Do firms reduce earnings management after a critical audit matter disclosure? Evidence from tax accounts

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ABSTRACT: Prior research finds that critical audit matter (CAM) disclosures have fallen short of their primary objective to make audit reports more informative to investors (e.g., Burke, Hoitash, Hoitash, and Xiao 2020; Files and Gencer 2020; Public Company Accounting Oversight Board (PCAOB) 2020). In this study, we investigate whether CAM disclosures have achieved a secondary objective, i.e., to benefit investors through increased scrutiny of the financial statement accounts underlying the CAM disclosures. In particular, we investigate whether tax-related CAM disclosures are associated with less tax-related earnings management. Examining the 2019 fiscal year-end disclosures of large-accelerated filers, we find that tax-related CAM disclosures are associated with (1) a lower likelihood that the audited company uses tax expense to meet analysts' consensus forecasts and (2) increases in the reported reserve for prior-period unrecognized tax benefits (UTBs). Our evidence of a disciplinary benefit of CAMs should assist the Public Company Accounting Oversight Board (PCAOB) with their post-implementation review of the new auditor reporting standard.

Keywords: Critical audit matter disclosures, Earnings management, Tax expense, Unrecognized tax benefits

I. INTRODUCTION

The U.S. Public Company Accounting Oversight Board (PCAOB) recently passed a new audit reporting standard requiring auditors to disclose the areas of the audit that involved especially challenging, subjective, or complex auditor judgment—known as critical audit matters (CAMs) (PCAOB 2017). While the primary objective of the new audit reporting standard was to make audit reports more informative to investors, the PCAOB stated that a possible indirect benefit of the standard could be to improve financial reporting quality. In this study, we explore whether the new audit reporting standard has improved financial reporting quality by investigating whether tax-related CAM disclosures are associated with less tax-related earnings management.[1]

Our research question is important because prior academic and regulator research indicates that the new audit reporting standard has fallen short of its primary objective of providing investors with useful incremental information (Files and Gencer 2020; Burke et al. 2020; PCAOB 2020). Finding evidence that the new audit reporting standard has achieved one of its secondary objectives would inform the PCAOB that the new standard has been beneficial. In particular, an association between tax-related CAM disclosures and less tax-related earnings management would confirm the standard-setter's belief that CAMs would result in auditors and managers more closely scrutinizing the underlying matters identified as CAMs (PCAOB 2017).

We focus on the tax setting to examine whether CAM disclosures are associated with financial reporting quality for several reasons. First, the Center for Audit Quality identifies that taxes as the most common category of CAMs among the S&P 100 (CAQ 2020). Among our

[1] We borrow the notion of *indirect* benefits to investors from the PCAOB who expect benefits in the form of increased auditor scrutiny or management focus on the matters identified as CAMs (PCAOB 2017). Furthermore, the literature is mixed on the harmful outcomes of earnings management (e.g., Lo 2008), but we anticipate that scrutiny over specific accounts may reduce opportunities for using those accounts to manage earnings.

sample, more than 21 percent of companies have one or more tax-related CAMs. Second, tax CAM disclosures can be easily linked to a company's tax-related financial statement disclosures enabling us to detect a financial reporting effect if one were to exist. Additionally, taxes are one of the largest expenditures for most companies, and the financial accounting rules for income taxes allow for significant managerial judgement. In particular, the complexities of tax reporting provide management with opportunities to manage earnings (e.g., Phillips, Pincus, and Rego 2003; Dhaliwal, Gleason, and Mills 2004; Gupta, Laux, and Lynch 2016) and thus, in turn, are an area where additional scrutiny could constrain misreporting. Finally, detailed tax disclosures allow for comparison of the CAM-related accounts across companies and time.

As 2019 is the first fiscal year in which auditors of large-accelerated filers are required to disclose CAMs, we gather the CAM disclosures for fiscal year 2019 of all large-accelerated filers available as of March 19, 2020.[2] To examine our research question, we construct a two-year sample that includes fiscal years 2018 (i.e., the year prior to CAM reporting) and 2019 (i.e., the first year of CAM reporting) for such filers. We then separate companies into those with a tax-related CAM reported for the fiscal year 2019 and those without.[3] We begin with univariate analysis that examines whether companies with tax-related CAMs are less likely to use tax expense to meet analysts' earnings forecasts in the post-CAM disclosure period than in the pre-CAM period. Similar to Gupta et al. (2016) we examine whether companies miss earnings forecasts using unmanaged (i.e., analyst-forecasted) tax expense, but meet after-tax earnings forecasts. We compare companies with and without tax-related CAMs in the pre- and post-CAM

[2] We focus on large-accelerated filers because they were the only companies subject to CAM disclosure requirements for fiscal-year ends on or after June 30, 2019. In robustness tests, we include all companies and document similar inferences. Additionally, we end our sample collection on March 19, 2020, to avoid any pandemic-related time period effects from tainting our results including potential financial reporting or tax effects of the pandemic and the CARES Act as well as any effects of auditor COVID-19 "stay-at-home" orders.

[3] We eliminate 115 large-accelerated filers without a CAM disclosure as the PCAOB expected each company to have at least one CAM. We include these companies in a sensitivity test in Section V.

periods. In univariate tests and a logistic regression, we find a significant decrease in the likelihood that companies with one or more tax-related CAM use tax expense to meet analyst earnings forecasts in the post-CAM period but fail to find a similar change among companies without a tax-related CAM. We validate these findings using the model in Dhaliwal et al. (2004), which examines the association between tax-related CAM disclosures and companies' use of third-to-fourth-quarter effective tax rate (ETR) adjustments to meet analyst forecast targets. Again, we provide evidence suggesting that companies with tax-related CAMs adjust fourth-quarter ETRs to manage earnings in 2018, but not in 2019 when the auditor discloses the tax-related CAM.

Next, we examine one particular tax account subject to managerial discretion. Specifically, we examine whether the disclosure of tax-related CAMs affects the reporting of unrecognized tax benefits (UTBs). FIN No. 48, *Accounting for Uncertainty in Income Taxes* (FIN 48) requires companies to estimate, record, and disclose a contingent liability for unrecognized tax benefits in their financial statements when management determines that the likelihood of sustaining a tax position following a tax authority audit falls below the "more-likely-than-not" threshold.[4] The complexities and managerial discretion involved in estimating UTBs make them an ideal setting to test how CAM disclosure affects financial reporting. We obtain the UTB balances for fiscal years 2018 (prior to the CAM reporting requirement) and 2019 (following the CAM reporting requirement). We find that tax-related CAM disclosures are associated with revisions to the UTB liability related to prior-period tax positions, a revision which requires a change in judgement related to a tax position taken in a prior tax period. Following Drake, Goldman, and Lusch (2016), we interpret the revisions related to prior-period

[4] FIN 48 is codified as ASC 740-10.

tax positions as evidence of a change in estimate, plausibly related to auditor or management scrutiny of the accounts underlying the CAM disclosure.

Finally, we perform two additional tests aimed to identify whether the observed changes in tax-related earnings management result from increased auditor or management scrutiny. In particular, we examine whether (1) auditor effort (as measured by audit fees) increased in the year of the tax-related CAM disclosure, and/or (2) management changed the content of the tax footnote disclosure in the year of the tax-related CAM disclosure. We are unable to document an increase in audit fees associated with the tax CAM disclosure. However, we provide evidence suggesting that management increases the content of the tax footnote disclosure, including greater use of uncertain and complex words. Because financial reports are a joint product of both manager and auditor effort, it is difficult to fully disentangle the two sources of scrutiny. However, our results suggest that external (versus auditor) attention to CAM-related accounts may be the source of the reduction in earnings management.

Our study responds to the PCAOB's call for information on the costs, benefits, or unintended consequences of the implementation of CAMs in the U.S. (PCAOB 2020). While we are unable to quantify the costs of expanded audit reports in the U.S., we are able to document a benefit of CAMs to investors via less tax-related earnings management. We also contribute to the broader literature that examines the outcomes of expanded audit reports. Prior research provides mixed evidence on whether expanded audit reports improve financial reporting quality and/or reduce earnings management. For example, some studies document that expanded audit reports are associated with improvements in financial reporting quality and reductions in earnings management (e.g., Reid, Carcello, Li, and Neal 2019; Santos, Guerra, Antonio, and Junior 2020) while other studies indicate no effect (Gutierrez, Minutti-Meza, Tatum, and Vulcheva 2018;

Bédard, Gonthier-Besacier, and Schatt 2019; Liao, Minutti-Meza, Zhang, and Zou 2019; Burke et al. 2020), or only an effect in certain situations (Klueber, Gold, and Pott 2018). Due to variation in the content of CAMs and how they map into financial reporting quality and earnings management, studies that focus on a pooled sample of all CAMs are limited in their ability to directly infer an association between expanded audit report risk disclosures and changes in reporting. By focusing on one particular account and the related auditor disclosures, we are able to more directly test the financial reporting outcomes associated with expanded audit reports. Our study complements the findings in Lynch, Mandell, and Rousseau (2020) who show that international tax KAMs are associated with a change in the market valuation of deferred taxes and that companies that stop receiving tax KAMs show an improvement in their tax function.

Our study is subject to several caveats. First, because of data availability, we limit our analysis to one year of post-CAM reporting. While this avoids potential confounds of the effects of COVID-19 and the CARES Act on tax reporting, it does not allow us to fully understand any long-term effects of CAM reporting. Additionally, we examine only tax-related CAMs. While this enhances the internal validity of our study, it may limit the generalizability of our findings. However, examining all CAMs and a broader measure of earnings management reduces our ability to closely link any change in reporting to CAM disclosure, and we do not have reason to expect our results would not hold for all types of CAMs and the related accounts.

II. BACKGROUND AND HYPOTHESIS DEVELOPMENT

The New U.S. Audit Reporting Standard

In 2017, the PCAOB issued a new audit reporting standard that requires auditors to disclose the financial statement matters that involved especially challenging, subjective, or

complex auditor judgment, known as critical audit matters (CAMs). The purpose of the new audit reporting standard "is to provide audit-specific information that is meaningful to investors and other financial statement users" (PCAOB 2019, 1). However, prior academic and regulator research indicates that expanded audit reports may have fallen short of this intended objective. For example, the PCAOB's Interim Analysis Report indicates that investors have not responded to the information content in CAMs in the first year of implementation (PCAOB 2020). Similarly, Files and Gencer (2020) and Burke et al. (2020) fail to find any statistically significant price or volume response to the earliest U.S. auditor CAM disclosures, suggesting that expanded U.S. audit reports for large-accelerated filers do not communicate incremental information to investors.

