participants can read the managers' justifications provided in response to the SEC inquiries. In addition, the SEC reviewers may refer cases where earnings management is suspected to the Division of Enforcement for further investigation.

Much of the extant literature on the consequences of SEC comment letters focuses on the impact of disclosure changes following the receipt of a comment letter. Johnston and Petacchi (2014) examine changes in firms' information environments following a comment letter review. Their evidence suggests that the comment letter process has positive informational effects, in that trading volume around subsequent earnings announcements decreases and analyst forecast accuracy increases in the eight quarters following a comment letter review. Bens et al. (2015) provide similar evidence of improvements in information asymmetry by showing that companies that receive comment letters related to fair value disclosures experience a reduction in uncertainty about their fair value estimates. Bozanic et al. (2015) examine qualitative disclosure changes following a comment letter review and find evidence of disclosure improvements in line with the stated objectives of the comment letter process. They further find that the disclosure improvements are associated with lower information asymmetry and reduced litigation risk. Brown et al. (2015) examine spillover effects of one company's comment letter on its industry peers' qualitative disclosure changes related to risk factors. They provide evidence that a

company's disclosures become more consistent with their peers after going through a comment letter review.

Cassell et al. (2013) study the determinants of receiving a comment letter and call for future research on the benefits of the comment letter process, including whether it leads to “improved subsequent reporting quality.” As the explicit objective of the SEC’s filing review process is “to monitor and enhance compliance with the applicable disclosure *and* accounting requirements” (emphasis added),⁸ we help fill the void in the literature by examining the consequences of the comment letter process on the accounting practices related to earnings management. Another study that examines accounting policy changes following the comment letter process is Kubick, Lynch, Mayberry, and Omer (2015). This working paper finds evidence that companies reduce their tax avoidance following the receipt of a comment letter related to income tax disclosures. We extend this work by examining overall earnings management practices, as opposed to those related solely to tax avoidance.

2.2. Accrual-Based vs. Real Earnings Management

Firms have strong incentives to maximize firm value and meet earnings targets and can use both accruals and real activities to meet these targets. Early research focuses on AEM, which involves using changes in reserves and other discretionary accruals (e.g., Jones 1991; Teoh, Welch, and Wong 1998). However, because those forms of earnings management are easier to detect, managers may opt for other forms of earnings management that alter the real activities of the business, such as accelerating inventory production or delaying research and development expenditures. Prior literature confirms that managers use REM to avoid missing earnings targets

⁸ See <http://www.sec.gov/divisions/corpfin/cffilingreview.htm>.

(Roychowdhury 2006) and to avoid underpricing of seasoned equity offerings (Cohen and Zarowin 2010).

Ewert and Wagenhofer (2005) show analytically that when accounting standards are tightened (i.e., when accounting flexibility is reduced), firms tend to resort to real earnings management. Cohen et al. (2008) provide empirical support to Ewert and Wagenhofer's model. Cohen et al. (2008) examine trends in AEM and REM pre- and post-SOX. Their study provides evidence that AEM was increasing prior to SOX and then decreased in the post-SOX period. They also observe the opposite trends in REM (i.e., a steady decrease in the pre-SOX period, followed by a subsequent increase.) These results suggest that as SOX imposes stronger regulatory scrutiny on firms, they shift from AEM to REM. However, the authors state that they cannot attribute this effect on any specific mechanism(s) of SOX and call for a greater understanding of the underlying mechanisms that contribute to these earnings management trends.⁹

Our study follows the prior literature in assuming that accruals and real earnings management are substitutes (e.g., Cohen et al. 2008; Zang 2012). When costs of AEM are higher, *ceteris paribus*, firms are more likely to engage in REM, and vice versa. Zang (2012) investigates the trade-off between AEM and REM based on the relative costs of each. One of the costs considered is litigation and regulatory scrutiny, where regulatory scrutiny is proxied for using the difference in regulatory regimes pre- and post-SOX. Zang (2012) suggests that the increased litigation risk and increased scrutiny from SOX drives firms to REM because REM does not involve direct violation of any laws or regulations as long as the outcomes of REM are

⁹ Note that the post-SOX sample period in the prior study ends in 2005, which is the first year that comment letter correspondence started to be publicly released. Accordingly, the changes in earnings management practices around comment letters, that we study, are incremental to general changes around the passage of SOX.

properly disclosed in the financial statements. This study implies that firms might switch from AEM to REM when opportunities of AEM are constrained (e.g., through increased scrutiny from regulators). We complement this prior literature by examining a distinct corporate event and a specific regulatory mechanism (i.e., the receipt of a comment letter) that changes the relative costs of AEM and REM. As comment letters are only publicly available in the post-SOX period, the effects we study are incremental to the general trends in AEM and REM that occurred immediately following SOX.