While CAMs may have fallen short of their intended objective to make the auditor's report more informative to investors, the PCAOB notes that a potential alternative *indirect* benefit of expanded audit reporting could be that CAMs result in auditors and managers more closely scrutinizing the underlying matters identified as CAMs (PCAOB 2017). Auditors may increase scrutiny on matters identified as CAMs by applying higher levels of professional skepticism or increasing the amount of substantive audit procedures applied to those areas (ACCA 2018).[5] Such increased auditor attention could result in higher audit quality and/or motivate management to improve the quality of the underlying financial reporting disclosures (PCAOB 2017). Management may improve the quality of their disclosures, anticipating that auditors and investors are likely to scrutinize the accounts and disclosures identified as CAMs.

[5] The evidence on whether the expanded disclosures affect audit effort measured by audit fees is mixed. While Chen, Nelson, Wang, and Yu (2020) find that audit fees increase in the complexity of KAM disclosures in Hong Kong, Gutierrez et al. (2018) fail to find evidence of increased audit fees in response to expanded auditor's reports in the U.K.

Prior research suggests that the indirect disciplinary effect on financial reporting is possible. For example, using an analytical model, Chen, Jiang, and Zhang (2019) show that additional audit quality disclosures can motivate auditors to increase audit effort to avoid liability in the event of audit failure. Reid et al. (2019) find that expanded audit reports in the U.K. are associated with improvement in financial reporting quality as measured by discretionary accruals, a company's propensity to meet or beat consensus analysts' forecasts, and increases in the earnings response coefficient. Fuller, Joe, and Luippold (2019) document that managers react to auditor CAM disclosures by increasing their own disclosures. Finally, Santos et al. (2020) find that Brazilian CAMs are associated with improved financial reporting quality and less earnings management.

Despite these findings, other studies are either (1) unable to document a relation between expanded audit reports and improved financial reporting quality or reduced earnings management or (2) only able to document a relationship under certain conditions. For example, Gutierrez et al. (2018), Bédard et al. (2019), Liao et al. (2019), and Burke et al. (2020) were unable to document that expanded audit reports improved audit and/or financial reporting quality as measured by discretionary accruals. Klueber et al. (2018) found that managers were less likely to engage in earnings management *only* when KAM disclosures in international audit reports are highly precise.

The findings from the studies to date are likely mixed given they are limited in their ability to directly infer the association between expanded audit report risk disclosures and changes in reporting. For example, the Chen et al. (2019) findings relate to variation in auditor disclosures rather than disclosures tied to a company's underlying financial reporting matters. In addition, Reid et al. (2019) examine post-period effects without being able to tie their results

directly to specific accounts or transactions underlying the CAM. Similarly, several other studies (e.g., Gutierrez et al. 2018; Lennox, Schmidt, and Thompson 2021) only examine whether the count of auditor risk disclosures impacts financial reporting quality. By focusing on one particular account and the specific related auditor disclosures, we are able to more directly test the financial reporting outcomes associated with expanded audit reports. In addition, to our knowledge, our study is the first archival study to examine the association between *U.S.*-expanded audit reports and earnings management.

Critical Audit Matters and Tax Accounting

We examine whether the disclosure of a tax-related CAM in a U.S. audit report affects a firm's use of tax expense to manage earnings. We focus on tax-related CAMs and tax-related earning management because (1) tax-related CAMs are relatively common (i.e., taxes are the most frequently disclosed CAM in the S&P 100 (CAQ 2020)); (2) detailed tax disclosures allow us to examine specific accounts subject to discretion and judgement; (3) tax disclosures are relatively consistent across firms, which is not the case for some other CAM items, such as M&A; and (4) tax reporting is economically meaningful.

Taxes represent one of a company's largest cash outflows and one of the largest expenses on the income statement (Armstrong, Blouin, and Larcker 2012). Given different rules and principles that govern GAAP and tax reporting, Graham, Raedy, and Shackelford (2012) argue that accounting for income taxes is one of the more complex areas of financial reporting. Prior literature also documents that taxes account for a significant portion of restatements (Plumlee and Yohn 2010; Seetharaman, Sun, and Wang 2011), and are a common account that generates PCAOB scrutiny (Acito, Hogan, and Mergenthaler 2018; Drake et al. 2016). Furthermore, while evidence suggests that audit offices need to employ a specialized team of auditors to respond to

the unique challenges and risks associated with auditing income taxes (Goldman, Harris, and Omer 2019), other evidence suggests management, and to a lesser degree auditors, affect variation in tax reserves (Koester, Stomberg, Williams, and Xia 2019), thus offering us a unique setting in which to consider CAM reporting effects. Additionally, the nature of tax reporting provides details not available for many other accounts, enabling us to evaluate the effect of CAM reporting in more detail. By focusing on tax-related CAMs disclosures and the reporting of the underlying and associated tax accounts, we are able to more clearly identify one consequence of the CAM reporting standard.

Research documents that companies use tax accounts as an earnings management tool. One stream of literature examines the use of specific tax accounts to meet earnings benchmarks (e.g., Frank and Rego 2006; Cazier, Rego, Tian, and Wilson 2015; Gupta et al. 2016; Krull 2004), while another stream of literature focuses on the use of third- to fourth-quarter ETR changes to meet earnings benchmarks (Dhaliwal et al. 2004). Dhaliwal et al. (2004) argue that, "the combination of judgment in estimating reserves and complex tax rules makes it difficult for financial statement users to evaluate managers' discretionary accruals for tax expense" (435). Thus, the complexities of tax reporting, of compensation incentives related to meeting earnings benchmarks, and the opportunity for management manipulation make fourth-quarter earnings management via the tax expense a fruitful setting to evaluate the effect of tax CAMs on tax accounts.

The disclosure of a tax-related CAM may result in increased auditor or manager scrutiny of the accounts underlying the CAM. In particular, auditors may give greater attention to tax accounts as part of their procedures to address the tax-related CAM. Likewise, the increased visibility of tax accounts, resulting from CAM disclosure, may cause management to reduce the

use of tax accounts to manage earnings. Thus, we expect that tax-related CAMs result in less tax-related earnings management, and we state our hypothesis as follows:

> **Hypothesis:** Relative to companies without tax-related CAMs, companies with audit reports that disclose tax-related CAMs reduce their use of tax-expense earnings management from the pre- to post-CAM period.

III. RESEARCH DESIGN

Sample and Descriptive Statistics

We present our sample selection in Table 1. We begin by identifying all CAMs disclosed in audit reports for the first fiscal year of the PCAOB's expanded audit reporting requirement (i.e., fiscal years ending on or after June 30, 2019).[6] We end our CAM collection on March 19, 2020 as most COVID-19 pandemic "stay-at-home" orders were effective nationwide by the end of March 2020. Given that most audit reports signed after March 31, 2020, likely represent audits with a non-trivial amount of remote work in a very uncertain operating environment, we did not want our conclusions to be affected by a non-representative event. In addition, ending our data collection process on March 19, 2020, ensures that the tax accounts are not affected by tax law changes in the CARES Act. For each company with a CAM in 2019, we collect data on the prior year (i.e., 2018) to create a two-year sample for each company. For our main analysis, we require a Compustat and IBES match and observations to have positive pretax income and tax expense as losses alter companies' tax incentives (Dyreng, Hanlon, and Maydew 2008). We exclude observations from the financial and utility industries (SIC 4900–4932 and 6000–6999) and observations missing adequate data for our analysis.[7] Audit Analytics identifies the nature of the

[6] We require a company's auditor to report at least one CAM because the PCAOB guidance suggests that in most audits the auditor will identify at least one CAM (AS 3101). In our additional analysis, we rerun our analysis including companies without a CAM and find that our inferences about earnings management among tax-related CAM companies do not change.

[7] In additional analysis, we expand the number of years of data in the pre-CAM period and find that our inferences about earnings management among tax-related CAM companies do not change.

CAM disclosure and we categorize CAMs relating to deferred taxes, uncertain tax positions, or other taxes as a tax-related CAM. Our final sample includes a two-year balanced panel of 802 companies with CAMs in 2019 with 170 of these companies with one or more tax-related CAMs.

INSERT TABLE 1

Earnings management using tax accounts

To test our hypothesis that tax-related CAMs are associated with a lower likelihood of using income taxes to meet analysts' forecasts, we first present an univariate analysis examining whether, following disclosure of a tax-related CAM, companies are less likely to use tax expense to successfully meet analysts' earnings forecasts. Specifically, similar to Gupta et al. (2016), we identify observations that miss the consensus analyst forecast using forecasted tax expense, but meet forecasted after tax EPS using actual tax expense. We follow the Gupta et al. (2016) methodology and create a variable *TaxEM* set equal to one when *PremanagedEPS* < $AftertaxEPS_{forecast}$, but $AftertaxEPS_{actual} \geq Aftertax\ EPS_{forecast}$.[8] If the disclosure of tax-related CAMs constrains companies' use of tax expense to meet analysts' forecasts, we expect that companies receiving tax CAMs will be less likely to use tax expense to meet analysts' earnings forecasts in the post-CAM period than in the pre-CAM period.

Next, we construct a logit regression predicting *TaxEM* = 1 to test whether the propensity to meet analyst forecast using tax expense changes from the pre-CAM to the post- CAM period for companies receiving a tax-related CAM relative to companies not receiving a tax-related CAM. We construct the following logistic model:

$$TaxEM = \alpha_0 + \beta_1 * TaxCAMCo + \beta_2 * Post + \beta_3 * TaxCAMCo * Post +$$

[8] Gupta et al. (2016) define $PremanagedEPS = PretaxEPS_{Actual}$ (1-$ETR_{forecast}$), where $ETR_{forecast}$ is calculated by dividing the median $AftertaxEPS_{forecast}$ less median $PretaxEPS_{forecast}$ by the median $PretaxEPS_{forecast}$ Their measure of tax earnings management differs from the model below following Dhaliwal et al. (2004).

$$+ \beta_4 * NumCAMs + \beta_5 * Size + \beta_6 * ROA + \beta_7 * FI + \beta_8 * R\&D + \beta_9 * NOLInd + \beta_{10} * \Delta NOL$$
$$+ \beta_{11} * CETR + \beta_{12} * AnalystFollow + \text{Industry Controls} + \varepsilon. \quad (1)$$

If the disclosure of tax-related CAMs affects companies' use of tax expense as an earnings management tool to meet analysts' forecasts, we expect a negative coefficient on *TaxCAMCo*Post*, consistent with less earnings management via tax accounts after disclosure of tax-related CAMs.

Because we examine adjustments to the fourth-quarter ETRs, one critical assumption in our analysis is that companies are aware of the forthcoming (i.e., fourth-quarter) disclosure of a tax-related CAM in the audit report before the close of the fiscal year. Auditors are required to discuss the matters that could result in CAM disclosures with companies' audit committees *before* making a CAM disclosure (PCAOB 2012). In fact, the PCAOB's post-implementation review indicates that all companies in their analysis began discussing CAMs with their auditors as early as 2017 or 2018 (PCAOB 2020). Thus, we are confident that the CAM-related scrutiny did occur early enough to allow for a response before the fiscal year was closed.

Given that management and auditors of tax-CAM companies are aware in advance that taxes will be disclosed as a CAM, if we observe a change in the use of tax accounts for earnings management, we can likely attribute it to the forthcoming *public disclosure* of the CAM. That is, auditors and management were likely aware of the complexities of tax accounts in the pre-CAM period (2017 or 2018) with the only change resulting from the CAM disclosure being that external parties are now made privy to the information. As a result, it is the public disclosure that likely results in increased scrutiny by management and/or the auditor.

IV. PRIMARY ANALYSIS

Descriptive Statistics

Next, in Table 2, we report descriptive statistics of the variables used in Equation (1) for our full sample and the sample partitioned into *TaxCAMCo* = 1 and *TaxCAMCo* = 0. Among the full sample, 21.20 percent of the observations are from companies with a tax-related CAM and the average number of CAMs per company is 1.62. Consistent with tax-related earnings management being a prevalent tool to meet analysts' earnings forecasts, 16.46 percent of our observations engage in tax-related earnings management. When comparing *TaxCAMCo* = 1 companies with *TaxCamCo* = 0 companies, we observe that tax-related earnings management is more common among companies not receiving tax-related CAMs and that companies with tax-related CAMs receive more total CAMs (1.97) on average than companies without tax-related CAMs (1.52). In addition, we note other differences between companies with and without tax-related CAMs, including size, foreign income, research and development activity, net operating losses, cash effective tax rate, and analyst following. As such, in our primary analysis we control for these variables in our regression model. Additionally, in sensitivity tests, we entropy balance the sample on these variables to ensure our results are not driven by these differences between samples.

INSERT TABLE 2

In Table 3, similar to Gupta et al. (2016), we examine the likelihood of companies to miss analysts' earnings forecasts with pre-managed earnings, but meet analysts' earnings forecasts with after-tax earnings. We compare companies with and without tax-related CAMs for both the pre- and post-CAM periods. Overall, we find a significant decrease in the propensity to

use tax expense to meet analysts' earnings forecasts among companies with tax-related CAMs, but do not find evidence of a similar decrease for companies without a tax-related CAM.

INSERT TABLE 3

In Figure 1, we graph the percentage of observations where *TaxEM* = 1 for companies with and without tax-related CAMs from 2015 to 2019.[9] Both *TaxCAMCo* = 1 and *TaxCAMCo* = 0 companies exhibit a downward trend in tax-related earnings management from 2015 to 2017. Then, in 2018, the year before the CAM standard became effective, there is an increase in the percentage of companies that engage in tax-related earnings management. Finally, in 2019, the year the CAM standard became effective, we observe a decrease in the percentage of companies with tax CAMs engaging in tax-related earnings management while there is an increase in the percentage of companies without tax CAMs engaging in tax-related earnings management.

INSERT FIGURE 1

In Table 4, we present the multivariate logit regression results of estimating Equation (1). For our *TaxCAMCo* = 1 observations, we note a significantly lower propensity to meet analyst earnings forecast using tax expense in the post period. The marginal effects suggest an economically meaningful 25.18 percent reduction in tax-related earnings management among companies with tax-related CAMs from the pre- to post-CAM period.[10]

INSERT TABLE 4

[9] We present this figure using a balanced panel over a five-year time period instead of the two-year sample used in our primary analysis to present long-run pre-CAM period trends in *TaxEM*.

[10] We calculate the marginal effects as follows: intercept = 0.1464, *TaxCAMCo* = 0.0339, *Post* = 0.0325, *TaxCamCo*Post* = -0.0779. The decrease for *TaxCAMCo* = 1 companies is then calculated as (0.0325 + -0.0779) / (0.1464 + 0.0339) = 25.18 percent.

Increased manager or auditor scrutiny?

The PCAOB (2017) notes that the new auditing reporting requirements could indirectly benefit investors if the communication of CAMs leads auditors and/or managers to increase their focus on the matters underlying the CAMs. In particular, auditors may increase audit effort related to the CAM-related matters to ensure that they have obtained sufficient audit evidence to support their audit opinion (PCAOB 2017). Similarly, management may improve the quality of disclosures related to matters identified as CAMs as a result of the heightened attention placed on the CAM-related financial statement areas (PCAOB 2017). Because financial reports are a joint product of both manager and auditor effort, it is difficult to fully disentangle whether the change in tax-related earnings management is driven by one party versus the other. Even so, we perform several additional analyses to explore whether the reduction in earnings management is *primarily* driven by the auditor or management. In particular, we examine whether the receipt of a tax-related CAM is associated with changes in the quality of a company's tax footnote disclosure and/or changes in audit fees. Specifically, we use textual analysis to compare companies' tax footnotes between the pre-CAM and post-CAM periods and examine audit fee changes across the same time period.[11]

We present the results of this analysis in Table 5. In Panel A, we present univariate analysis comparing changes in tax footnote disclosure and audit fees between *TaxCAMCo* companies and non-*TaxCAMCo* companies in the pre- and post-CAM disclosure period. In particular, we examine whether (1) managers increased the length of their income tax footnote measured by the number of words (*IncWordCount* = 1), (2) whether the language managers use in the income tax footnote becomes more uncertain measured as the ratio of uncertain words to

[11] We thank Rani and Udi Hoitash for providing parsed text from financial statement footnotes at: http://www.xbrlresearch.com/financial-statement-notes/.

total words (*IncUncertainWords* = 1), and (3) whether managers' disclosures in the income tax footnote include more complex words and longer sentences as measured by the Fog index (*IncFOG* = 1).[12]

Consistent with changes in income tax footnote disclosure accompanying reductions in the use of tax-related earnings management, among *TaxCAMCo* observations we find an increase from the pre-CAM to post-CAM period in propensity to increase the number of words and the ratio of uncertain words to total words in income tax footnote disclosures. We do not find a change in the propensity to increase the complexity of the footnote disclosure as measured by an increase in the Fog index. In the pre-CAM period, *TaxCAMCo* observations were significantly less likely than observations without tax-related CAMs to increase the word count and the ratio of uncertain words to total words in their tax footnote, but not the complexity of the footnote disclosure. However, in the post-CAM period, we observe that *TaxCAMCo* observations are significantly more likely than companies without tax-related CAMs to increase the word count of their income tax footnote, increase the ratio of uncertain words to total words in their income tax footnote, and to increase the complexity of their income tax footnote disclosure. Finally, in our test of audit fees, we observe very little difference in the percent of companies with an increase in audit fees between companies with and without tax-related CAMs between the pre- and post-CAM periods. In fact, companies without a tax-related CAM have a decreased likelihood of increased audit fees in the post-CAM period. Overall, the univariate evidence in Table 5 Panel A suggests changes in tax footnote disclosure, but not a change in audit fees among firms with tax-related CAMs.

[12] We thank Loughran and McDonald for making word dictionaries that allow us to identify the uncertain and complex words needed to calculate our textual analysis variables of interest. These dictionaries are available at: https://sraf.nd.edu/textual-analysis/resources/#LM%20Sentiment%20Word%20Lists.

In Panel B, we conduct regression analysis for our textual analysis variables and for audit fees. Columns (1) through (3) of Panel B present the results of logistic regressions the dichotomous variables *IncWordCount*, *IncUncertainWords*, and *IncFOG*, respectively. These variables capture whether the company increased the number of words, the uncertainty, and the complexity of its tax footnote disclosure between t-1 and t. Controls for the textual analysis regressions are based on Li (2008) and are fully defined in the appendix. Consistent with the univariate results in Panel A, the positive and significant coefficient on *TaxCamCo*Post* in Columns (1) and (2) suggest that in the post-CAM period companies with tax-related CAMs are more likely to increase the word count and the ratio of uncertain words to total words in their income tax footnotes relative to companies without tax-related CAMs. Column (4) of Panel B presents the results of our logistic regression for the dichotomous variable *IncAuditFees,* which is set equal to one if the company's audit fees increased from t-1 to t. Controls for our audit fee model are based on Erickson, Goldman, and Stekelberg (2016) and are fully defined in the appendix. We choose to follow their model because they examine the association between audit fees and UTBs and include relevant tax-related measures. Consistent with the univariate results in Panel A, we observe the coefficient on *TaxCAMCo*Post* is insignificant, suggesting that disclosure of tax-related CAMs is not associated with an increase in audit fees in the post-CAM period.[13] Overall, the results in Table 5 suggest that a change in management's tax footnote disclosure occurred as a result of the disclosure of a tax-related CAM. Again, because financial reports are a joint product of both manager and auditor effort, it is difficult to identify which party is the source of the disclosure change; in fact, the change in disclosure could be a result of

[13] Our inferences are similar when we examine audit fee levels rather than audit fee changes. In particular, the coefficient on the interaction of *TaxCAMCo*Post* is insignificant when the log of audit fees is the dependent variable.

effort changes by both parties. Because we fail to identify a significant increase in audit fees in the year of the Tax CAM disclosure, the best we can do is conclude that *external scrutiny* has changed manager disclosure with little observed effect on audit effort.

INSERT TABLE 5

Reserve for Unrecognized Tax Benefits (UTB)

We next consider whether the disclosure of a tax-related CAM affects company reporting of specific tax accounts that are subject to managerial discretion. FIN No. 48 requires companies to estimate, record, and disclose a contingent liability for unrecognized tax benefits when management determines that the likelihood of sustaining a tax position upon audit falls below the more-likely-than-not threshold. Cazier et al. (2015) suggest that, given the complexity and uncertainty associated with tax positions, managers may use discretion in establishing tax reserves.[14] De Simone, Robinson, and Stomberg (2014) document considerable variation in UTB reporting for the same underlying transactions, suggesting that complex transactions and managerial discretion lead to divergent reporting. In our analysis, we follow the reasoning in Drake et al. (2016), who demonstrate that PCAOB scrutiny over audits of tax accounts results in changes to UTB balances, concentrated in revisions to the estimate related to prior-period tax positions.