2.3. Hypothesis Development

As discussed previously, regulatory scrutiny imposed on firms by SOX contributed to a reduction in AEM in the immediate years following its passage. The specific regulatory mechanism we investigate in this study (i.e., the SEC comment letter process) underwent substantial changes following SOX. Specifically, Section 408 increased the frequency of periodic filing reviews. The SEC's subsequent decision to publicly release comment letters following each review further increases the transparency of the review process. With these changes in review frequency and transparency, it is not clear whether the increased threat of review alone is enough to constrain AEM or whether it is the receipt of an actual comment letter.

There are two primary reasons that a firm's AEM would not change following the receipt of a comment letter. First, because firms do not know the exact timing of the reviews absent the receipt of a comment letter, it is possible that the threat of the review process alone may constrain AEM in any given year, suggesting that no changes will be detected following the receipt of a comment letter. Second, firms' prior AEM practices may have become so constrained under the general provisions of SOX that the receipt of a comment letter would have

no incremental effect. Despite these reasons, we expect that AEM will change following the receipt of a comment letter because attention bias theory suggests that the receipt of a comment letter serves as a salient and threatening cue that the firm is being monitored by the SEC. If the firm views this monitoring as an additional constraint on accounting-based AEM, forcing them to reevaluate the perceived ‘costs’ of engaging in AEM activities, we expect that they will *decrease* their AEM activities following the receipt of a comment letter. We state our first hypothesis in the alternative form as follows:

H1: Firms reduce their accruals-based earnings management practices following the receipt of an SEC comment letter.

Prior literature provides evidence that firms switch to more REM when AEM is constrained. If firms view the receipt of an SEC comment letter as an incremental cost to AEM, they may shift to more REM, making the assumption that the SEC is less likely to scrutinize the underlying real activities being manipulated as long as they are appropriately reported and disclosed. However, REM may remain unchanged following a comment letter review if managers view the increased transparency of their real activities as imposing additional regulatory costs similar to those imposed on AEM. In other words, the comment letter process may lead to improved disclosures allowing investors and other market participants to better “see through” the mapping of economic transactions to the financial reports, thus constraining real earnings manipulations. Our final hypothesis is stated in the alternative form as follows:

H2: Firms increase their real earnings management practices following the receipt of an SEC comment letter.

3. Research Design

We define AEM as earnings management using discretionary accruals. Following Kothari, Leone, and Wasley (2005), we estimate performance-matched (where performance is measured as prior year return on assets) discretionary accruals using the modified Jones model (Jones 1991; Dechow, Sloan and Sweeney 1995). We also incorporate controls for the asymmetric recognition of gains and losses following Ball and Shivakumar (2006). Here, we expect that higher levels of discretionary accruals represent higher AEM. Our model is as follows:

$$\begin{aligned} Accruals_{it} = & \alpha_1(\Delta REV_{it} - \Delta REC_{it}) + \alpha_2(PPE_{it}) + \alpha_3(CFO_{it}) + \alpha_4(NEG_CFO_{it}) + \\ & \alpha_5(NEG_CFO_{it} * CFO_{it}) + \varepsilon_{it} \end{aligned} \quad (1)$$

where *Accruals* is set equal to earnings before extraordinary items and discontinued operations minus operating cash flows in *t* (following Collins and Hribar (1999)); ΔREV is the change in net revenues from year *t-1* to *t*; ΔREC is the change in net receivables from year *t-1* to *t*; *PPE* is set equal to property, plant, and equipment in *t*; *CFO* is set equal to cash flow from operations in *t*; and *NEG_CFO* is an indicator variable equal to one if *CFO* is less than zero, and zero otherwise. With the exception of *NEG_CFO*, all variables are scaled by total assets at the beginning of year *t*. We then set our variable of interest, *AbnormalAccruals*, equal to the value of ε from equation (1) for each firm-year.