To examine the association between the disclosure of tax-related CAMs and UTBs, we use two distinct tests. First, we consider whether companies alter their UTB balances when a tax-related CAM is disclosed. Second, we decompose the change in UTB into its components, which are available in the annual UTB rollforward disclosure.

[14] Cazier et al. (2015) fail to find evidence that the disclosure of tax reserve information required under FIN 48 reduces companies' use of tax reserves to meet annual analysts' forecasts. By contrast, Gupta et al. (2016) find decrease in companies' use of tax reserves to meet quarterly benchmarks in the post-FIN 48 period.

To examine whether the disclosure of tax-related CAMs influence UTB reporting, we estimate the following ordinary least squares linear regression model:

$$\Delta UTB \text{ or } UTBComponents = \alpha_0 + \beta_1 * TaxCAMCo + \beta_2 * Post + \beta_3 * TaxCAMCo * Post + \sum \beta_{4\text{-}k} * \Delta Controls + \varepsilon. \quad (2)$$

We measure our dependent variable, ΔUTB, as the change in the UTB reserve scaled by total assets, following prior literature (Hutchens and Rego 2015). We control for known determinants of UTBs (Drake et al. 2016). We also consider the individual components of the annual UTB rollforward as these provide additional insight into the changes resulting from the disclosure of a tax-related CAM. The components include increases to the reserve associated with current-period tax positions (*CY_Inc*), increases and decreases to the reserve related to tax positions taken in prior years (*PY_Inc* and *PY_Dec*), reductions in the reserve associated with settlements with tax authorities (*Settle*), and reductions in the reserve associated with expirations of statutes of limitations (*SOL*). As Drake et al. (2016) argue, the change in the reserve for prior-period positions is a particularly fruitful account to examine the effect of scrutiny as the tax position has already been taken; thus, revisions to the reserve for prior-period positions reflect a change in management's estimate and/or increases in the reserve as a result of increased auditor scrutiny.

In addition, we include controls (fully defined in the appendix) for the determinants of UTB and other income tax accounts from prior literature (e.g., Cazier, Rego, Tian, and Wilson 2009; McGuire, Omer, and Wang 2012; Hanlon, Maydew, and Saavedra 2017; Christensen, Olson, and Omer 2015). We also include a control for the companies' annual cash effective tax rate (*ETR*) to control for the relation between the UTB liability and the level of tax avoidance. We construct change measures of all determinants as the change from year t-1 to t scaled by total

assets in year t-1. We include industry fixed effects using the Fama-French 17 industry classification, and use heteroskedastic corrected standard errors clustered at the company-level. Finally, we include a control for the total number of CAMs received by the company to control for the overall audit complexity.

In Table 6 Panel A, we present the descriptive statistics for the variables used in our UTB analysis in the full sample and partitioned into *TaxCAMCo* = 1 and *TaxCAMCo* = 0 subsamples. The mean level of UTB as a percent of assets in the sample is 0.91, with a mean of 1.73 for tax CAM companies and a mean of 0.69 for non-tax CAM companies. Consistent with the level of UTBs being higher, on average, for tax-CAM companies, all six UTB reconciliation components are also higher, on average, for tax-CAM companies.

Table 6 Panel B presents the results of estimating Equation (2). The positive coefficient on *TaxCAMCo*Post* in Column (1) indicates that companies with tax-related CAMs, relative to companies without tax-related CAMs, increased UTBs in the year the tax-related CAM was disclosed more so than in the year prior to disclosure. Additionally, when we break the change in UTB into its components (Columns (2)–(6)), we note, in Column (3), that the change in UTB is driven by increases to the reserve for tax positions taken in prior periods. FIN 48 specifically highlights that this UTB component reflects a change in judgement about positions taken in prior periods (paragraph 13). As Drake et al. (2016) note, changes in the reserve related to prior-year tax positions are informative about intentional revisions to the reserve because the tax positions themselves cannot be changed, but increases in the reserve reflect revisions to expectations about the likelihood of sustaining the reserve upon review by tax authorities. The significant coefficient on *PY_Inc* and the insignificant coefficient on *PY_Dec* suggest that in the year of the tax-related

CAM disclosure, Tax CAM companies systematically revise the estimates upward, consistent with management and auditor focus on the UTB.

INSERT TABLE 6

V. ROBUSTNESS TESTS

Last Chance Earnings Management

Next, we employ an alternative tax-related earnings management model to ensure our results are not driven by the choice of model. In this analysis we follow Dhaliwal et al. (2004), who specifically analyze whether companies reduce their ETRs from the third to the fourth quarter to increase reported income and meet analysts' forecasts.[15] They focus on the fourth quarter change in ETRs as taxes are one of the last accounts closed, offering management a "last chance" to manage earnings. We expand their multivariate model to examine whether the disclosure of tax-related CAMs affects companies use of tax accounts to manage earnings. We construct the following ordinary least squares linear regression model:

$$\begin{aligned} ETR4\_ETR3 = {} & \alpha_0 + \varphi_1 * Miss + \varphi_2 * Miss\_Amount + \varphi_3 * TaxCAMCo + \varphi_4 * Post \\ & + \varphi_5 * Miss\_Amount * Post + \varphi_6 * TaxCAMCo * Post + \varphi_7 * TaxCAMCo * Miss\_Amount \\ & + \varphi_8 * TaxCAMCo * Miss\_Amount * Post + \varphi_9 * Induced\_Chg\_ETR + \varphi_{10} * Tax\_Owed \\ & + \varphi_{11} * EtrQ3 + \varphi_{12} * NumCAMs + \varepsilon. \end{aligned} \quad (3)$$

Where *ETR4_ETR3* is the change in annual ETR from the third to fourth quarter, *Miss* is an indicator set equal to one if the I/B/E/S consensus forecast estimate less earnings absent tax expense management is greater than zero, and 0 otherwise. *Miss_Amount* is the I/B/E/S

[15] Dhaliwal et al. (2004) regress the change in ETR from Q3 to Q4 on the incentive to manage earnings via the tax account and they attribute any association to earnings management. However, companies could increase ETR from Q3 to Q4 in a response to earnings management incentives and still not meet their earnings benchmark. Thus, our alternative model's dependent variable takes a value of one when the company misses the earnings benchmark using Q3 ETR but meets the earnings benchmark using Q4 ETR. This ensures that our dependent variable only captures companies that adjusted Q4 ETR enough to meet their earnings benchmark.

consensus forecast estimate less earnings absent tax expense management. Since third-quarter ETR is management's approximation of year-end ETR, managers will adjust fourth-quarter ETR upward or downward when there are unexpected changes to pre-tax earnings. Thus, we include *Induced_Chg_ETR* to control for the tax effect of unexpected pre-tax earnings. *Tax_Owed* is the extent of overpayment or underpayment of estimated taxes based on taxes owed, and *EtrQ3* is the reported third-quarter ETR.[16] Again, our variable of interest is *TaxCAMCo,* an indicator set equal to 1 for companies with a tax-related CAM in 2019, and 0 otherwise. All variables follow Dhaliwal et al. (2004) and are fully defined in the appendix.[17] Consistent with the findings in Dhaliwal et al. (2004), we expect a negative coefficient on *Miss_Amount,* indicating that companies manage reported tax expense downward to meet earnings targets. Again, consistent with our primary analysis, the indicator *Post* is set equal to one for fiscal year 2019 and thus captures the year in which CAM disclosures were first required for Dhaliwal et al. (2004) large-accelerated filers. The interaction between *Post* and *Miss_Amount* captures the change in the use of tax expense management to meet targets from the pre- to post-period. The triple interaction of *TaxCAMCo* and *Miss_Amount* and *Post* captures the differential use of fourth-quarter ETR adjustments as an earnings management tool from the pre- to the post-period for tax CAM companies relative to non-tax CAM companies. The sample cuts for the Dhaliwal et al. (2004) test are very restrictive, resulting in a sample of 408 observations, which is considerably smaller than our primary sample.

[16] Dhaliwal et al. (2004) interact *Miss_Amount* with *Miss* to test for an asymmetric response between companies that exceed and miss their earnings forecasts. We omit this interaction to avoid a four-way interaction in our analysis.
[17] Dhaliwal et al. (2004) eliminate observations that are not within 5 cents per share of the analysts' consensus forecast. However, this significantly restricts our sample size; thus, we use a 25-cent range to ensure adequate sample size. While this may bias against us finding evidence of earnings management, other studies have similarly altered the Dhaliwal et al. (2004) screens (e.g., Beardsley, Robinson, and Wong 2019; Duxbury 2016).

Table 7 presents the results of our analyses. In Column (1), we present the results of estimating Equation (3) on the sample of companies with and without tax-related CAMs. We note two specific results of interest. First, the coefficient on the interaction of *TaxCAMCo* and *Miss_Amount* is negative and significant, suggesting that before the disclosure of the tax-related CAM, tax CAM companies appear to use fourth-quarter ETRs as an earnings management tool. The coefficient of interest, *TaxCAMCo*Miss_Amount*Post* is positive and significant, suggesting that after the disclosure of tax-related CAMs, these tax CAM companies, relative to companies without tax-related CAMs, appear to have reduced the use of ETRs as a fourth-quarter earnings management tool to meet analyst earnings forecasts.

In Columns (2) and (3), we modify Equation (3) and test the *TaxCAMCo* = 1 subsample separately from the *TaxCAMCo* = 0 subsample. The results in Column (2) similarly indicate that after the disclosure of tax-related CAMs, tax CAM companies reduce their use of fourth-quarter ETRs to meet analyst earnings forecasts. By contrast, the sample of non-tax related CAM companies does not appear to use fourth-quarter ETRs as an earning management tool in the pre-CAM disclosure period. However, the negative coefficient on *Miss_Amount*Post* suggests that these companies use fourth-quarter ETRs as an earnings management tool in the CAM period. In Column (2), an F-test of whether the sum of the coefficient on *Miss_Amount* and *Miss_Amount*Post* is significantly different than zero is insignificant, suggesting that companies with tax-related CAMs no longer engage in earnings management via tax expense in the post-CAM period (F-stat = 1.12, p = 0.29).

INSERT TABLE 7

Entropy Balancing

Consistent with the findings in Lynch et al. (2020), we observe a number of underlying differences between companies with tax-related CAMs and those without tax-related CAMs. As a result, we estimate Equation (1) using an entropy balanced sample. Entropy balancing creates a pseudo-control group that is balanced on all the covariates in our sample, but that differs on the variable of interest (i.e., *TaxCAMCo*). In Table 8 Panel A, we present the covariate balance for our entropy balanced sample. Consistent with a good balance, we note that all covariates in the model are nearly identical in terms of mean, variance, and skewness across companies with tax-related CAMs and those without tax-related CAMs. In Panel B, we present the results of estimating Equation (1) on our entropy balanced sample. Consistent with our primary analysis, we note that the coefficient on *TaxCamCo*Post* is negative and significant, suggesting that companies with tax-related CAMs reduce their use of tax-related earnings management in the post-CAM period relative to companies without tax-related CAMs. These results provide some assurance that our results are not driven by underlying differences between companies that receive a tax-related CAM and those that do not.

INSERT TABLE 8

Propensity to Meet Forecasts Without Tax Expense Management

It is plausible that managers who decrease their use of tax-related earnings management to meet analysts' forecasts will seek other means to manage earnings. If managers can increase pretax earnings via pretax earnings management, then they can meet after-tax earnings targets without having to manage tax expense. Thus, in Table 9, we examine whether the propensity to meet analysts' forecasts without tax expense management changes from the pre- to post-CAM period. To conduct this analysis, we define *Meet_NoTaxEM* equal to one if $PretaxEPS_{actual}$(1-

$ETR_{forecast}$) > $AftertaxEPS_{forecast}$, suggesting that the company was able to meet forecasted EPS without managing its tax expense. Across three samples (our two-year constant sample, a two-year non-constant sample, and a five-year non-constant sample) we do not observe a significant increase in the propensity to meet analysts' forecasts without tax expense management among companies receiving a tax-related CAM. These results suggest that managers are not simply trading off one earnings management tool (i.e., taxes) for another.[18]

INSERT TABLE 9

Alternative Samples

Table 10 repeats our earnings management test using alternate samples. First, we relax the restriction of a balanced panel, and include non-large accelerated filers, companies without a CAM, and include a five-year sample that includes four years in the pre-CAM period. Across all specifications, we continue to find a negative and significant coefficient on *TaxCAMCo*Post*, capturing a reduced propensity among companies with tax-related CAMs to use the tax expense to meet analyst forecasts in the post-CAM period relative to companies without tax-related CAMs. Our primary sample excludes large-accelerated filers that do not report CAMs as the PCAOB's assurance standard regarding CAMs anticipates that all companies should have at least one CAM (AS 3101). Thus, large-accelerated filers without a CAM may have unique company and/or audit characteristics. By excluding them from our primary sample, we maintain a cleaner control sample of companies with non-tax CAMs versus a control sample that includes both companies with non-tax CAMs and companies without CAMs. Accelerated and non-accelerated filers were excluded from the control group in our primary sample because they were not yet subject to the CAM guidelines. Nonetheless, when we include large-accelerated filers without

[18] In untabulated analysis, we replace *TaxEM* with *Meet_NoTaxEM* in Equation (1) and find similar inferences to the univariate findings in Table 9.

CAMs and smaller filers in our control sample, the inference from our earnings management tests are unchanged.

INSERT TABLE 10

VI. CONCLUSION

We investigate whether the disclosure of a tax-related CAM by the auditor affects the reporting of income tax accounts. Prior literature documents that companies use income tax expense to meet analyst forecasts. We contribute to this literature by documenting that the disclosure of a tax-related CAM appears to reduce the use of tax expense as an earnings management tool. Additionally, we observe that companies with tax-related CAMs alter their reporting of UTBs via positive adjustments related to prior-period tax positions. Taken together, these results support the PCAOB's expectation that expanded audit reporting could indirectly benefit investors by increasing management and auditor scrutiny of the matters underlying CAMs. This finding is important as prior research on expanded audit reporting largely finds that expanded audit reports have fallen short on their ability to inform investors (e.g., Burke et al. 2020; Gutierrez et al. 2018; Bédard et al. 2019; Liao et al. 2019).

We also provide evidence that the tax-related CAM reduction in earnings management is associated with increased tax footnote disclosure measured as word count, uncertainty, and complexity. However, we fail to find evidence of an increase in audit fees. These results suggest the reduction in earnings management results from management's awareness of the increased attention to tax accounts resulting from the CAM disclosure, rather than from increased auditor effort and/or scrutiny of the tax accounts.

Our results are subject to several caveats. First, because CAM reporting was effective for large-accelerated filers with fiscal years ending on or after June 30, 2019, we have a limited sample in which to fully examine the long-range outcomes of CAM disclosures. Additionally, while we argue that focusing on tax-related CAMs and tax outcomes allows us to more clearly identify an association between the CAM disclosure and the outcome of interest, it is possible that the tax-related CAM disclosures are unique and not representative of other CAMs. Finally, because of data limitations, we have a small sample of large-accelerated filer companies. To the extent the results we document do not generalize to all companies, the disclosure effect we document may be concentrated among these large companies. However, the effect we document is consistent with the expectations of the PCAOB that CAMs increased management and auditor scrutiny of the matters underlying CAMs.

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Appendix: Variable descriptions

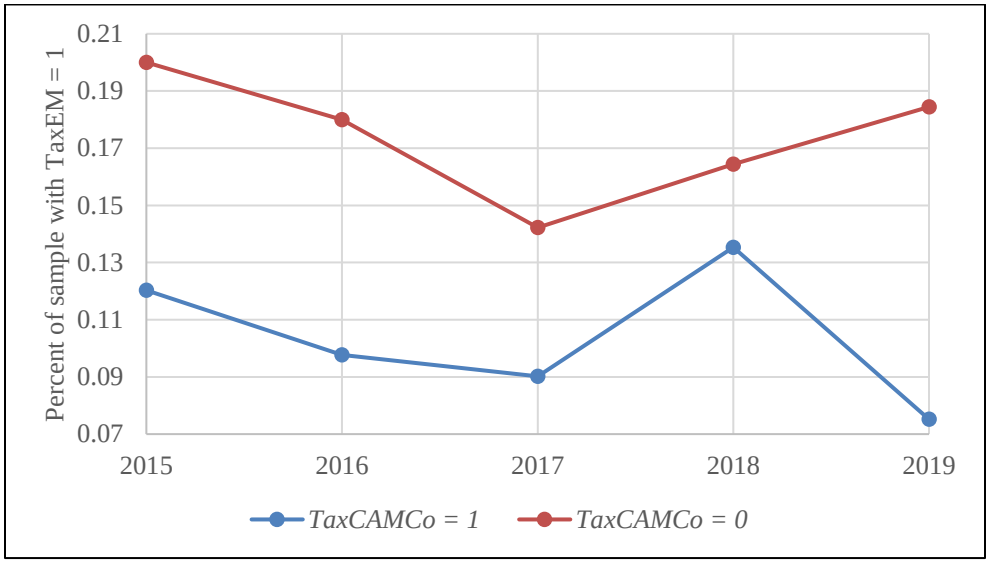
Variable	**Description**
TaxCAMCo	A dichotomous variable that equals one if a tax-related issue was identified as a critical audit matter during the year, and equals zero otherwise.
TaxEM	Following Gupta et al. (2016) dichotomous variable that equals one if *PremanagedEPS actual* < *AftertaxEPS forecast* and *AftertaxEPS actual* > *AftertaxEPS forecast*, zero otherwise. *PremanagedEPS* is measured as $PretaxEPS_{Actual}$ (1-$ETR_{forecast}$), where $ETR_{forecast}$ is obtained from I/B/E/S by dividing the median $AftertaxEPS_{forecast}$ less median $PretaxEPS_{forecast}$ by the median $PretaxEPS_{forecast}$
NumCAMs	A count of the total number of CAMs issued to the company in a given year as downloaded from Audit Analytics.
Size	Natural log of total assets (AT).
ROA	Income before extraordinary items (IB) divided by average total assets from t-1 to t (AT).
FI	Pre-tax foreign income (PIFO) divided by prior-year total assets (AT).
R&D	Research and development expense (XRD) divided by prior-year total assets (AT).
NOLInd	A dichotomous variable that equals one if tax-loss carryforwards (TLCF) are greater than zero, and zero otherwise.
ΔNOL	Tax-loss carryforwards (TLCF) less prior year tax-loss carryforwards (TLCF) divided by prior-year total assets (AT).
CETR	Cash taxes paid (TXPD) divided by pre-tax income (PI) net of special items (SPI).
AnalystFollow	The number of analyst following, obtained from the I/B/E/S dataset.
Increased Manager or Auditor Scrutiny Analysis Variables	
IncWordCount	Using textual analysis of Company tax footnotes, comparing 2019 to 2018, indicator variable set to one if the Company increased the raw number of words in the tax footnote, zero otherwise.
IncUncertainWords	Using textual analysis of Company tax footnote, comparing 2019 to 2018, indicator variable set to one if the Company increased the ratio of uncertain words to total words, zero otherwise, following Loughran and McDonald word lists at https://sraf.nd.edu/textual-analysis/resources/#LM%20Sentiment%20Word%20Lists
IncFOG	Following Li (2008) using textual analysis of Company tax footnote, comparing 2019 to 2018, indicator variable set to one if the FOG index of the Company's tax footnote increased from 2018 to 2019, zero otherwise. The FOG index is calculated as (words per sentence + percent of complex words) * 0.4, where complex words are defined as words with three syllables or more (Gunning 1952).
IncAuditFees	From Audit Analytics, an indicator variable set to one if the Company's audit fees increased from 2018 to 2019, zero otherwise.
Age	Number of years since a firm shows up in CRSP
ΔSpecialItems	The change from year t-1 to year t in special items (SPI) scaled by total assets (AT)
ΔEarnVol	The change from year t-1 to year t in the standard deviation of return on assets over the prior three years
ΔGeoSeg	The change from year t-1 to year t in the number of geographic segments
Acquisition	A dichotomous variable that equals one if acquisition costs (AQC) or restructuring costs (RCA) are greater than zero, and zero otherwise
DelawareInc	A dichotomous variable that equals one if the company is incorporated in Delaware, and zero otherwise