We define REM as the composite of three separate REM measures used in prior literature (e.g., Roychowdhury 2006): abnormal cash flows, abnormal production, and abnormal discretionary expenditures. We estimate the normal level of cash flow (*CFO*) following Roychowdhury (2006), by running the following cross-sectional regression for each industry-year with at least 15 observations:

$$CFO_{it}/A_{it-1} = \alpha_1(1/A_{it-1}) + \alpha_2(S_{it}/A_{it-1}) + \alpha_3(\Delta S_{it}/A_{it-1}) + \varepsilon_{it} \quad (2)$$

where *CFO* is cash flow from operations; A_{it-1} is total assets in $t-1$; S_{it} is net sales in t ; and ΔS_{it} is the change in net sales from $t-1$ to t . Equation (2) is estimated cross-sectionally for each industry-year with at least 15 observations. For each firm-year, abnormal cash flow is the estimated residual (ε) from Equation (2).

Next, we estimate normal production costs following Roychowdhury (2006), by running the following cross-sectional regression for each industry-year with at least 15 observations:

$$PROD_{it}/A_{it-1} = \alpha_1(1/A_{it-1}) + \alpha_2(S_{it}/A_{it-1}) + \alpha_3(\Delta S_{it}/A_{it-1}) + \alpha_4(\Delta S_{it-1}/A_{it-1}) + \varepsilon_{it} \quad (3)$$

where *PROD* is the sum of cost of goods sold in year t and the change in inventory from $t-1$ to t ; A_{it-1} is total assets in $t-1$; S_{it} is net sales in t ; ΔS_{it} is the change in net sales from $t-1$ to t ; and ΔS_{it-1} is the change in net sales from $t-2$ to $t-1$. For each firm-year, abnormal production is the estimated residual (ε) from Equation (3).

The final measure of REM is abnormal discretionary expenditures. We estimate normal discretionary expenditures (*DISX*) following Roychowdhury (2006), by running the following cross-sectional regression for each industry-year with at least 15 observations:

$$DISX_{it}/A_{it-1} = \alpha_1(1/A_{it-1}) + \alpha_2(S_{it-1}/A_{it-1}) + \varepsilon_{it} \quad (4)$$

where *DISX* is the sum of research and development (R&D), advertising, and selling, general and administrative (SG&A) expenses in t ; A_{it-1} is total assets in $t-1$; and S_{it-1} is net sales in $t-1$. For each firm-year, abnormal discretionary expenditures is the estimated residual (ε) from Equation (4).

We transform abnormal cash flow from operations and abnormal discretionary expenditures by multiplying both by negative one, such that higher values of all three real earnings management variables (i.e., abnormal cash flow from operations, abnormal production,

and abnormal discretionary expenditures) represent income-increasing earnings management. We then set our variable of interest, *REMCombined*, equal to the sum of the three variables.

Following Zang (2012), we then examine whether AEM (*AbnormalAccruals*) and REM (*REMCombined*) are associated with our variable of interest, *CommentLetter*, after controlling for other factors that affect AEM and REM practices. To construct our *CommentLetter* variable, we first identify firms that receive a comment letter in a given year, but that also do not receive a comment letter in the previous or subsequent two years. This restriction helps to remove the confounding effects of receiving multiple comment letters within any three year review cycle. From this pool of firms, *CommentLetter* is set equal to one when a comment letter was received in *t-1* or *t-2*. *CommentLetter* is set equal to zero for all other firm-years in our sample. We expect that *CommentLetter* will be positively associated with *REMCombined* and negatively associated with *AbnormalAccruals* because the SEC is more likely to focus on accounting (i.e., accrual) and disclosure related issues (AEM) than it is the economic transactions that underlie REM activities. The models are as follows:

$$\begin{aligned}
 REMCombined_{it} = & \beta_0 + \beta_1 CommentLetter_{it} + \beta_2 MarketShare_{it-1} + \beta_3 ZScore_{it-1} + \beta_4 Inst_{it-1} + \\
 & \beta_5 MTR_{it} + \beta_6 Big4_{it} + \beta_7 AuditTenure_{it} + \beta_8 NOA_{it-1} + \beta_9 Cycle_{it-1} + \beta_{10} ROA_{it} + \\
 & \beta_{11} Assets_{it} + \beta_{12} MtoB_{it} + \beta_{13} Earn_{it} + \beta_j Year FE_{it} + \varepsilon_{it}
 \end{aligned} \tag{5}$$