Big4	A dichotomous variable that equals one if the company is audited by a Big 4 accounting firm, and zero otherwise
ΔIRisk	The change from year t-1 to year t in the sum of inventory (INVT) and receivables (RECT) scaled by total assets
ΔQuick	The change from year t-1 to year t in the ratio of total current assets (ACT) to total current liabilities (LCT)
Foreign	A dichotomous variable that equals one if the company has nonzero pre-tax foreign income (PIFO) in the current year, and zero otherwise
ΔZScore	The change from year t-1 to year t in the Altman (1968) bankruptcy prediction score
Litigate	A dichotomous variable that equals one if the company's SIC code indicates that the company operates within a litigious industry, zero otherwise; following Francis and Michas (2013)
ΔNumDays	The change from year t-1 to year t in the number of days from fiscal year-end to issuance of the audit opinion
Restatement	A dichotomous variable that equals one if the company restated its financial statements in the current year, and zero otherwise
ΔBTD	The change from year t-1 to year t in book-tax differences calculated following Hanlon and Heitzman (2010) scaled by total assets (AT)
ΔAbsDAcc	The change from year t-1 to year t in the absolute value of discretionary accruals calculated following Dechow, Sloan, and Sweeney (1995)
AuditorChange	A dichotomous variable that equals one if the company changed auditors in the current year, and zero otherwise
Tenure	Number of consecutive years the company has been audited by the same auditor
ΔNonAuditFees	The change from year t-1 to year t in nonaudit fees paid to the external auditor scaled by total audit fees
YearEnd	A dichotomous variable that equals one if the company has a calendar year-end, and zero otherwise
APTS	A dichotomous variable that equals one if the company purchases more than $50,000 of tax services from its external auditor, and zero otherwise
Expert	A dichotomous variable that equals one if the company is audited by an expert auditor; following Francis, Reichelt, and Wang (2005)
Unrecognized Tax Benefits Analysis Variables	
UTB	Total uncertain tax benefits (TXTUBEND) in t scaled by prior-year total assets (AT).
ΔUTB	Total uncertain tax benefits (TXTUBEND) in t minus total uncertain tax benefits in t-1, this difference is scaled by prior-year total assets (AT).
CY_Inc	Increases in the reserve for uncertain tax benefits for positions taken during the current period (TXTUBPOSINC) divided by prior-year total assets (AT).
PY_Inc	Increases in the reserve for uncertain tax benefits for prior-period positions (TXTUBPOSPINC) divided by prior-year total assets (AT).
PY_Dec	Decreases in the reserve for uncertain tax benefits for prior-period positions (TXTUBPOSPDEC) divided by prior-year total assets (AT).
Settle	Decreases in the reserve for uncertain tax benefits resulting from settlements with tax authorities (TXTUBSETTLE) divided by prior-year total assets (AT).
SOL	Decreases in the reserve for uncertain tax benefits resulting from the lapse of the applicable statute of limitations (TXTUBSOFLIMIT) divided by prior-year total assets (AT).
PPE	Net property, plant, and equipment (PPENT) divided by prior-year total assets (AT).

Cash	Cash holdings (CHE) divided by prior-year total assets (AT).
EquityInc	Equity income in subsidiaries (EQINC) divided by prior-year total assets (AT).
BTM	Book value of equity (CEQ) divided by market value of equity (PRCC_F*CSHO).
Depr	Depreciation and amortization expense (DP) divided by prior-year total assets (AT).
SGA	Selling, general, and administrative expenses (XSGA) divided by prior-year total assets (AT).
CapEx	Capital expenditures (CAPX) divided by prior-year total assets (AT).
Leverage	Long-term debt (DLTT) divided by prior-year total assets (AT).
Last Chance Earnings Management Analysis Variables	
ETR4_ETR3	Fourth-quarter ETR minus third-quarter ETR. We calculate the ETR as the tax expense (TXT) scaled by pre-tax income (PI) for each quarter.
Miss	A dichotomous variable that equals one if *Miss_Amount* > 0, and equals zero otherwise.
Miss_Amount	The last IBES consensus EPS forecast minus EPS calculated using third-quarter ETR, which is pre-tax income multiplied by one minus third-quarter ETR multiplied by the IBES split factor all divided by common shares outstanding.
Induced_Chg_ETR	Induced tax change divided by pre-tax income (PI), where induced tax change is calculated as the statutory corporate income tax rate (21% in 2018 and 2019) minus third-quarter ETR (TXT/PI) multiplied by unexpected pre-tax income. Unexpected pre-tax income is calculated as IBES actual earnings per share minus IBES consensus earnings per share, this difference is then multiplied the IBES split factor common shares outstanding. This product is then divided by one minus the statutory corporate income tax rate (21% in 2018 and 2019).
Tax_Owed	Income taxes payable (TXP) less income tax refund (TXR) all scaled by pre-tax income.
ETRQ3	Tax expenses (TXT) reported on the third-quarter 10-Q divided by pre-tax income (PI) reported on the third-quarter 10-Q.
Additional Analysis Variables	
Meet_NoTaxEM	Dichotomous variable that equals one if $PretaxEPS_{actual} * (1\text{-}ETR_{forecast}) > AftertaxEPS_{forecast}$, where $ETR_{forecast}$ is obtained from I/B/E/S by dividing the median $AftertaxEPS_{forecast}$ less median $PretaxEPS_{forecast}$ by the median $PretaxEPS_{forecast}$

For variables identified as a change, the change is measured from year t-1 to t and scaled by prior-year assets (t-1)

Figure 1 Time Series Changes in TaxEM = 1



Notes: This figure summarizes the percentage of company-year observations with *TaxEM* = 1 by year, partitioned into samples of *TaxCAMCo* = 1 and *TaxCAMCo* = 0 (n = 2,915). Table 1 summarizes our sample selection criteria and variables are defined in the appendix.

Table 1—Sample Selection
Panel A: *TaxEM* Analysis and UTB Analysis

Restriction	Observations
Companies with 2019 CAM data available in Audit Analytics	2,027
Add 2018 data for these same companies	2,027
Less observations without a Compustat match	(94)
Less observations that are not large-accelerated filers	(160)
Less observations without an IBES match	(252)
Less observation without positive pre-tax income and tax expense	(604)
Less observations in a regulated (financial or utility) industry	(848)
Less observations without data necessary to calculate necessary control variables	(320)
Less observations without two consecutive years of complete data	(172)
Main Earnings Management Sample	1,604

Panel B: Last Chance Earnings Management Analysis (Dhaliwal et al. 2004)

Restriction	Observations
Companies with 2019 CAM data available in Audit Analytics	2,027
Add 2018 data for these same companies	2,027
Less observations without a Compustat match	(94)
Less observations that are not large-accelerated filers	(160)
Less observations without an IBES match	(252)
Less observation without positive pre-tax income and tax expense	(596)
Less observations with difference between the IBES consensus forecast and the actual earnings per share is not within 25 cents per share	(438)
Less observations with earnings absent tax expense management that are not within 25 cents per share of consensus forecast	(1,402)
Less observations in a regulated (financial or utility) industry	(322)
Less observations without data necessary to calculate necessary control variables	(109)
Less observations without two consecutive years of complete data	(273)
Last Chance Earnings Management Sample (Table 7)	408

Notes. This table presents our sample selection process for our main analysis and the last chance earnings management analysis (Table 7).

Table 2—Earnings Management via Tax Expense Sample Descriptives

	Full Sample						*TaxCAMCo* = 1 (N = 340)	*TaxCAMCo* = 0 (N = 1,264)		
Variable	N	Mean	StdDev	25thPctl	50thPctl	75thPctl	Mean	Mean	Diff	t-stat
TaxCAMCo	1,604	0.2120	0.4088	0.0000	0.0000	0.0000	1.0000	0.0000	1.0000	
TaxEM	1,604	0.1646	0.3709	0.0000	0.0000	0.0000	0.1294	0.1741	-0.0446	-1.97**
NumCAMs	1,604	1.6160	0.7540	1.0000	1.0000	2.0000	1.9706	1.5206	0.4500	10.07***
Size	1,604	8.4288	1.4058	7.4182	8.2436	9.3148	8.9243	8.2956	0.6287	7.44***
ROA	1,604	0.1022	0.0756	0.0478	0.0852	0.1337	0.1059	0.1012	0.0047	1.02
FI	1,604	0.0325	0.0435	0.0000	0.0156	0.0500	0.0615	0.0247	0.0368	14.74***
R&D	1,604	0.0287	0.0515	0.0000	0.0045	0.0328	0.0381	0.0262	0.0119	3.81**
NOLInd	1,604	0.7238	0.4472	0.0000	1.0000	1.0000	0.8353	0.6938	0.1415	5.21***
Δ*NOL*	1,604	-0.0110	0.0658	-0.0099	0.0000	0.0006	-0.0038	-0.0130	0.0092	2.29**
CETR	1,604	0.1807	0.1520	0.0917	0.1725	0.2298	0.1931	0.1774	0.0157	1.68*
AnalystFollow	1,604	12.0156	7.5844	6.0000	11.0000	17.0000	14.6206	11.3149	3.3057	7.24***

Notes: This table presents descriptive statistics and results for our earnings management via tax account analysis. We present descriptive statistics of the variables used in Equation (1) on our full sample, and in the sample partitioned into companies with and without a tax-related CAM. We present t-statistics comparing the means of the samples. . *, **, and *** represent significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively. We outline our sample selection in Table 1 and define all variables in the appendix. *, **, and *** represent significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively.

Table 3—Earnings Management via Tax Expense

Two-year Sample (n = 1,604)

Percent *TaxEM* = 1	*TaxCAMCo* = 1	*TaxCAMCo* = 0	Diff (t-stat)
Pre-CAM period	0.1588	0.1598	-0.0010 (-0.03)
Post-CAM period	0.1000	0.1883	-0.0883 (-2.73)***
Diff (t-stat)	-0.0588* (-1.92)	0.0285 (1.34)	

Notes: This table presents comparisons of *TaxEM* between *TaxCAMCo* = 1 and *TaxCAMCo* = 0 samples in the pre- and post-CAM period. We present t-statistics comparing the means of pre- and post-CAM reporting periods. All variables are defined in the appendix. *, **, and *** represent significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively.

Table 4—Earnings Management via Tax Expense Logit Regressions

Dependent Variable *TaxEM* = 1		
Intercept	1.711**	(2.24)
TaxCAMCo	0.257	(0.96)
Post	0.260	(1.60)
*TaxCAMCo*Post*	-0.775**	(-2.08)
NumCAMs	0.074	(0.77)
Size	-0.367***	(-4.19)
ROA	-0.487	(-0.47)
FI	-0.476	(-0.23)
R&D	-1.132	(-0.75)
NOLInd	-0.024	(-0.15)
Δ*NOL*	-1.379	(-1.43)
CETR	0.745*	(1.69)
AnalystFollow	-0.012	(-0.79)
Fixed Effects	Industry (FF17)	
Clustering	Company	
N	1,604	
Pseudo. R sq.	0.057	

Notes: This table presents the results of estimating Equation (1) on the two-year balanced sample. All variables are defined in the appendix. *, **, and *** represent significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively

Table 5—Income Tax Footnote Disclosures and Audit Fees After Receiving a Tax-related CAM

Panel A: Univariate Analysis

Percent *IncWordCount* = 1	*TaxCAMCo* = 1	*TaxCAMCo* = 0	Diff (t-stat)
Pre-CAM period	0.4072	0.5342	-0.1270 (-2.92)***
Post-CAM period	0.7099	0.6350	0.0749 (1.91)*
Diff (t-stat)	0.3027*** (5.78)	0.1008*** (3.74)	

Percent *IncUncertainWords* = 1	*TaxCAMCo* = 1	*TaxCAMCo* = 0	Diff (t-stat)
Pre-CAM period	0.2934	0.3665	-0.0731 (1.75)*
Post-CAM period	0.5494	0.4634	0.0860 (1.95)*
Diff (t-stat)	0.2560*** (4.86)	0.0969*** (4.73)	

Percent *IncFOG* = 1	*TaxCAMCo* = 1	*TaxCAMCo* = 0	Diff (t-stat)
Pre-CAM period	0.4252	0.4023	0.0229 (0.67)
Post-CAM period	0.5000	0.3935	0.1065 (2.45)***
Diff (t-stat)	0.0748 (1.36)	-0.0088 (-0.31)	

Percent *IncAuditFees* = 1	*TaxCAMCo* = 1	*TaxCAMCo* = 0	Diff (t-stat)
Pre-CAM period	0.5824	0.6329	-0.0505 (-1.21)
Post-CAM period	0.5333	0.5608	-0.0275 (0.63)
Diff (t-stat)	-0.0491 (-0.90)	-0.0721*** (-2.60)	

Table 5 (continued)
Panel B: Textual Analysis and Audit Fee Regressions

	(1)		(2)		(3)			(4)	
Dependent Variable	*IncWordCount*		*IncUncertainWords*		*IncFOG*		Dependent Variable	*IncAuditFees*	
Intercept	-0.697**	(-2.08)	-0.890***	(-2.83)	-0.082	(-0.27)	*Intercept*	1.428***	(3.87)
TaxCAMCo	-0.075	(-1.13)	-0.228	(-1.18)	0.054	(0.30)	*TaxCAMCo*	-0.136	(-0.74)
Post	0.905***	(6.80)	0.551***	(4.30)	0.041	(0.32)	*Post*	-0.611***	(-4.31)
*TaxCAMCo*Post*	0.421*	(1.88)	0.378*	(1.76)	0.320	(1.48)	*TaxCAMCo*Post*	0.068	(0.26)
ΔSize	-0.354	(-1.06)	0.185	(0.56)	0.073	(0.23)	*ΔSize*	3.507***	(7.27)
ΔBTM	0.616*	(1.87)	-1.250***	(-3.50)	-0.082	(-0.25)	*Big4*	-0.172	(-0.76)
Age	0.001	(0.31)	-0.002	(-0.73)	0.000	(0.19)	*ΔIRisk*	-1.186	(-0.61)
ΔSpecialItems	-4.093**	(-2.31)	0.867	(0.44)	1.439	(0.71)	*ΔROA*	-1.847	(-1.55)
ΔEarnVol	-0.465	(-0.37)	-0.695	(-0.76)	1.536	(0.95)	*ΔBTM*	-0.691*	(-1.88)
ΔGeoSeg	-0.079***	(-3.47)	-0.040*	(-1.79)	0.036*	(1.88)	*ΔLev*	0.369	(0.86)
Acquisition	-0.087	(-0.74)	0.065	(0.58)	0.269***	(2.61)	*ΔQuick*	-0.092	(-1.45)
DelawareInc	0.213*	(1.77)	0.172	(1.44)	-0.228**	(-2.01)	*FI*	-0.038	(-0.29)
							ΔZScore	0.027	(0.95)
							Litigate	-0.099	(-0.73)
							ΔEarnVol	-0.076	(-0.08)
							ΔNumDays	0.005	(0.76)
							Restatement	0.246	(0.68)
							ΔBTD	1.521*	(1.85)
							ΔAbsDAcc	0.111	(0.10)
							AuditorChange	-0.814**	(-2.40)
							Tenure	-0.004	(-0.85)
							ΔNonAuditFees	-0.533*	(-1.66)
							YearEnd	-0.411***	(-3.09)
							APTS	0.151	(1.25)
							Expert	-0.000	(-0.00)
Fixed Effects	Industry (FF17)		Industry (FF17)		Industry (FF17)		Fixed Effects	Industry (FF17)	
Clustering	Company		Company		Company		Clustering	Company	
N	1,547		1,547		1,547		N	1,584	
Psuedo R sq.	0.064		0.041		0.015		Psuedo R sq.	0.067	

Notes: Panel A of this table presents univariate analysis of changes in disclosure and audit fees associated with the tax-related CAM disclosure. We present univariate analysis comparing Tax CAM companies in the pre- and post-periods. Panel B presents a regression analysis of changes in disclosure and audit fees associated with tax-related CAM disclosure. All variables are defined in the appendix. *, **, and *** represent significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively.

Table 6—Unrecognized Tax Benefits (UTB) Analysis

Panel A: Descriptive Statistics

	Full Sample					*TaxCAMCo* = 1 (N = 340)	*TaxCAMCo* = 0 (N = 1,264)			
Variable	N	Mean	StdDev	P25	P50	P75	Mean	Mean	Diff	t-stat	
TaxCAMCo	1,604	0.2120	0.4088	0.0000	0.0000	0.0000	1.0000	0.0000	1.0000		
ΔUTB	1,604	-0.0188	0.4625	-0.1036	-0.0006	0.0604	-0.0303	-0.0157	-0.0147	-0.51	
UTB	1,604	0.9134	1.2649	0.1266	0.4607	1.1752	1.7347	0.6925	1.0422	14.31	***
CY_Inc	1,604	0.1124	0.1955	0.0000	0.0369	0.1265	0.2033	0.0879	0.1154	9.95	***
PY_Inc	1,604	0.0967	0.2640	0.0000	0.0147	0.0816	0.2027	0.0682	0.1345	8.53	***
PY_Dec	1,604	0.0614	0.1467	0.0000	0.0026	0.0502	0.1322	0.0424	0.0899	10.35	***
Settle	1,604	0.0371	0.1082	0.0000	0.0000	0.0207	0.0841	0.0244	0.0597	9.27	***
SOL	1,604	0.0435	0.0847	0.0000	0.0081	0.0465	0.0677	0.0370	0.0306	5.99	***

Table 6 (continued)
Panel B: UTB Regressions

	(1)		(2)		(3)		(4)		(5)		(6)	
Dependent Variable	*ΔUTB*		*CY_Inc*		*PY_Inc*		*PY_Dec*		*Settle*		*SOL*	
Intercept	-0.074**	(-2.11)	0.021	(1.17)	-0.017	(-0.65)	0.007	(0.58)	0.002	(0.18)	0.048***	(6.24)
TaxCAMCo	-0.116**	(-2.30)	0.097***	(4.53)	0.050**	(2.30)	0.078***	(4.32)	0.048***	(3.64)	0.025**	(2.56)
Post	0.057**	(2.47)	-0.006	(-0.73)	0.003	(0.25)	-0.002	(-0.28)	0.001	(0.18)	-0.004	(-1.03)
*TaxCAMCo *Post*	0.135*	(1.92)	-0.012	(-0.61)	0.093**	(2.37)	-0.015	(-0.75)	-0.005	(-0.28)	0.001	(0.07)
ΔFI	1.860**	(2.11)	0.344	(1.07)	-0.358	(-0.76)	-0.106	(-0.40)	-0.053	(-0.24)	0.181	(1.45)
ΔR&D	4.279**	(2.22)	0.489	(0.55)	0.037	(0.03)	0.692	(1.33)	-0.728*	(-1.82)	0.226	(0.93)
ΔSize	0.114	(1.01)	0.179***	(3.44)	0.070	(1.15)	-0.023	(-0.94)	-0.040**	(-2.13)	0.000	(0.01)
ΔPPE	-0.388*	(-1.91)	-0.084	(-1.14)	-0.234**	(-2.19)	0.029	(0.82)	-0.033	(-0.89)	-0.027	(-1.22)
ΔCash	-0.253	(-0.93)	-0.094	(-0.95)	-0.234	(-1.43)	-0.108*	(-1.76)	-0.027	(-0.46)	-0.065	(-1.35)
ΔEquityInc	13.140**	(2.21)	1.804	(1.25)	0.616	(0.28)	-2.238	(-1.18)	-0.108	(-0.07)	0.217	(0.20)
ΔBTM	0.040	(0.57)	-0.025	(-1.02)	0.007	(0.21)	-0.009	(-0.47)	0.002	(0.13)	-0.005	(-0.64)
ΔDepr	4.160**	(2.13)	-0.485	(-0.54)	0.953	(0.85)	-1.237**	(-2.17)	0.043	(0.08)	0.549*	(1.65)
ΔSGA	0.701	(1.11)	-0.012	(-0.04)	-0.595	(-0.97)	-0.001	(-0.01)	0.101	(1.11)	-0.036	(-0.51)
ΔROA	0.381	(1.05)	0.093	(0.77)	0.548	(1.51)	0.056	(0.63)	0.019	(0.34)	0.004	(0.08)
ΔCapEx	0.345	(0.77)	0.191	(0.84)	0.211	(1.04)	0.146	(1.19)	-0.141	(-1.41)	-0.002	(-0.03)
NOLInd	-0.021	(-0.84)	0.002	(0.23)	-0.016	(-0.94)	0.007	(0.94)	-0.010	(-1.59)	0.000	(0.05)
ΔNOL	1.157***	(3.78)	-0.084	(-0.62)	0.045	(0.28)	-0.054	(-0.76)	0.067	(1.60)	0.022	(0.72)
SalesGrowth	0.066	(0.58)	0.002	(0.06)	0.044	(0.55)	0.032	(1.09)	0.010	(0.52)	-0.000	(-0.01)
ΔCETR	0.039	(0.63)	0.012	(0.68)	0.036	(1.23)	0.025	(1.24)	0.005	(0.35)	-0.001	(-0.18)
ΔLeverage	0.316**	(2.38)	-0.058	(-1.03)	0.066	(1.03)	0.008	(0.32)	0.053**	(2.20)	-0.005	(-0.32)
NumCAMs	0.018	(1.25)	-0.009	(-1.32)	0.023*	(1.94)	-0.000	(-0.05)	0.006	(1.47)	-0.002	(-0.71)
AnalystFollow	0.003*	(1.71)	0.006***	(5.73)	0.005***	(3.90)	0.003***	(4.84)	0.002***	(4.60)	-0.000	(-0.88)
Fixed Effects	Industry (FF17)		Industry (FF17)		Industry (FF17)		Industry (FF17)		Industry (FF17)		Industry (FF17)	
Clustering	Company		Company		Company		Company		Company		Company	
N	1,604		1,604		1,604		1,604		1,604		1,604	
Adj. R sq.	0.153		0.134		0.081		0.091		0.080		0.041	