$$\begin{aligned}
 AbnormalAccruals_{it} = & \delta_0 + \delta_1 CommentLetter_{it} + \delta_2 MarketShare_{it-1} + \delta_3 ZScore_{it-1} + \delta_4 Inst_{it} + \\
 & \delta_5 MTR_{it} + \delta_6 Big4_{it} + \delta_7 AuditTenure_{it} + \delta_8 NOA_{it-1} + \delta_9 Cycle_{it-1} + \delta_{10} ROA_{it} + \\
 & \delta_{11} Assets_{it} + \delta_{12} MtoB_{it} + \delta_{13} Earn_{it} + \delta_{14} Pred_REMCombined_{it} + \\
 & \delta_{15} Unexp_REMCombined_{it} + \delta_j Year FE_{it} + \varepsilon_{it}
 \end{aligned} \tag{6}$$

We choose control variables following Zang (2012). In the REM model, we control for the firm's market share at the beginning of the year based on the proportion of the industry's total sales (*MarketShare*), the firm's financial health proxied for using a modified version of

Altman's Z-score at the beginning of the year (*ZScore*) (Altman 1968, 2000), the level of institutional ownership at the beginning of the year (*Inst*), and the firm's marginal tax rate for year t (*MTR*).¹⁰ Companies with larger market share and companies in better financial health (higher values of *ZScore*) are expected to have higher levels of *REMCombined*, and companies with higher effective tax rates and higher institutional ownership are expected to have lower levels of *REMCombined*. In the AEM model, we control for auditor scrutiny proxied for using large audit firms (*Big4*) and auditor tenure (*AuditTenure*), the extent to which earnings have previously been manipulated as proxied for by net operating assets at the beginning of the year (*NOA*), or the extent to which earnings can be manipulated as proxied for using the length of the operating cycle (*Cycle*).¹¹ The AEM model includes the predicted and unexpected levels of *REMCombined* (estimated from equation (5)) because Zang (2012) notes REM tends to occur during the year but AEM can even occur after year end but before the earnings are reported. This suggests the sequential nature of firms' decisions to manage real activities first followed by accruals manipulation. The REM and AEM models also control for firm performance using return on assets (*ROA*), the relative size of the firm in the industry based on assets (*Asset*), the firm's potential growth rate (*MtoB*), pre-managed earnings (*Earn*), and year fixed effects (*Year FE*).

To ensure that results from this estimation are not driven by time trends in earnings management and to address selection issues related to which firms are more likely to receive a comment letter, we utilize a difference-in-differences match-sample design. Specifically, we first identify all firms that receive a comment letter in a given year but do not also receive a comment

¹⁰ We obtain the MTR measure (see Graham and Mills 2008) from John Graham's website, <http://faculty.fuqua.duke.edu/~jgraham/>.

¹¹ Zang (2012) also includes an indicator for the post-SOX period as a proxy for regulatory scrutiny. Because our sample period is only post-SOX, we do not include this variable in our model.

letter in the two prior or two subsequent years.¹² We then match each of these firm-years (i.e., the year of the comment letter receipt, the two years before, and two years after) to a similarly sized firm (i.e., total assets within 10 percent) that does not receive a comment letter in the same five year window. For the firms identified as having received a comment letter, we set CL equal to one, and for the matched firms we set CL equal to zero. For both the comment letter firms and the matched firms, we set $Post$ equal to one in the two years following the comment letter receipt, and zero otherwise. The interaction of CL and $Post$ allows us to determine whether the change in AEM and REM in the periods after receiving a comment letter are different for the comment letter firms and the control firms that do not receive a comment letter in the same year. Because size is the primary factor used by the SEC in determining the frequency of the periodic filing reviews, size matching allows us to compare a firm that received a comment letter with a firm that had a similar review frequency (i.e., threat of review) but did not receive a comment letter. With this matched sample design, we use reduced models for AEM and REM, controlling for audit quality (proxied for by auditor size, $Big4$), macro-economic changes ($ChangeGDP$), and the market value of equity (MVE), following Cohen et al. (2008). The models are as follows:

$$AbnormalAccruals_{it} = \beta_0 + \beta_1 CL_{it} + \beta_2 Post_{it} + \beta_3 CL * Post_{it} + \beta_4 Big4_{it} + \beta_5 ChangeGDP_{it} + \beta_6 MVE_{it} + \beta_j Year FE_{it} + \varepsilon_{it} \quad (7)$$

$$REMCombined_{it} = \beta_0 + \beta_1 CL_{it} + \beta_2 Post_{it} + \beta_3 CL * Post_{it} + \beta_4 Big4_{it} + \beta_5 ChangeGDP_{it} + \beta_6 MVE_{it} + \beta_j Year FE_{it} + \varepsilon_{it} \quad (8)$$

¹² We examine the two years prior to comment letter receipt because firms are reviewed at least once in a three year window and it is not known when they are reviewed unless a comment letter is issued. We require no comment letters in the two years following receipt because we are interested in measuring changes in AEM and REM in the two years following the receipt of the comment letter.

4. Sample and Empirical Results

4.1. Sample Selection

We begin with all Compustat firm-years with positive total assets for the period 2004 through 2013. We begin with 2004 because this is the first year that comment letter conversations were made publicly available.¹³ We end with 2013 to allow sufficient time for the comment letter conversation to be resolved and disclosed to the public. We remove financial institutions and regulated industries (SIC 6000-6999 and 4400-5000, respectively) following prior literature on earnings management (e.g., Roychowdhury 2006; Cohen et al. 2008; Zang 2012). We then merge our preliminary sample with Audit Analytics. This results in 37,276 potential firm-year observations between 2004 and 2013.

Using the Audit Analytics comment letter conversations database, we identify fiscal years in which the company received a comment letter using the initial comment letter date from the SEC. To isolate the effect of the receipt of a comment letter, we first identify companies that received a comment letter in a specific year but did not receive a comment letter in the two prior or two subsequent years. For equations (5) and (6), *CommentLetter* is set equal to one for these firms if the firm received the comment letter in $t-1$ or $t-2$, because these are the years in which we expect the company to react to the receipt of a comment letter. All other firm-years are “no comment letter” firm-years (i.e., where *CommentLetter* is set equal to zero). For example, assume that firm *A* received a comment letter in 2007, but did not receive one in 2005, 2006, 2008, or 2009; firm *B* received a comment letter in both 2006 and 2007, but not in 2005, 2008, or 2009; and firm *C* received no comment letters between 2005 and 2009. For equations (5) and (6),

¹³ Note that the SEC policy to publicly release comment letter correspondence took effect as of August 1, 2004, however, the letters did not start to be released on EDGAR until after May 12, 2005. We can identify the date of the initial comment letter receipt for all correspondence after the 2004 policy took effect.

for firm *A*, *CommentLetter* would be equal to one in years 2008 and 2009, and zero in 2005, 2006, and 2007. For firms *B* and *C*, *CommentLetter* would be equal to zero in years 2005 through 2009. This provides an arguably clean setting where a firm is expected to react to the comment letter conversation (i.e., the effect is not contaminated by the receipt of multiple letters within a three year review cycle).¹⁴ When estimating the results of equations (5) and (6), we lose additional observations lacking sufficient data to estimate the equations. Descriptive statistics for the final sample of 9,173 firm-years used in equations (5) and (6) are provided in Table 2.

For the difference-in-difference test in equation (7), we match each ‘clean’ comment letter firm (i.e., a firm that received a comment letter in a given year but not in the two prior or two subsequent years) with a ‘clean’ no comment letter firm (i.e., a firm that did not receive a comment letter in the same five year window). Because the primary criteria for review frequency is company size, we require that the matched company’s total assets in year *t* be within 10 percent of assets in year *t* for the comment letter firm. Thus, the sample is further reduced to 4,479 when estimating equation (7) because we drop comment letter firm-years without a proper “no comment letter” match firm. Table 1 presents the sample selection procedures and Table 2 provides descriptive statistics for the sample used to test our hypotheses.

4.2. Empirical Results

Table 3 presents our primary results. In the REM regression in Column (1) (i.e., Equation (5)), we find a positive and significant coefficient on *CommentLetter* ($p < 0.0001$). This result suggests that firms increase their real earnings management if they receive a comment letter in

¹⁴ However, in untabulated analyses, we find that our results are robust to including firms with multiple comment letters in a five year window. In other words, results are robust to setting *CommentLetter* equal to one for years 2007, 2008, and 2009 for firm *B* in the example above.

the prior two years, consistent with H2. In the AEM regression in Column (2) (i.e., Equation (6)), we find a negative and significant coefficient on *CommentLetter* ($p < 0.0174$). This result suggests that firms decrease their accrual earnings management if they receive a comment letter in the prior two years, consistent with H1. Overall, our results are consistent with the attention bias theory in that the receipt of a comment letter serves as a salient and threatening cue to indicate heightened regulatory scrutiny for AEM. As a result, firms reduce their AEM and switch to REM.

Regarding control variables, we find that better financial conditions (*ZScore*), higher marginal tax rate (*MTR*), longer auditor tenure (*Audit_Tenure*), shorter operating cycle (*Cycle*), better firm performance (*ROA*), larger firms (*Assets*), and lower pre-managed earnings (*EARN*) are associated with higher levels of REM. Higher marginal tax rate (*MTR*), small auditors (*Big4*), the extent to which earnings have previously been manipulated (*NOA*), longer operating cycle (*Cycle*), better firm performance (*ROA*), higher pre-managed earnings (*EARN*), and lower predicted and unexpected levels of REM (*Pred_REMCombined*, *Unexp_REMCombined*) are associated with higher levels of AEM. These results are largely consistent with Zang (2012).

Table 4 presents our results with the difference-in-differences design. Consistent with the results in Table 3, we find a positive and significant coefficient on *CL*Post* ($p = 0.0893$) in the REM regression in Column (1). This result suggests that comment letter firms increase their REM after receiving a comment letter relative to a size-matched control sample of no comment letter firms, consistent with H2. We find a negative and significant coefficient on *CL*Post* ($p = 0.0787$) in the AEM regression in Column (2). This result suggests that comment letter firms decrease their AEM after receiving a comment letter relative to a size-matched control sample of no comment letter firms, consistent with H1. These results from the difference-in-differences

model suggest that even if the comment letter firms in our sample were following general AEM/REM trends in the post-SOX years, the earnings management changes we observe in the immediate two years following the receipt of a comment letter are significantly larger than those experienced by the matched control firms.

5. Conclusion

The SEC has long been concerned that firms' earnings management practices mask the true nature of economic transactions and result in adverse consequences for investors. To exercise regulatory oversight of the financial reporting process, the Division of Corporation Finance periodically reviews companies' filings and issues comment letters to monitor and enhance compliance with regulatory disclosure and accounting requirements. Most of the extant comment letter literature focuses on the impact of disclosure changes following the receipt of a comment letter. However, the SEC explicitly states that the purpose of the comment letter process is "to monitor and enhance compliance with the applicable disclosure *and* accounting requirements" (emphasis added).¹⁵ In this study, we examine the influence of SEC comment letter reviews on firms' earnings management practices.

Firms can manage earnings through accruals or real activities. Prior literature suggests that, as the cost of one earnings management practice increases, companies shift to the other form of earnings management. Specifically, Cohen et al. (2008) suggest that, as SOX imposes increased regulatory scrutiny on AEM, firms reduce AEM and increase REM post-SOX. However, it is still unclear which provisions of SOX (or other concurrent factors) resulted in this shifting behavior from AEM to REM.

¹⁵ See <http://www.sec.gov/divisions/corpfin/cffilingreview.htm>.

The comment letter review process underwent substantial changes post-SOX, including improved transparency (i.e., conversations are now available to the public) and increased frequency of reviews (i.e., higher probability of being reviewed). We expect that these regulatory changes of the SEC review process encourage companies to reduce their AEM and switch to more REM, because accounting issues (e.g., accruals) are often the focus of the SEC's reviews, and because the SEC is less likely to scrutinize real economic transactions underlying REM decisions.

While the threat of review alone may be enough to change firms' earnings management behavior, attention bias theory suggests that the receipt of a comment letter serves as a salient and threatening cue that the company is being monitored by the SEC and suggests that management may react specifically to the receipt of a comment letter. Therefore, we expect that, in addition to any behavior modifications accompanying the general threat of SEC review in the post-SOX period, companies will react to the receipt of an actual comment letter by reducing AEM and increasing REM.

To test whether SEC comment letters are associated with reduced AEM and increased REM, we augment the models in Zang (2012) by including an indicator variable for whether a firm has received a comment letter in the prior two years. We find that AEM significantly decreases and REM significantly increases in the post comment letter receipt period. These results are consistent with our hypothesis that after receiving a comment letter, companies reduce their accrual-based earnings management practices due to higher cost of regulatory scrutiny, but shift to more real earnings management, which is less likely to be the SEC's focus.

To alleviate concerns that our results are driven by general time trends or by selection bias of the SEC in determining which companies warrant a comment letter, we utilize a

difference-in-differences design where we match each comment letter firm with a no comment letter firm. This alternative research design results in the same inferences: firms decrease their levels of AEM and increase their levels of REM after the receipt of a comment letter, relative to the control sample.

Our study makes two primary contributions to the academic literature. First, it contributes to the growing literature on the consequences of SEC comment letters. We provide evidence on the impact of the comment letter process on accounting choices relating to earnings management, complementing prior studies that focus on the implication of SEC comment letters on firms' disclosure choices.

Second, we contribute to the earnings management literature by examining the influence of a specific regulatory mechanism, i.e., the SEC comment letter process, on companies' earnings management behavior. We complement Cohen et al. (2008) by investigating whether the specific regulatory mechanism of the SEC comment letter process leads to a change in AEM and REM in the post-SOX period. We also complement Zang (2012), by examining a distinct corporate event and a specific regulatory mechanism (i.e. the receipt of a comment letter) that changes the relative costs of AEM and REM.

The results of our study provide important implications for regulators. Although we find that the SEC comment letter process has the positive outcome of constraining questionable accrual-based accounting practices, it also has the potentially unintended negative outcome of increasing real activities manipulation, which may be even more costly to investors in the long run. Therefore, regulators should be mindful of a more complete picture of the earnings management consequences of the comment letter process.

Appendix: Variable Definitions

AbnormalAccruals	= the residuals from Equation (1);
AbnormalCFO	= the residuals from Equation (2);
AbnormalDisExpense	= the residuals from Equation (4);
AbnormalProduction	= the residuals from Equation (3);
Assets	= the industry-adjusted log value of total assets;
AuditTenure	= an indicator variable equal to 1 if the number of years the auditor has audited the client is above the sample median of six years, and 0 otherwise;
Big4	= an indicator variable equal to 1 if the firm's auditor is one of the Big 4, and 0 otherwise;
ChangeGDP	= the percent change in U.S. Gross Domestic Product from t-1 to t;
Cycle	= the days receivable plus the days inventory less the days payable at the beginning of the year;
Earn	= the earnings before extraordinary items minus discretionary accruals and production costs, plus discretionary expenditures;
Inst	= the percentage of institutional ownership at the beginning of year t;
MarketShare	= firm sales divided by total sales of its industry at the beginning of year t, where industry is defined based on two-digit SIC codes;
MtoB	= the market-to-book ratio;
MTR	= the marginal tax rate, developed and provided by Professor John Graham (http://faculty.fuqua.duke.edu/jgraham/);
MVE	= number of shares of common stock outstanding times year-end stock price;
NOA	= an indicator variable equal to 1 if the net operating assets (i.e., shareholders' equity less cash and marketable securities and plus total debt) at the beginning of the year divided by lagged sales is above the median of the corresponding industry-year, and 0 otherwise;
REMCombined	= the sum of AbnormalCFO * -1, AbnormalDisExp * -1, and AbnormalProduction;

ROA = the return on assets, computed using net income for the rolling four quarters ending with the third quarter of year t;

ZScore = $0.3 (\text{NetIncome}/\text{Assets}) + 1.0 (\text{Sales}/\text{Assets}) + 1.4 (\text{RetainedEarnings}/\text{Assets}) + 1.2 (\text{WorkingCapital}/\text{Assets}) + 0.6 ((\text{StockPrice} * \text{SharesOutstanding})/(\text{TotalLiabilities}))$.

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Table 1
Sample Selection

Compustat firm-years with positive assets (2004-2013)	81,730
Less: financial institutions (SIC 6000-6999) and regulated industries (SIC 4400-5000)	(25,072)
Less: firm-years without AuditAnalytics identifiers	<u>(19,382)</u>
Sample used to define “comment letter” and “no comment letter” firms	37,276
Drop firm-years with missing data for equations (5) and (6)	<u>(28,103)</u>
Sample used in Table 3	9,173
Less: “comment letter” firms without a sufficient “no comment letter” matched firm	<u>(4,694)</u>
Sample used in Table 4	4,479

Table 2
Descriptive Statistics

Variable	Mean	Median	Std Dev	Q1	Q3
AbnormalAccruals	0.015	0.015	0.127	-0.030	0.060
AbnormalCFO	-0.016	0.042	0.619	-0.054	0.137
AbnormalDisExpense	-0.138	-0.124	0.474	-0.315	0.015
AbnormalProduction	-0.076	-0.007	0.353	-0.070	0.004
REMCombined	-0.211	-0.102	1.017	-0.402	0.101
MarketShare	0.064	0.007	0.151	0.001	0.048
ZScore	4.107	3.509	7.253	2.207	5.513
Inst	0.024	0.000	0.136	0.000	0.000
MTR	0.276	0.350	0.121	0.204	0.350
Big4	0.702	1.000	0.457	0.000	1.000
AuditTenure	0.716	1.000	0.451	0.000	1.000
NOA	0.490	0.000	0.500	0.000	1.000
Cycle	152.710	125.843	530.588	87.120	173.683
ROA	0.022	0.052	0.293	0.000	0.099
Assets	4221.500	573.918	11758.550	104.608	2508.870
MtoB	2.514	1.892	26.019	1.164	3.092
Earn	353.687	18.644	1902.310	-0.351	128.822
ChangeGDP	0.038	0.046	0.026	0.026	0.060
MVE	4892.040	564.126	14140.810	88.646	2518.890

This table presents the descriptive statistics for the sample used in Table 3. N = 9,173.

Table 3
Receipt of a Comment Letter and Earnings Management

	DV = REM Combined (1)	DV = Abnormal Accruals (2)
Intercept	-0.6403*** (<.0001)	0.0205*** (0.0006)
CommentLetter	0.1006*** (<.0001)	-0.0061** (0.0174)
MarketShare	0.1164 (0.1139)	-0.0094 (0.2819)
ZScore	0.0083*** (<.0001)	0.0001 (0.5896)
Inst	0.0833 (0.2831)	-0.0112 (0.2268)
MTR	0.9094*** (<.0001)	0.0612*** (<.0001)
Big4	-0.0066 (0.8306)	-0.0180*** (<.0001)
AuditTenure	0.1408*** (<.0001)	-0.0049 (0.1129)
NOA	-0.0175 (0.4215)	-0.0204*** (<.0001)
Cycle	-0.0001*** (0.0029)	0.0000*** (<.0001)
ROA	0.0932*** (<.0001)	0.1400*** (<.0001)
Assets	0.0276*** (<.0001)	-0.0005 (0.5948)
MtoB	-0.0005 (0.2201)	0.0001 (0.2666)
Earn	-0.0000* (0.0706)	0.0000*** (0.0005)
Pred_REMCombined		-0.0031*** (<.0001)
Unexp_REMCombined		-0.0031*** (<.0001)
Year Indicators	YES	YES
N	9,173	9,173
Adjusted R ²	7.02%	9.28%

This table presents the OLS regression results of Models (5) and (6), i.e., the association between the receipt of a comment letter and REM (Column (1)) and AEM (Column (2)). *, **, *** indicate two-tailed significance at the 10%, 5%, and 1% levels, respectively. See Appendix for variable definitions.

Table 4
Receipt of a Comment Letter and Earnings Management: A Difference-in-Differences Design

	DV = REMCombined (1)	DV = AbnormalAccruals (2)
Intercept	-0.5776*** (<.0001)	0.0087 (0.2625)
CL	0.3417*** (<.0001)	0.0080 (0.3063)
Post	-0.1145 (0.1731)	0.0154 (0.1792)
CL*Post	0.1563* (0.0893)	-0.0221* (0.0787)
Big4	0.2271*** (<.0001)	-0.0037 (0.4226)
ChangeGDP	-3.6591*** (<.0001)	0.0767 (0.3813)
MVE	0.0000*** (<.0001)	0.0000 (0.1296)
Year Indicators	YES	YES
N	4,479	4,479
Adjusted R ²	4.15%	0.20%

This table presents the OLS regression results of Models (7) and (8), i.e., the association between the receipt of a comment letter and REM (Column (1)) and AEM (Column (2)) using the difference-in-differences research design where each comment letter firm is size-matched with a no comment letter firm in the same year. *, **, *** indicate two-tailed significance at the 10%, 5%, and 1% levels, respectively. See Appendix for variable definitions.