Notes: This table presents descriptive statistics and results for our UTB analysis. In Panel A, we present descriptive statistics of the variables used in Equation (2) on our full sample, and separately for the companies with and without a tax-related CAM. In Panel B, we present the results of estimating Equation (2) using the change in the UTB balance and components of the UTB rollforward as our dependent variables. We outline our sample selection in Table 1 and define all variables in the appendix. *, **, and *** represent significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively.

Table 7—Last Chance Earnings Management Analysis (Dhaliwal et al. 2004)

	(1) Full Sample		(2) *TaxCAMCo* = 1		(3) *TaxCAMCo* = 0	
Dependent Variable	*ETR4_ETR3*		*ETR4_ETR3*		*ETR4_ETR3*	
Intercept	0.003	(0.51)	0.009	(0.62)	0.003	(0.49)
Miss	0.003	(0.53)	0.045	(1.55)	0.000	(0.07)
Miss_Amount	0.043	(1.06)	-0.305	(-2.70)**	0.051	(1.27)
TaxCAMCo	-0.001	(-0.20)				
Post	-0.001	(-0.31)	0.005	(0.38)	-0.001	(-0.28)
*Miss_Amount*Post*	-0.052	(-1.25)	0.131	(1.87)*	-0.055	(-1.30)
*TaxCAMCo*Post*	0.007	(0.51)				
*TaxCAMCo*Miss_Amount*	-0.206	(-3.77)***				
*TaxCAMCo*Miss_Amount*Post*	0.182	(1.86)*				
Induced_Chg_ETR	-0.021	(-0.38)	-0.105	(-1.58)	-0.011	(-0.16)
Tax_Owed	0.005	(0.66)	0.000	(0.00)	0.006	(0.64)
ETRQ3	-0.042	(-2.62)***	-0.145	(-2.32)**	-0.033	(-1.98)**
NumCAMs	0.004	(1.36)	0.003	(0.35)	0.004	(1.16)
Clustering	Company		Company		Company	
N	408		46		362	
Adj. R sq.	0.032		0.093		0.012	

Notes: This table presents the results of our earnings management via tax accounts analysis using the model from Dhaliwal et al. (2004). In Column (1) we present the results of estimating Equation (3) on the sample of observations that meet the criteria in Table 1. In Columns (2) and (3), we estimate Equation (3) on the *TaxCAMCo* = 1 and *TaxCAMCo* = 0 subsamples separately. We outline our sample selection in Table 1 and define variables in the appendix. *, **, and *** represent significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively.

Table 8—Entropy Balanced Sample

Panel A: Descriptive Statistics of the Entropy Balanced Sample

	TaxCAMCo = 1			Entropy Balanced *TaxCAMCo* = 0		
Variable	Mean	Variance	Skewness	Mean	Variance	Skewness
NumCAMs	1.9710	0.6540	0.5897	1.9700	0.6539	0.5912
Size	8.9240	2.3410	0.1213	8.9220	2.3410	0.1253
ROA	0.1059	0.0059	1.3500	0.1059	0.0059	1.3520
FI	0.0615	0.0027	0.9946	0.0615	0.0027	0.9958
R&D	0.0381	0.0026	2.0170	0.0381	0.0026	2.0180
NOLInd	0.8353	0.1380	-1.8080	0.8348	0.1380	-1.8030
Δ*NOL*	-0.0038	0.0041	-1.8450	-0.0038	0.0041	-1.8450
CETR	0.1931	0.0177	1.4680	0.1930	0.0177	1.4690
AnalystFollow	14.6200	66.8100	0.5079	14.6200	66.7900	0.5093

Panel B: Logit Analysis of Earnings Management via Tax Expense

Dependent Variable *TaxEM* = 1		
Intercept	1.957*	(1.74)
TaxCAMCo	0.554*	(1.80)
Post	0.459	(1.58)
*TaxCAMCo*Post*	-0.983**	(-2.20)
NumCAMs	-0.022	(-0.16)
Size	-0.345***	(-3.18)
ROA	-2.998	(-1.59)
FI	-0.151	(-0.05)
R&D	1.208	(0.59)
NOLInd	-0.331	(-1.17)
Δ*NOL*	-3.023**	(-2.08)
CETR	0.106	(0.13)
AnalystFollow	-0.023	(-1.25)
Fixed Effects	Industry (FF17)	
Clustering	Company	
N	1,604	
Pseudo. R sq.	0.108	

Notes: This table presents the results of our main analysis using entropy balancing. In Panel A, we present descriptive statistics for the entropy balanced sample. In Panel B, we present the results of estimating Equation (1) using the entropy balanced sample. We outline our sample selection in Table 1 and define variables in the appendix. *, **, and *** represent significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively.

Table 9—Propensity to Meet Forecasts Without Tax Expense Management

Panel A: Two-year Sample (n = 1,604)

Percent *Meet_NoTaxEM* = 1	*TaxCAMCo* = 1	*TaxCAMCo* = 0	Diff (t-stat)
Pre-CAM period	0.6529	0.6582	-0.0053 (-0.13)
Post-CAM period	0.7059	0.6203	0.0856 (2.06)**
Diff (t-stat)	0.053 (1.04)	-0.0379 (-1.41)	

Panel B: Non-Constant Two-year Sample (n = 1,778)

Percent *Meet_NoTaxEM* = 1	*TaxCAMCo* = 1	*TaxCAMCo* = 0	Diff (t-stat)
Pre-CAM period	0.6425	0.6351	0.0074 (-0.18)
Post-CAM period	0.6963	0.6134	0.0829 (2.15)**
Diff (t-stat)	0.0538 (1.09)	-0.0217 (-0.84)	

Panel C: Five-year Constant Sample (n = 2,915)

Percent *Meet_NoTaxEM* = 1	*TaxCAMCo* = 1	*TaxCAMCo* = 0	Diff (t-stat)
Pre-CAM period	0.6917	0.6444	0.0473 (2.07)**
Post-CAM period	0.7143	0.6400	0.0743 (2.10)**
Diff (t-stat)	0.0226 (0.51)	-0.0044 (0.58)	

Notes: This table presents comparisons of *Meet_NoTaxEM* between *TaxCAMCo* = 1 and *TaxCAMCo* = 0 samples in the pre- and post-CAM period. In Panel A, we present details using our balanced two-year sample. In Panel B, we relax the constant sample restriction and present a two-year unbalanced sample. In Panel C present a constant five-year sample. We present t-statistics comparing the means of pre- and post-CAM reporting periods. All variables are defined in the appendix. *, **, and *** represent significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively. .

Table 10— Earnings Management via Tax Expense Logit Regressions Alternate Samples

Dependent Variable *TaxEM* = 1				
	(1) Two-Year Non-Constant Sample	(2) Including non-Large Accelerated Filers	(3) Including Companies without CAMs	(4) Five Year Sample
Intercept	2.197***	1.774**	1.752***	1.188**
	(3.04)	(2.32)	(2.83)	(2.18)
TaxCAMCo	0.233	0.245	0.183	-0.141
	(0.91)	(0.91)	(0.71)	(-0.84)
Post	0.118	0.271*	0.200	0.129
	(0.81)	(1.75)	(1.46)	(0.92)
*TaxCAMCo*Post*	-0.749**	-0.741**	-0.709**	-0.549*
	(-2.08)	(-1.98)	(-1.95)	(-1.72)
NumCAMs	0.051	0.074	0.113	-0.015
	(0.55)	(0.77)	(1.44)	(-0.22)
Size	-0.425***	-0.372***	-0.378***	-0.255***
	(-5.17)	(-4.22)	(-5.08)	(-4.10)
ROA	-0.850	-0.710	-0.264	-1.550**
	(-0.94)	(-0.68)	(-0.30)	(-2.29)
FI	-1.000	-0.971	0.286	-3.037*
	(-0.52)	(-0.46)	(0.15)	(-1.93)
R&D	0.053	-0.971	-2.356	-2.094
	(0.04)	(-0.64)	(-1.58)	(-1.38)
NOLInd	-0.040	-0.054	0.057	-0.025
	(-0.26)	(-0.33)	(0.39)	(-0.21)
ΔNOL	-0.411	-1.376	-0.044	0.129
	(-0.73)	(-1.42)	(-0.07)	(0.56)
CETR	0.637*	0.776*	0.270	-0.005
	(1.82)	(1.76)	(0.73)	(-1.41)
AnalystFollow	-0.000	-0.010	-0.008	-0.013
	(-0.03)	(-0.65)	(-0.58)	(-1.25)
Fixed Effects	Industry (FF17)	Industry (FF17)	Industry (FF17)	Industry (FF17)
Clustering	Company	Company	Company	Company

N =	1,778	1,640	1,834	2,915
Pseudo R.Sq.	0.058	0.058	0.055	0.053

Notes: This table presents additional analysis estimating Equation (1) on alternate samples. In column (1) we relax the requirement of a balanced sample, in column (2) we include non-large accelerated filers not subject to CAM requirements, in column (3) we include large-accelerated filers without reported CAMs, and in column (4) we expand the pre-CAM period to include four years. We report the results of estimating Equation (1). We outline our sample selection in Table 1 and define all variables in the appendix. *, **, and *** represent significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively.