Income Statement Reporting Discretion Allowed by FIN 48: Interest and Penalty Expense Classification

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ABSTRACT: Financial Accounting Standards Board Interpretation No. 48 (FIN 48, [FASB 2006](#)) allows discretion regarding the income statement classification of interest and penalty expenses for unrecognized tax benefits (UTBs). We investigate whether tax avoidance, management compensation, and debt agreements affect the expense classification election and whether this discretion has implications for financial statement users. We find firms that engage in tax avoidance activities, measured by effective tax rates (ETRs) and involvement in tax disputes, are more likely to include interest and penalties in tax expense. We also find that interest and penalties are more likely to be classified as tax expense when CEO compensation is more sensitive to pre-tax income. Finally, we find that UTB interest and penalty expense classification is associated with analysts' ETR forecast accuracy, which suggests there is a potential unintended consequence related to decision usefulness of FIN 48 reporting due to expense classification discretion.

Keywords: FIN 48; unrecognized tax benefits; financial reporting comparability; income statement expense classification.

INTRODUCTION

In response to concerns about the lack of transparency and the opportunity for earnings management associated with accounting for tax liabilities, the Financial Accounting Standards Board (FASB) passed FASB Interpretation No. 48 (FIN 48, [FASB 2006](#)), *Accounting for Uncertainty in Income Taxes*. One of the objectives of FIN 48 was to increase relevance and comparability in measuring income taxes ([FASB 2006](#); [Blouin and Robinson 2014](#)). However, FIN 48 allows firms discretion over where the interest and penalty expenses associated with unrecognized income tax benefits (UTBs) are classified on the income statement (e.g., income tax expense, interest expense, selling, general and administrative expense, or other expense). Respondents to the exposure draft requested guidance on classification of interest and penalties, but the FASB determined that further guidance on classification, if any, should be more properly considered in the short-term convergence project ([FASB 2006](#)). Subsequently, [Blouin, Gleason, Mills, and Sikes \(2007\)](#) and [Dunbar, Kolbasovsky, and Phillips \(2007\)](#) reviewed initial FIN 48 disclosures and noted wide variation in the treatment of interest and penalties expense in UTB disclosures. Both of these papers called for clarification or further guidance on this issue. The purpose of this study is to

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investigate whether financial reporting incentives influence FIN 48 reporting with respect to UTB interest and penalty expense classification. We further investigate whether these decisions have implications for financial statement users.¹

There is a well-developed literature that views accounting choice as a function of manager opportunism given the set of contracts in place (Holthausen and Leftwich 1983; Watts and Zimmerman 1986; Fields, Lys, and Vincent 2001). This literature provides evidence that managers exercise accounting discretion in order to reduce political or governmental scrutiny of their business affairs (Watts and Zimmerman 1986), increase their compensation (Healy 1985), and to avoid debt covenant violations (DeFond and Jiambalvo 1994). Accordingly, the first objective of this study is to investigate whether and how reporting incentives influence managers' financial reporting decisions with respect to UTB interest and penalty expense. Specifically, we examine how tax avoidance, CEO bonus compensation, and debt covenants affect the classification of UTB interest and penalty expense.

Effective tax rates (ETRs), particularly as a measure of corporate tax avoidance, have received considerable attention from both academics and policymakers. For example, Caterpillar Inc.'s (Caterpillar) executives and tax consultants, PricewaterhouseCoopers, were questioned by a Senate subcommittee about Caterpillar's use of tax avoidance strategies (Hagerty 2014). Caterpillar executives used the company's ETR as a defense, stating the company's ETR of 29 percent was three percentage points higher than the average of U.S. corporations.² Similarly, Northcut and Vines (1998) suggest firms with low ETR engage in earnings management to increase their reported ETR in order to avoid political scrutiny. Collectively, this evidence suggests companies' tax avoidance behavior creates a financial reporting incentive to include the UTB interest and penalty expenses in tax expense.³ Conversely, firms with high ETR may be motivated to exclude UTB interest and penalty expense from tax expense to avoid further inflating ETR, which may be perceived as inefficient tax management (Chyz and Gaertner 2015). Accordingly, we predict a positive relation between tax avoidance (i.e., ETR and tax disputes) and classification of all UTB interest and penalty expenses in tax expense.

We also investigate whether the classification of UTB interest and penalty expense is associated with the determinants of CEO bonuses. Specifically, we investigate whether firms are more likely to include all interest and penalties in tax expense when the CEO's bonus is more closely aligned with pre-tax income than after-tax income. Healy (1985) suggests that executives choose accounting procedures that increase their compensation. Further research notes that managers have different reporting incentives based on whether their bonus is based on pre-tax or after-tax income (Phillips 2003; Gaertner 2014; Powers, Robinson, and Stomberg 2016). Therefore, we predict a positive relation between CEO bonus alignment with pre-tax income and classification of all UTB interest and penalty expense in tax expense.

Finally, we investigate whether the classification of UTB interest and penalty expense is associated with the existence of debt covenants that rely on the interest coverage ratio, which prior research indicates is widely used in debt covenants (Bowen, Noreen, and Lacey 1981). Such a covenant could encourage firms to classify UTB interest and penalties in tax expense, which would effectively lower the interest expense and increase the interest coverage ratio. However, creditors may demand a higher level of transparency and conservatism to alleviate default risk (e.g., Leftwich 1983; Watts and Zimmerman 1986; Watts 1993; Holthausen and Watts 2001), which would encourage firms to include UTB interest and penalties in interest expense. Therefore, we make no prediction regarding the relation between the existence of interest coverage debt covenants and classification of all UTB interest and penalty expense in tax expense.

The second objective of this study is to examine whether the discretion regarding income statement classification of UTB interest and penalty expense has implications for financial statement users. Specifically, we investigate whether financial analysts' (i.e., proxy for sophisticated financial statement users) forecast accuracy differs based on the classification of UTB interest and penalty expense. If analysts fully incorporate the UTB information disclosed in the FIN 48 footnote, then the classification of UTB interest and penalty expenses should not be associated with analysts' ETR forecast accuracy. Due to the variation in the classification of UTB interest and expense, we anticipate differences in analysts' ETR forecasts. Accordingly, we predict that including all UTB interest and penalty expense in tax expense is associated with analysts' forecast accuracy.

¹ It is important to note that the classification of interest and penalties associated with UTBs is not a trivial issue. For example, in 2009, Pfizer Inc. reported accrued interest and penalties of \$1.9 billion, while Tyco Electronics Ltd. reported interest and penalty expense of \$1.2 billion. For all firms on Compustat that report non-zero values of UTBs, the mean (median) interest and penalties accrual is 22 percent (15 percent) of UTBs and the absolute value of interest and penalties expense is approximately 5 percent (0.4 percent) of net income.

² Caterpillar includes all UTB interest and penalty expenses in tax expense, which increases the company's ETR. Based on Caterpillar's financial statement footnotes, over the past seven years, the exclusion of UTB interest and penalty expense from Caterpillar's tax expense would have changed GAAP ETR by anywhere from approximately 0.4 percent to 2.3 percent in the aggregate.

³ While information in the firms' footnotes could provide clarity, unsophisticated financial statement users often rely on the heuristic method of ETR (i.e., tax expense divided by pre-tax income) to identify tax aggressiveness. For example, recently Carl Levin, chairman of the Senate Permanent Subcommittee on Investigations, equated ETR with "the tax they actually pay" when arguing to close tax loopholes (Levin 2013). Increasing the ETR could potentially alleviate some political scrutiny and reputational consequences of tax avoidance.

Using a hand-collected sample of firms' UTB interest and penalty expense classifications, we use logistic regression analysis to investigate determinants of firms classifying all UTB interest and penalty expenses as a tax expense on the income statement. We document a positive relation between tax avoidance behavior and the classification all UTB interest and penalty expenses as tax expense. This is consistent with firms making financial reporting decisions in response to tax-related incentives (Robinson 2010; Akamah, Hope, and Thomas 2015). Our results further indicate that firms whose CEO's bonus is more closely aligned with pre-tax income (rather than after-tax income) are more likely to classify all UTB interest and penalty expenses as tax expense. However, we find no evidence that firms with interest coverage debt covenants are more likely to classify UTB interest and penalties expense as tax expense.

Next, we investigate the association between firms that report all UTB interest and penalties as tax expense and the accuracy of analysts' ETR forecasts.⁴ Our results show a significant association between including all UTB interest and penalty expense in tax expense and analysts' ETR forecast accuracy. Additionally, we find a significant negative association between accuracy and the magnitude of interest and penalties, particularly for those firms that classify interest and penalties in a category other than tax expense. Our results suggest the classification of UTB interest and penalties is a determinant of analysts' ETR forecast accuracy and the discretion over where to classify these items could diminish decision usefulness of the FIN 48 information.

Our research makes several contributions to the literature. First, we contribute to the growing stream of FIN 48 research. This study's context provides a salient setting to investigate financial reporting incentives because FIN 48 allows for different classifications of UTB interest and penalty expenses on the income statement. We are the first to investigate determinants of firms' classification decisions and our results suggest that incentives provided by tax and political authorities, as well as incentive compensation, influence managers' financial reporting decisions. This finding should be of particular interest to tax researchers who use tax avoidance measures that incorporate tax expense and financial statement users assessing corporate tax management and tax aggressiveness.

We also contribute to the literature by providing evidence on the decision usefulness resulting from FIN 48. Blouin and Robinson (2014, 488) conclude that FIN 48 produces relevant information, but call for more research into how investors use the information and "whether they correctly interpret the information that is being conveyed." We provide evidence that the income statement classification discretion permitted by FIN 48 allows for differences among firms in reporting penalties and interest that affects the usefulness of this information by financial statement users. Our results contribute to the debate regarding the decision usefulness resulting from the FASB's income tax reporting guidance (Robinson, Stomberg, and Towery 2016).

We also contribute to the analyst forecast literature by addressing forecast accuracy and tax-related items. Specifically, we contribute to the emerging literature that uses disaggregated forecasts to examine how analysts incorporate tax effects into their forecasts (Baik, Choi, Jung, and Morton 2013; Mauler 2015; Bratten, Gleason, Larocque, and Mills 2017). Using these disaggregated forecasts provides evidence that analysts struggle to incorporate the differing classification of interest and penalties into their forecasts. This finding should be useful to researchers who analyze analyst forecasts to better understand analyst errors.

Finally, we contribute to the literature on the strategic financial reporting of taxes. Prior literature suggests managers use discretion in accounting for tax reserves to meet earnings targets and smooth earnings (Dhaliwal, Gleason, and Mills 2004; Blouin and Tuna 2007; Cazier, Rego, Tian, and Wilson 2015; Gupta, Laux, and Lynch 2016). In addition, prior research provides evidence suggesting firms advantageously use income statement classifications to manage the perception of earnings (McVay 2006; Fan, Barua, Cready, and Thomas 2010; Abernathy, Beyer, and Rapley 2014; Fan, Thomas, and Yu 2015). We provide evidence suggesting firms exploit the discretion provided in UTB interest and penalty expense classification to influence stakeholder and shareholder impressions.

The next section reviews the relevant literature and develops the hypotheses. The third section presents the research design and sample selection. The fourth section discusses the empirical results and the fifth section concludes the paper.

PRIOR LITERATURE AND HYPOTHESES DEVELOPMENT

Determinants of UTB Interest and Penalty Expense Classification

Prior to the issuance of FIN 48, there was significant diversity regarding the quality of financial reporting associated with the recognition and measurement in accounting for income taxes (Blouin et al. 2007). Consequently, contingent liabilities related to tax reserves were rarely reported or disclosed in financial statements (Gleason and Mills 2002). The FASB issued FIN

⁴ Specifically, we examine the accuracy of analysts' forecasted GAAP effective tax rates and the disaggregated components of GAAP ETR (analysts' implied tax expense accuracy and analysts' pre-tax earnings per share forecast accuracy).

48 to reduce the diversity and improve the quality associated with the accounting for and reporting of income taxes (FASB 2006). The new guidance, effective in 2007, changed the process for evaluating a firm's tax position and now requires separate disclosure of unrecognized tax benefits (UTBs). In addition, FIN 48 requires firms to accrue interest and penalties assessed on all UTBs, and to make an election of where the UTB interest and penalty expenses are classified on the income statement. These expenses could be classified as income tax expense, interest expense, selling, general and administrative expense, or other expense (FASB 2006).

This discretion afforded by FIN 48 over where firms include UTB interest and penalty expenses on the income statement provides a unique opportunity to investigate whether and how financial reporting incentives impact managers' decisions.⁵ Accordingly, we investigate several firm characteristics that may influence managers' financial reporting decisions about how to classify UTB interest and penalty expense.

We first investigate the influence of tax avoidance behavior on financial reporting decisions. While the early stock market reaction to FIN 48 did not seem to consistently support a negative view of the new guidance (cf. Frischmann, Shevlin, and Wilson 2008), managers' actions immediately prior to the adoption date indicated concerns about the impending additional tax disclosures (Blouin, Gleason, Mills, and Sikes 2010).⁶ For example, Blouin et al. (2010) find firms were more likely to settle IRS disputes between the enactment and adoption of FIN 48 than in the period preceding the enactment. In addition, they find firms were more likely to release tax-related reserves during the period between enactment and adoption compared to the preceding period. Their results suggest firms were trying to decrease visibility and scrutiny from taxing authorities. In addition, the results indicate firm managers may be influenced by third-party perceptions of their aggressive tax behavior. This view is supported by recent research suggesting managers believe that negative attention from the press will be costly to the firm. Specifically, Graham, Hanlon, Shevlin, and Shroff (2014) document that 69 percent of executives surveyed cite "potential harm to firm reputation" as a reason for not adopting a tax planning strategy (see also Dyreng, Hoopes, and Wilde 2016). They further note that concerns over reputation are the second most prevalent reason cited for not participating in tax shelters.⁷

One of the main concerns expressed by firms prior to the issuance of FIN 48 was that the new disclosure requirements would highlight firms' aggressive tax behavior (Frischmann et al. 2008). To counteract the increase in transparency, firms may look for other ways to increase the opacity of their tax avoidance behavior. This is consistent with Northcut and Vines (1998), who suggest political scrutiny influences low ETR firms to manage earnings to increase reported ETR. With regard to FIN 48, Robinson and Schmidt (2013) suggest firms mask aggressive tax behavior by using low-quality FIN 48 disclosures. We suggest that firms may potentially mask tax avoidance behavior by classifying all UTB interest and penalty expenses as tax expense on the income statement to inflate the income tax expense and, effectively, the ETR.⁸

Furthermore, while firms may want to inflate their ETR to avoid political scrutiny, firms with high ETRs may face scrutiny by investors for perceived inefficient tax management. A KPMG (2009) survey of tax directors indicated that 37 percent of companies considered minimizing ETR is extremely important, while only 5 percent said it was unimportant. Because taxes can reduce resources otherwise reinvested in the company or distributed to shareholders, a high ETR may give investors a negative perception of management's ability to manage costs of the firm (Jimenez-Angueira and Ochoa 2014; Chyz and Gaertner 2015). This potentially incentivizes firms with high ETR to classify UTB interest and penalties as a non-tax expense.

Accordingly, we predict a positive relation between tax avoidance and classification of all UTB interest and penalty expenses as tax expense. We formally state the following hypothesis:

H1: Other things being equal, tax avoidance and the probability of classifying all UTB interest and penalty expenses in tax expense on the income statement are positively related.

Our second hypothesis investigates whether the classification of UTB interest and penalty expense is influenced by the determinants of CEO bonus compensation. Healy (1985) provides evidence suggesting managers select accrual policies and change accounting procedures in an effort to increase their earnings-based bonuses. FIN 48 requires that interest and penalties associated with UTBs be accrued, but the firm can elect to treat interest and penalties as part of income tax expense (i.e., not

⁵ See Appendix A for 10-K examples of similar companies' disclosure of different interest and penalty expense classifications.

⁶ Frischmann et al. (2008) do find a significant negative stock market reaction to subsequent news of a Senate inquiry into the consistency of the disclosures, which suggests investors may have revised their beliefs regarding the potential impact on additional tax costs. Consistent with the concern about providing a roadmap for taxing authorities, Abernathy, Davenport, and Rapley (2013) show a negative market reaction to the IRS's initial announcement regarding Schedule UTP, a required annual report detailing FIN 48 information.

⁷ While Graham et al. (2014) document managers' belief of reputational costs related to tax avoidance, empirical evidence has not supported those views (Austin and Wilson 2015; Gallemore, Maydew, and Thornock 2014).

⁸ It is possible that high ETR firms may be viewed as underinvesting and would therefore want to lower ETR by accruing UTB interest and penalties outside of the tax expense. We therefore frame H1 as an association to allow for this explanation.

reducing pre-tax income) or as an expense that reduces income from continuing operations before income taxes (i.e., reducing pre-tax income). Prior research provides evidence that CEOs can be compensated on an after-tax basis or on a pre-tax basis (Phillips 2003; Gaertner 2014). In addition, Powers et al. (2016) find that different metrics (cash flow versus earnings, pre-tax earnings versus after-tax earnings) used to determine CEO annual performance bonuses are associated with different financial reporting choices related to taxes (i.e., designation of foreign earnings as permanently reinvested, discretionary reserves for tax uncertainty). Managers whose bonus is computed as a function of pre-tax income have an incentive to maximize pre-tax income. Therefore, we predict UTB interest and penalty expenses are more likely to be classified as tax expense when the CEO bonus is more sensitive to pre-tax income.

H2: Other things being equal, firms whose CEO bonus is more closely aligned with pre-tax income are more likely to classify all UTB interest and penalty expenses in tax expense on the income statement.

Our third hypothesis investigates how debt covenants influence managers' decision to classify UTB interest and penalty expense. Because debt agreements depend on accounting numbers reported in financial statements, managers have the opportunity to choose accounting methods that allow them to avoid violating these agreements. Several studies have investigated the impact of accounting restrictions in debt contracts on a firm's choice of accounting methods (Watts and Zimmerman 1986; Press and Weintrop 1990; DeFond and Jiambalvo 1994; Healy and Palepu 1990). Beneish and Press (1993) document significant costs to firms that violate accounting-based debt covenants. Taken together, these studies provide evidence that firms with accounting-based debt covenants may have greater incentives to conceal the firms' real economic performance and reduce the possibility of default. Classifying all UTB interest and penalty expenses as interest expense on the income statement will inflate interest expense, and decrease firms' interest coverage ratio, which is a common debt covenant restriction.

On the other hand, creditors may influence debt holders' accounting choices or specifically include provisions regarding whether tax interest and penalties are included in debt covenants negating the benefit of reporting interest and penalty expense as tax expense. Furthermore, if creditors have influence over accounting choices, then firms with debt covenants may be more likely to include tax interest as interest expense. Creditors may also define what is included in the interest coverage ratio calculation in the debt covenant restrictions, negating the incentive for firms to make classification choices to meet debt covenants.

Accordingly, we make no prediction about the relation between the existence of debt covenants and classification of all UTB interest and penalty expenses in tax expense. This leads to the following hypothesis in null form:

H3: Other things being equal, there is no association between the existence of debt covenants related to interest expense and the classification of all UTB interest and penalty expenses in tax expense on the income statement.

Implications for Financial Statement Users

One of the main purposes of FIN 48 was to improve the relevance and comparability of tax reporting and disclosure (FASB 2006). While Blouin and Robinson (2014) conclude that overall FIN 48 produces value-relevant information for equity investors, this study's second objective is to more narrowly focus on the impact of managers' income statement classification decisions on financial statement users. Specifically, we examine whether the UTB interest and penalty expense classification affects analysts' ETR forecast accuracy.⁹ Prior research indicates that the tax expense account provides information that is useful in predicting future earnings (e.g., Lev and Nissim 2004), but that market participants have difficulty incorporating tax-related issues (Mauler 2015).

FIN 48 provides measurement criteria that all firms apply to income tax reserves, which limits the discretion of recording tax reserves and should increase transparency. Gupta et al. (2016) provide evidence suggesting earnings management using the tax reserve has decreased subsequent to FIN 48 adoption. Other research suggests that after the issuance of FIN 48, income tax expense comparability improved (Blouin, Gleason, Mills, and Sikes 2007, 2010; Phillips and Tellez 2014). However, the discretion in UTB interest and penalty expense classification afforded by FIN 48 could diminish the decision usefulness of FIN 48 reporting because different firms include the UTB interest and penalty expenses in different income statement line items.

De Franco, Kothari, and Verdi (2011) suggest that lower financial statement comparability increases the cost of information acquisition for analysts. Even though the information provided may be similar regardless of the classification, analysts may not incorporate this information into forecasts due to the cost of acquisition. If this is the case, then we expect that, *ceteris paribus*, there will be a difference in analysts' ETR forecast accuracy between firms that classify UTB interest and

⁹ Specifically, we examine the accuracy of analysts' forecasted GAAP effective tax rates and the disaggregated components of GAAP ETR. Accuracy is measured three ways: accuracy of analysts' implied tax expense forecast (*ACCtax*), accuracy of analysts' pre-tax earnings per share forecast (*ACCpteps*), and accuracy of analysts' implied ETR forecast (*ACCetr*).

TABLE 1
Sample Selection

	Firms
Unique Compustat firms with non-missing interest and penalty expense (2007–2011)	2,986
Less:	
Firms in the financial and utility industries	(346)
Firms reporting zero interest and penalty expense every year	(1,326)
Firms reporting negative pre-tax income every year	(172)
Firms where interest and penalty expense classification data are not available from 10-Ks	(31)
Firms without beginning of year market value data	(71)
Firms missing institutional ownership data	(77)
Final Sample	<u>963</u>

penalty expense as tax expense and firms that classify UTB interest and penalty expense in a different line item. That is, any association (positive or negative) between the classification of UTB interest and penalty expense and analysts' ETR forecast accuracy provides support for differences in analysts' use of the financial statement information.¹⁰ Accordingly, we formulate the following non-directional hypothesis:

H4: Other things being equal, classification of all UTB interest and penalty expenses in tax expense on the income statement is associated with the accuracy of analysts' ETR forecasts.

RESEARCH DESIGN

Sample Selection

Our sample begins with all nonfinancial and nonutility firms in Compustat with non-missing and non-zero values of interest and penalty expense. From this sample, we selected the earliest fiscal year available for each firm and hand collected information regarding the UTB interest and penalty expense classification election from 10-K FIN 48 disclosures.¹¹ The fiscal years covered by the sample are from 2007 to 2011 and include the initial observation for each firm that has necessary data available for the determinant model analysis.¹² To avoid concerns about the interpretation of loss firms' ETR, firms with negative pre-tax income in every year were also eliminated. Our sample consists of 963 unique firms with the following distribution: 463, 84, 178, 159, and 79 for the years 2007 through 2011, respectively. In effect, our sample consists of one observation for each firm, which is the first year of UTB interest and penalty expense classification disclosure and availability of ETR and determinant model control variables (see Table 1).

Determinants of UTB Interest and Penalty Expense Classification

To test our first set of hypotheses (H1, H2, and H3), we use a logistic regression that models the probability that a firm will classify all UTB interest and penalty expenses as tax expense on the income statement.¹³ The dependent variable (*All_Tax*) is

¹⁰ *Ex ante*, it is unclear which classification would be associated with more accurate forecasts; therefore, we expect a difference between firms that classify all UTB interest and penalty expense in tax expense and other firms, but we do not make a directional prediction.

¹¹ Paragraph 20 of FIN 48 states, "An enterprise shall disclose its policy on classification of interest and penalties in accordance with paragraph 19 of this Interpretation in the footnotes to the financial statements" (FASB 2006). We recognize that excluding firms that do not comply with expense classification disclosure requirements, but that record UTB interest and penalty expenses, may introduce bias into our tests. However, without knowing the expense classification disclosure, observations cannot be included in the estimation of the determinant model. Accordingly, the results of our study do not generalize to firms that fail to disclose the UTB interest and penalties expense classification. Based on Table 1, firms that do not disclose the expense classification represent a small proportion of the population.

¹² Ideally, all observations would be for fiscal year 2007 when FIN 48 became effective. However, this limits our sample based on noncompliant firm reporting, missing tax footnote disclosure data in Compustat, and additional data requirements for analysis. We expand the sample to subsequent years to capture the first year a firm has necessary data available. In untabulated sensitivity testing, our results are similar when limiting our sample to only fiscal year 2007 observations.

¹³ Appendix B provides a list of variables used in the following analyses.

an indicator variable that takes the value of 1 if the firm includes all UTB interest and penalty expense in tax expense, and 0 otherwise. The regression model is formally stated as follows:

$$\begin{aligned} Prob(All_Tax_i = 1) = F(\beta_0 + \beta_1 Tax_Avoidance_i + \beta_2 PreTax_CEO_Pay_i + \beta_3 IntCovenantDummy_i + \beta_4 IntPenMagn_i \\ + \beta_5 Foreign_Inc_i + \beta_6 Leverage_i + \beta_7 FirmSize_i + \beta_8 Inst_Own_i + \text{Industry and Year Indicators}) \end{aligned} \quad (1)$$

The first potential determinant of firms' UTB interest and penalty expense classification decision that we study is their level of tax avoidance. We measure *Tax_Avoidance* in two ways. First, we use a firm's effective tax rate (*GAAP_ETR*), which is a common measure of tax avoidance in prior literature (Hanlon and Heitzman 2010) and appropriate in this setting where the classification of interest and penalty expense is hypothesized as determined by the incentive to inflate reported tax expense. Furthermore, it is readily utilized even by unsophisticated financial statement users to assess how much firms pay in tax. *GAAP_ETR* is measured by dividing the total of the previous three years' tax expense by the total of the previous three years' pre-tax income.^{14,15} Next, we measure tax avoidance using a measure from the Kinder, Lydenberg, and Domini's (KLD) STATS database.¹⁶ *Tax_Disputes* is an indicator variable that takes the value of 1 if the KLD database indicates a rating of concern regarding a firm's disputes with tax authorities.¹⁷

The second potential determinant of firms' UTB interest and penalty expense classification decision that we study is whether the CEO is compensated on a pre-tax basis. In the spirit of Gaertner (2014), *PreTax_CEO_Pay* is an indicator variable that equals 1 when R^2 from the firm-specific time series analysis of CEO cash compensation (logged total of salary, bonus, and non-equity incentives) regressed on pre-tax income is greater than the R^2 from the firm-specific time series analysis of CEO cash compensation regressed on net income. CEO compensation is acquired from Execucomp, and all firm observations available from 1993 to 2006 were utilized.¹⁸

The final potential determinant of firms' UTB interest and penalty expense classification that we study is whether the firm has a debt covenant related to the interest coverage ratio. *IntCovenantDummy* is an indicator variable that equals 1 if the firm has an interest coverage ratio debt covenant listed in the DealScan database, and 0 otherwise.

We also include several control variables in our logistic regression analysis. We control for the magnitude of the UTB interest and penalty expense by including *IntPenMagn*, which is measured as the absolute value of UTB interest and penalty expense scaled by pre-tax income. Research suggests U.S. firms shift income out of the U.S. to low tax foreign subsidiaries to avoid U.S. income tax (Collins, Kemsley, and Lang 1998; Dyreng and Lindsey 2009; Klassen and Laplante 2012; Markle and Shackelford 2012; Dyreng and Markle 2013). Accordingly, we include *Foreign_Inc*, which is an indicator variable that takes the value of 1 if the firm reports income from foreign operations, and 0 otherwise.

The amount of debt firms have may also influence managers' classification of tax interest and penalties. Even if interest coverage ratio covenants are not included in a firm's debt agreements, management may still want to maintain lower interest coverage ratios. Interest coverage ratios are used to determine a firm's ability to pay debts and may reflect on the long-term solvency of the firm. Firms with low interest coverage ratios may have less access to capital and incur higher future borrowing costs. Further, poor interest coverage ratios may cause vendors to require upfront payments or restrict the amount of purchases on credit. Accordingly, we control for *Leverage*, which is measured as total debt divided by total assets.

We also control for firm size (*FirmSize*), which is calculated as the natural log of the common stocks market value's beginning balance. Finally, we control for institutional ownership (*Inst_Own*), which is calculated as the number of shares held by institutions divided by total shares outstanding, as a proxy for sophisticated investors. Robinson and Schmidt's (2013)

¹⁴ Prior research suggests that in the year preceding FIN 48 implementation, firms may have made pre-emptive settlements with taxing authorities (Blouin et al. 2010). To mitigate potential noise generated by these pre-emptive settlements, we measure GAAP ETR over three years. Our results are similar if we use a one-year GAAP ETR measure; however, our sample size decreases due to the higher number of firms with losses in one year compared to the number of firms with net losses over the three-year period.

¹⁵ For sensitivity analysis, when data are available we also reduce the numerator and denominator of *GAAP_ETR* by the UTB interest and penalty expense for firms that classify interest and penalty as tax expense. The regression results are consistent in magnitude and direction.

¹⁶ The KLD database is focused on firms' corporate social responsibilities. Their staff rely on publicly available information to rate firms on a variety of corporate social responsibility measures including the identification of firms with controversial activities such as tax disputes (Koh and Tong 2013). We accessed the KLD database through Wharton Research Data Services (WRDS). MSCI ESG acquired KLD Research & Analytics Inc. in 2010. Information about MSCI is available at: <https://www.msci.com/esg-ratings>.

¹⁷ KLD identifies companies as "tax dispute" companies if the company has recently been involved in tax disputes involving more than \$100 million with the federal, state, or local authorities. Prior literature uses the KLD's tax dispute indicator as both part of composite measures (Hong and Kostovetsky 2012; Koh and Tong 2013; Lanis and Richardson 2015) and as an individual measure of tax avoidance (Jiao 2010; Zhou 2012).

¹⁸ A minimum of four years of data is required to calculate this variable. The results are similar when Execucomp data are restricted to a more recent time frame (e.g., 1999 to 2006) or if we limit the requirement to three years of data.

findings suggest shareholders reward firms' efforts to hide their aggressive tax behavior. Sophisticated investors can potentially better recognize the benefits associated with masking firms' aggressive tax behavior. In addition, we include industry and year indicator variables to ensure particular industries or years do not confound the results.¹⁹ All variable descriptions are included in Appendix B.

A negative and significant (positive and significant) β_1 when *GAAP_ETR* (*Tax_Disputes*) is the tax avoidance variable provides support for H1. Specifically, this finding would suggest managers might be trying to inflate low ETR or deflate high ETR by the inclusion or exclusion of UTB interest and penalty expenses in tax expense. A positive and significant β_2 provides support for incentive compensation being a classification determinant (H2), while a significant β_3 provides support for rejecting the null hypothesis (H3) that interest expense classification relates to debt covenants.

Implications for Financial Statement Users

To test H4, we use an OLS regression to investigate the relation between including all UTB interest and penalty expense in tax expense and the accuracy of analysts' ETR forecasts. Because the interest and penalty expense classification can affect both ETR's numerator (tax expense) and denominator (pre-tax income), we measure overall ETR accuracy, as well as the two components. Consistent with Bratten et al. (2017), ETR analyst forecasts (*Accuracy*) is measured with analysts' implied tax expense accuracy (*ACCtax*), analysts' pre-tax income accuracy (*ACCpteps*), and ETR forecast accuracy (*ACCetr*).

ACCtax is measured as the median of the absolute value of each analyst's implied forecast accuracy of firm *i*'s tax expense for the current fiscal year, scaled by market value. The implied tax expense is calculated as the I/B/E/S pre-tax income minus I/B/E/S net income. *ACCpteps* is the median of the absolute value of each analyst's forecast accuracy of firm *i*'s pre-tax income for the current fiscal year, scaled by market value. *ACCetr* is measured as the median value of analysts' ETR forecast error. ETR forecast error is the absolute value of the difference between the implied ETR from analysts' forecasts at the beginning of the period and the actual implied ETR reported by I/B/E/S. Implied ETRs are calculated as the implied tax expense (i.e., I/B/E/S pre-tax income minus I/B/E/S net income) divided by I/B/E/S pre-tax income. The forecasts are each analyst's initial forecast of pre-tax and net income following the announcement of the prior year's earnings and must occur within 90 days of that earnings announcement. For ease of interpreting the accuracy measures (*ACCtax*, *ACCpteps*, *ACCetr*), we multiply the values by -1 so that larger values indicate greater accuracy. Our regression model is based on prior research (e.g., Bratten et al. 2017) as follows:

$$\begin{aligned} Accuracy_{i,t} = & \beta_0 + \beta_1 All_Tax_{i,t} + \beta_2 UTB_change_{i,t} + \beta_3 IntPenMagn_{i,t} + \beta_4 Foreign_Inc_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 FirmSize_{i,t} \\ & + \beta_7 ETR_STD_{i,t} + \beta_8 ETR_change_{i,t} + \beta_9 absPermDiff_{i,t} + \beta_{10} CompExp_{i,t} + \beta_{11} Loss_{i,t} + \beta_{12} TLCF_{i,t} \\ & + \beta_{13} RDS_{i,t} + \beta_{14} ANF_{i,t} + \beta_{15} Bm_{i,t} + \beta_{16} Mi_{i,t} + \beta_{17} Mills_ALLTax_{i,t} + \text{Industry and Year Indicators} + \varepsilon_{i,t} \end{aligned} \quad (2)$$

The variable of interest is *All_Tax*, which is an indicator variable that takes the value of 1 if the firm includes all UTB interest and penalty expense in tax expense, and 0 otherwise. A significant coefficient on β_1 provides support for H4. We also include several firm and tax-related characteristics as control variables that potentially could affect the properties of analysts' ETR forecasts. Specifically, *Foreign_Inc*, *Leverage*, and *FirmSize*, which are defined above, are expected to affect firm complexity and therefore the accuracy of analysts' forecasts (Thomas 2002; Dechow and You 2012). Firms with UTBs are also subject to periodic release of those accruals through settlements, expiration of statute of limitation, and other changes in tax circumstances. The release of these accruals often affects ETR and may be difficult for analysts to incorporate into their forecasts. We include *UTB_change*, which is the difference between the UTB ending and beginning balances scaled by lagged market value of equity, and *IntPenMagn*, which (as described previously) is the absolute value of UTB interest and penalty expense scaled by pre-tax income. Consistent with the arguments in Comprix, Mills, and Schmidt (2012), we expect tax expense to be more difficult to forecast when there are larger levels of UTBs and when the penalties and interest associated with UTBs are larger. We also include *ETR_STD* (*ETR_change*), which is the standard deviation of the previous four years of effective tax rates (absolute value of the prior year change in effective tax rates) as determined by the implied ETR based on actual pre-tax income and net income reported in I/B/E/S, and the absolute value of the difference between the firm's prior year GAAP ETR and 35 percent (*absPermDiff*). We expect tax expense to be more difficult to forecast when ETRs are less stable over time, and when a firm has permanent differences (Comprix et al. 2012; Dhaliwal et al. 2004).

¹⁹ In untabulated robustness tests, we control for financial reporting quality based on the Dechow and Dichev (2002) accruals quality measure in our model. We also control for financial reporting aggressiveness using the performance-matched measure of pre-tax discretionary accruals based on Frank, Lynch, and Rego (2009). Our primary results are qualitatively similar including these additional controls.

Similar to Hanlon (2003), we control for equity compensation by including *CompExp*, which is the decile rank of a firm's prior year stock compensation expense (STKCO in Compustat) plus implied option expense (XINTOPT divided by 0.65), if any, scaled by total assets (AT). We control for losses using *Loss*, which is an indicator variable that equals 1 if there is negative net income in the current year, and 0 otherwise (Frankel, Kothari, and Weber 2006). *TLCF* is an indicator variable that equals 1 if the firm has non-zero tax loss carryforwards (TLCF) in the prior year, and 0 otherwise (Dhaliwal, Kaplan, Laux, and Weisbrod 2013). *RDS* is calculated as R&D spending (XRD) divided by sales (SALE) for firm *i* during the prior year (Thomas 2002). The variable is set to 1 if R&D spending exceeds sales. *ANF* is the number of I/B/E/S analysts issuing EPS forecasts for a firm during the current fiscal year (Lang and Lundholm 1996). As a control for firm's growth opportunities, we include the book-to-market ratio (*Bm*; Frankel et al. 2006). *Bm* is calculated as the book value of the firm as of the end of the prior fiscal year (CEQ), divided by market value as of the end of prior fiscal year (CSHO * PRCC_F). *Mi* is an indicator variable that equals 1 if there is non-zero minority interest (MII or MIB) during the current fiscal year, and equals 0 otherwise (Bratten et al. 2017).

Finally, whenever investigating the effects of an accounting choice, an important issue to address is self-selection (Oswald and Zarowin 2007). A firm's decision to include all UTB interest and penalty expense in tax expense may introduce self-selection bias into the observed sample. For example, firms that do not include all UTB interest and penalty expense in tax expense may be firms that generally provide disclosures that differ in ways not captured by the control variables. Accordingly, we include *Mills_All_Tax* to control for the firm's decision to include all UTB interest and penalty expense in tax expense based on the determinant Model (1) above.

EMPIRICAL RESULTS

Descriptive Statistics

Table 2 presents the descriptive statistics for the 963 firms included in our sample. Panel A provides a breakdown of the number of firms that classify the UTB interest and penalty expenses in the different income statement classifications (e.g., selling, general and administrative expense, other, interest expense, or tax provision). The first column provides information about where the firms in our sample classify UTB interest expense on the income statement. Approximately 87 percent of firms include UTB interest as tax expense on the income statement. The second column identifies where the firms classify UTB penalties on the income statement. Again, a large majority of firms include penalties in tax expense. Interestingly, 4 percent of firms classify penalties in selling, general and administrative expenses, which affects operating income and EBITDA. The final column provides information on whether firms include both UTB interest and penalty expenses in the same classification or if the classifications are mixed. It is also worth noting that FIN 48 requires only the combined expense amount to be reported, but approximately 9 percent of firms include interest and penalty expense in different income statement classifications.

Panel B of Table 2 provides the descriptive statistics for the variables used in our logistic regression analysis.²⁰ Consistent with Panel A, approximately 86 percent of the firms include all of the UTB interest and penalty expenses in tax expense (*All_Tax*).²¹ The mean (median) of *GAAP_ETR* is about 32 percent (33 percent). There is limited data availability for the measures of tax disputes, pay sensitivity, and debt covenants. The KLD database identifies approximately 8 percent of the available subsample as firms that have engaged in disputes with tax authorities.²² Based on the firms with necessary Execucomp time-series data, about 54 percent of the subsample have CEO pay that is more sensitive to pre-tax income than net income (*PreTax_CEO_Pay*). For the subsample of firms with DealScan coverage, about 37 percent have interest coverage debt covenants (*IntCovenantDummy*). The mean of *IntPenMagn* indicates that the average UTB interest and penalty expenses are approximately 2 percent of pre-tax income.²³ About 70 percent of firms have foreign operations (*Foreign_Inc*), and for the average sample firm, debt is about 21 percent of assets (*Leverage*), and 73 percent of its shares are owned by institutions (*Inst_Own*).

²⁰ All variables are winsorized at the 1 percent and 99 percent levels to mitigate the influence of extreme observations.

²¹ We also investigate the distribution of firms by industry that include all UTB interest and penalty expense in tax expense (*All_Tax* = 1) compared with firms that do not (*All_Tax* = 0). Each industry classification is consistent with the aggregate percentage of firms that include UTB interest and penalty expense in tax expense.

²² The KLD database covers the largest 3,000 U.S. companies by market capitalization. Accordingly, we find that these firms are larger (*FirmSize*), have higher *Leverage*, and higher levels of institutional holdings. We find that 84 percent of these firms classify interest and penalties in tax expense, compared to 89 percent of non-KLD observations. The determinant model results are robust when the KLD data availability requirement is relaxed.

²³ The distribution of *IntPenMagn* is skewed as evidenced by its mean being greater than both the median and 75th percentile. To examine robustness, extremely influential observations are identified as those with a DFBeta calculation for *IntPenMagn* greater than $2/(\sqrt{963})$. The determinant model results are robust to excluding these observations from the analysis: the sign and statistical significance of the coefficient estimates for the variables of interest remain similar to when observations are included.

TABLE 2
Descriptive Statistics

Panel A: Classification of UTB Interest and Penalty Expenses

Income Statement Classification	Interest		Penalties		Both Interest and Penalties	
Selling, General and Administrative	1	0.10%	36	3.74%	1	0.10%
Other	36	3.74%	61	6.33%	31	3.22%
Interest	92	9.56%	10	1.04%	10	1.04%
Tax Provision	834	86.60%	856	88.89%	830	86.19%
Mixed Reporting					91	9.45%
	963	100.00%	963	100.00%	963	100.00%

Panel B: Variables Used in Logistic Regression Analysis

Variable	n	Mean	Median	Standard Deviation	25%	75%
<i>All_Tax</i>	963	0.8619	1.0000	0.3452	1.0000	1.0000
<i>GAAP_ETR</i>	963	0.3219	0.3351	0.1867	0.2402	0.3829
<i>Tax_Disputes</i>	625	0.0752	0.0000	0.2639	0.0000	0.0000
<i>PreTax_CEO_Pay</i>	556	0.5432	1.0000	0.4986	0.0000	1.0000
<i>IntCovenantDummy</i>	676	0.3728	0.0000	0.4839	0.0000	1.0000
<i>IntPenMagn</i>	963	0.0163	0.0054	0.0359	0.0020	0.0134
<i>Foreign_Inc</i>	963	0.7009	1.0000	0.4581	0.0000	1.0000
<i>Leverage</i>	963	0.2098	0.1942	0.1762	0.0455	0.3208
<i>FirmSize</i>	963	7.4872	7.3715	1.7779	6.2818	8.6471
<i>Inst_Own</i>	963	0.7342	0.7958	0.2390	0.6248	0.9094

Panel C: Descriptive Statistics by UTB Interest and Penalty Expense Classification

Variable	<i>All_Tax</i> = 0			<i>All_Tax</i> = 1			Difference in Mean	t-stat
	n	Mean	Median	n	Mean	Median		
<i>GAAP_ETR</i>	133	0.3448	0.3515	830	0.3180	0.3338	-0.0268	-1.53
<i>Tax_Disputes</i>	97	0.0309	0.0000	528	0.0833	0.0000	0.0524**	2.45
<i>PreTax_CEO_Pay</i>	78	0.4744	0.0000	478	0.5544	1.0000	0.0847	1.31
<i>IntCovenantDummy</i>	100	0.3800	0.0000	576	0.3715	0.0000	-0.0068	-0.16
<i>IntPenMagn</i>	133	0.0117	0.0039	830	0.0171	0.0055	0.0054*	1.94
<i>Foreign_Inc</i>	133	0.5865	1.0000	830	0.7193	1.0000	0.1328***	2.91
<i>Leverage</i>	133	0.2351	0.2223	830	0.2057	0.1909	-0.0294*	-1.79
<i>FirmSize</i>	133	7.7066	7.6923	830	7.4521	7.3432	-0.2545	-1.45
<i>Inst_Own</i>	133	0.7225	0.7932	830	0.7361	0.7960	0.0136	0.57

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent, respectively.

Table 2, Panel A presents the UTB interest and penalty expense income statement classifications for the sample of firms. Panel B presents the descriptive statistics for the sample of firms. Panel C includes the descriptive statistics of the firms that do not include all UTB interest and penalty expense in tax expense (*All_Tax* = 0) versus the firms that do (*All_Tax* = 1).

See Appendix B for variable definitions.

Panel C of Table 2 includes descriptive statistics by UTB interest and penalty expense classification. The difference in mean for *GAAP_ETR* is negative but not statistically significant, which is inconsistent with H1. However, *Tax_Disputes* is positive and significant, which provides univariate support for H1. There are not significant differences for the other variables of interest, *PreTax_CEO_Pay* or *IntCovenantDummy*, between the two reporting groups, which fails to provide univariate support for H2 and H3. These mixed results underscore the importance of examining such relations in a multivariate setting.

The Pearson correlation matrix is included in Table 3. Correlations significant at the 10 percent level or better are reported in bold. None of the correlation coefficients among the independent regression variables is at a level considered as highly

TABLE 3
Pearson Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) <i>All_Tax</i>										
(2) <i>GAAP_ETR</i>	−0.0492									
(3) <i>Tax_Disputes</i>	0.0720	−0.0621								
(4) <i>PreTax_CEO_Pay</i>	0.0558	0.0002	0.0069							
(5) <i>IntCovenantDummy</i>	−0.0062	0.0430	−0.0708	0.0229						
(6) <i>IntPenMagn</i>	0.0520	0.0103	0.0853	0.0996	−0.0327					
(7) <i>Foreign_Inc</i>	0.1001	−0.0065	0.1018	−0.0087	0.0488	0.0712				
(8) <i>Leverage</i>	−0.0576	0.0506	0.0401	0.0667	0.1024	0.0235	−0.0655			
(9) <i>FirmSize</i>	−0.0494	−0.0943	0.3219	0.0121	0.0136	−0.1226	0.2608	0.0964		
(10) <i>Inst_Own</i>	0.0196	0.0117	−0.0929	0.0483	0.1741	−0.0154	0.1067	0.0683	0.2108	
(11) <i>UTB</i>	0.0483	−0.0304	0.0133	0.0745	−0.0095	0.2273	0.0141	0.0615	−0.1479	−0.1367

Table 3 presents the Pearson correlations among the variables used in the subsequent UTB interest and penalty expense analysis. Correlations significant at the 10 percent level or better are reported in bold.

See Appendix B for variable definitions.

correlated (i.e., none greater than 0.40). Therefore, none of the regression variables should be omitted to prevent multicollinearity concerns.²⁴

Determinants of UTB Interest and Penalty Expense Classification

Table 4 reports the results of the logistic regression used to test our first three hypotheses. In Column (1), we include results from estimating the regression with *GAAP_ETR* as our measure of tax avoidance using the full sample. Column (2) presents results from estimating the regression with *Tax_Disputes* as our tax avoidance measure, which reduces our sample size to 625 firms because of data requirements. Examination of *PreTax_CEO_Pay* (*IntCovenantDummy*) in Column (3) (Column (4)) reduces our sample size to 556 firms (676 firms). Columns (5) and (6) include the full model for each of the tax avoidance measures and other variables of interest, so our sample size is reduced to 444 and 345 firms. The area under the ROC curve ranges from 0.727 in Column (1) to 0.812 in Column (5) with the full model.

H1 predicts a positive relation between tax avoidance and classifying all UTB interest and penalty expenses as tax expense. The coefficient on *GAAP_ETR*, our first measure of tax avoidance, is negative and significant in Column (1) and Column (5) (−1.243; $p = 0.013$ and −3.231; $p = 0.002$, respectively), which provides support for H1. Furthermore, the coefficient on *Tax_Disputes*, our second measure of tax avoidance, is positive and significant in Columns (2) and (6) (1.752; $p = 0.005$ and 1.507; $p = 0.018$, respectively), which also provides support for H1. The interpretation of the *GAAP_ETR* coefficient in Column (5) suggests that a 1 percent decrease in *GAAP_ETR* increases the likelihood of the firm including all UTB interest and penalty expense in tax expense by 29 percent. Likewise, if a firm has engaged in tax disputes (*Tax_Disputes*), then the likelihood of the firm including UTB interest and penalty expense in tax expense is 4.9 times higher. Therefore, the results indicate firms with more tax avoidance (lower ETR and more disputes with taxing authorities) are more likely to include all UTB interest and penalty expenses as tax expense, possibly in an effort to mask their tax avoidance behavior.²⁵

In our test of H2, the coefficient on *PreTax_CEO_Pay* is positive and significant in Columns (3), (5), and (6) (0.484, $p = 0.044$; 0.458, $p = 0.076$; and 0.580, $p = 0.087$, respectively), which provides support for H2. The coefficient in Column (5) suggests that firms whose CEO compensation is more aligned with pre-tax income are 1.7 times more likely to include all UTB interest and penalty expense in tax expense.

²⁴ Because *FirmSize* is highly correlated with other variables (*Tax_Disputes* and *Foreign_Inc*), we perform the logistic regression analysis excluding *FirmSize* and the results remain unchanged. We also test for multicollinearity in all the models using Variance Inflation Factors (VIFs). The VIFs for all variables are less than 10.

²⁵ All firms do not face the same investor, regulator, or consumer pressure. Accordingly, we include Fama French 48 industry indicators to control for potential differing industry effects. To assess the relative contribution of the hypothesized factors beyond that of industry characteristics, we also estimated the following model: $\text{Prob}(\text{All_Tax}_i = 1) = F(\text{Industry and Year Indicators})$ and find smaller estimates for the area under the ROC curve and log likelihood ratio. For instance, the area under the ROC curve decreases to 0.684 when *GAAP_ETR* is used to measure tax avoidance (i.e., Column (1) of Table 4) and also for the full model (i.e., Column (5) of Table 4). The log likelihood for Columns (1) and (2) when only industry and year variables are included in the model is 54.067 ($\text{Pr} > \chi^2 = 0.194$) and 43.356 ($\text{Pr} > \chi^2 = 0.726$), respectively.

TABLE 4
Determinants of Reporting UTB Interest and Penalty Expense as Tax Expense

Variable	Pred. Sign	(1)	(2)	(3)	(4)	(5)	(6)
Intercept		2.5486*** (0.003)	2.519** (0.016)	1.741 (0.245)	3.3862*** (0.007)	3.9038* (0.062)	1.1299 (0.559)
<i>GAAP_ETR</i>	–	–1.2434** (0.013)				–3.2312*** (0.002)	
<i>Tax_Disputes</i>	+		1.7516*** (0.005)				1.5073** (0.018)
<i>PreTax_CEO_Pay</i>	+			0.4837** (0.044)		0.4579* (0.076)	0.5802* (0.087)
<i>IntCovenantDummy</i>	+				–0.0769 (0.760)	–0.1300 (0.351)	–0.4561 (0.216)
<i>IntPenMagn</i>		3.704 (0.344)	3.8486 (0.522)	7.7846 (0.277)	–0.7065 (0.864)	6.5665 (0.421)	–1.3736 (0.867)
<i>Foreign_Inc</i>		0.9172** (0.001)	0.6831** (0.037)	0.7316** (0.050)	0.8247** (0.010)	0.8397* (0.060)	0.5814 (0.217)
<i>Leverage</i>		–1.2715** (0.035)	–1.8182** (0.018)	–2.5724*** (0.005)	–1.4872** (0.043)	–3.1635*** (0.004)	–2.9478*** (0.014)
<i>FirmSize</i>		–0.1094* (0.085)	–0.1959** (0.023)	–0.1033 (0.293)	–0.1227 (0.119)	–0.1619 (0.188)	–0.1550 (0.2939)
<i>Inst_Own</i>		0.7236* (0.099)	1.3937** (0.045)	0.9738 (0.313)	0.2082 (0.736)	1.5288 (0.179)	2.8677** (0.045)
Industry and year indicators		Yes	Yes	Yes	Yes	Yes	Yes
Observations		963	625	556	676	444	345
Area under ROC curve		0.727	0.744	0.788	0.732	0.812	0.806
Log likelihood ratio ($\Pr > \chi^2$)		79.3552 0.0086	68.7211 0.0406	76.9157 0.014	65.293 0.1019	76.4631 0.0238	63.8186 0.0906

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent, respectively. Significance tests are one-tailed for variables with a predicted sign, and two-tailed otherwise.

Table 4 presents the coefficient estimates and significance levels from estimating the following logit regression modeling the decision to report UTB interest and penalty expense as all tax expense:

$$\text{Prob}(\text{All_Tax}_i = 1) = F(\beta_0 + \beta_1 \text{Tax_Avoidance}_i + \beta_2 \text{PreTax_CEO_Pay}_i + \beta_3 \text{IntCovenantDummy}_i + \beta_4 \text{IntPenMagn}_i + \beta_5 \text{Foreign_Inc}_i + \beta_6 \text{Leverage}_i + \beta_7 \text{FirmSize}_i + \beta_8 \text{Inst_Own}_i + \text{Industry and Year Indicators})$$

p-values are presented in parentheses below the coefficients. Significance levels are based on Chi-squared tests.

See Appendix B for variable definitions.

Columns (4), (5), and (6) present the results for our test of H3. We do not find a significant association between firms with debt covenants based on the interest coverage ratio and the likelihood to include UTB interest and penalty expense in income tax expense. The coefficient on *IntCovenantDummy* is not significant in any column, which fails to reject the null hypothesis of H3. One explanation for this finding is that lending institutions may separate non-debt interest from debt interest in calculating debt covenant ratios.²⁶

It is interesting to note that while it is not a primary variable of interest, *Leverage* is negative and significant in all five columns, which indicates that it is a significant determinant of the classification of UTB interest and penalty expense in our study. While we do not find a relation between firms with debt covenants related to interest expense and the classification of UTB interest and penalty expenses, the amount of leverage appears to influence management's decision of where to include UTB interest and penalty expense on the income statement. The findings suggest that firms with higher leverage are less likely to include UTB interest and penalty in tax expense. Firms with higher leverage have relatively larger levels of interest expense; therefore, if management's intention is to obscure UTB interest and penalty expense, then it may be more easily facilitated by including it in interest expense.²⁷

²⁶ The interpretation of (untabulated) results is similar to when the full model that includes both tax avoidance measure is estimated.

²⁷ To investigate whether a particular audit firm or type of audit firm is influencing firms' decisions to classify UTB interest and penalty expenses as tax expense, we first examine the correlation coefficients between *All_Tax* and indicator variables for the different audit firms (i.e., EY, Deloitte, KPMG, PricewaterhouseCoopers, etc.) that audit our sample of firms. In untabulated results, none of the firms have a significant correlation with *All_Tax*. We also find no significant relation between *All_Tax* and either Big 4 audit firms or national audit specialists (Reichelt and Wang 2010). These results help ensure that audit characteristics are not driving the results.

Together the results suggest firms exploit the discretion allowed by FIN 48 to strategically classify UTB interest and penalty expenses on the income statement. These results are specific to expense classification on the income statement, but also provide insight, on a broader level, to the potential effects of third-parties' influences on a firm's reporting decisions. We next investigate whether this discretion has implications for financial statement users.

Implications for Financial Statement Users

To examine potential implications for financial statement users, we examine the relation between analysts' ETR forecasts and UTB interest and penalty expense classification using sample firms that are covered by sell-side analysts and have the necessary data available for the analysis. For these firms, we expand the sample from the initial expense classification observation to also include subsequent years (through 2011) where analysts' forecast information is available. The resulting sample is 1,485 firm-year observations; Table 5 presents the descriptive statistics and results for testing H4.

Panel A of Table 5 includes the descriptive statistics for all variables used in our OLS regression analysis. Consistent with our previous analysis, about 86 percent of our sample firms report all UTB interest and penalties as tax expense. As expected, these firms that are covered by analysts are generally larger than the broader sample of firms examined in the previous determinant analysis. Our sample firms have a mean (median) market value of \$4.46 (\$3.84) billion and are followed by approximately 14 analysts (13.68). About 79 percent of firms have foreign operations, and about 55 percent have a tax-loss carryforward. On average, firms' permanent differences decrease their ETR by 13 percent relative to the U.S. statutory rate.

Panels B and C of Table 5 provide the correlation matrix of variables used in the OLS regression analysis. Correlations significant at the 10 percent level or better are reported in bold. As expected, and consistent with Bratten et al. (2017), there are high correlations between market capitalization (*FirmSize*) and analyst following (*ANF*), as well as research and development (*RDS*) and equity compensation (*CompExp*).

Analysts' Effective Tax Rate Accuracy

Panel D of Table 5 presents the results for the OLS regression testing H4, which predicts that including all UTB interest and penalty expense in tax expense is associated with the accuracy of analysts' ETR forecasts. Specifically, H4 predicts a significant relation between including all UTB interest and penalty expense in tax expense (*All_Tax*) and analysts' implied ETR forecast accuracy. Column (1) includes the results of the regression analysis using Model (2) where *ACCtax* is the dependent variable, which measures the accuracy of analysts' implied tax expense forecasts. The coefficient on *All_Tax* is negative, but is not significant at conventional levels (-0.002 ; $t = -1.15$). Column (2) includes the results of the regression analysis using Model (2) where *ACCpteps* is the dependent variable, which is the accuracy of analysts' pre-tax income forecasts. The coefficient on *All_Tax* is positive and significant at the 5 percent level (0.005 ; $t = 1.99$). Further, Column (3) includes the results of the regression analysis using Model (2) where *ACCetr* is the dependent variable, which measures the accuracy of analysts' ETR forecasts. The coefficient on *All_Tax* is positive and significant at the 10 percent level (0.028 ; $t = 1.77$).

In summary, we find a relation between analysts' ETR forecast accuracy and UTB interest and penalty expense classification. When the components of ETR are examined in the first two columns of Table 5, Panel D, we find only a denominator effect. That is, the UTB interest and penalty expense classification appears to affect pre-tax income accuracy, but not tax expense forecast accuracy. These results suggest analysts' forecasts benefit when firms classify penalty and interest expense as tax expense, which is the more common treatment of firms in our sample (i.e., 86 percent). The finding indicates that the UTB interest and penalty expense classification discretion allowed by FIN 48 may diminish the decision usefulness of FIN 48.²⁸

Our results suggest analysts have greater difficulty forecasting pre-tax income and ETR when firms choose less common reporting practices. Panel D of Table 5 also shows that the magnitude of the interest and penalty expense affects the accuracy of pre-tax income and ETR forecasts. To further examine this relation, we perform additional analysis in Panel E of Table 5, which re-estimates Model (2) separately for *All_Tax* = 1 and *All_Tax* = 0 firms.

In Panel E of Table 5 the analysis is expanded to investigate the effect of the magnitude of the UTB interest and penalty expenses on the relation between *All_Tax* and *Accuracy*.²⁹ Columns (1), (2), and (3) ((4), (5), and (6)) include the results of the regression analysis with *ACCpteps* (*ACCetr*) as the dependent variable. Columns (1) and (4) use the full sample for the regression analysis, identical to Panel D. Columns (2) and (5) use only the sample of firms that includes all of UTB interest and

²⁸ We refer the reader back to Table 2, Panel A for a general look at the expense classifications. It is important to note that of the 133 firms that do not categorize all UTB interest and penalties as tax expense, 91 (68 percent) of these firms choose a mixed reporting classification that may include penalties or interest as part of tax expense. In untabulated analysis, we find that the mixed reporting classification contributes to our finding that analysts are more accurate when an all tax classification is used.

²⁹ In Panel E, we do not include the regression analysis with *ACCtax* as the dependent variable because of the insignificance of *All_Tax* in Panel D.

TABLE 5
Analyst Forecast Properties

Panel A: Descriptive Statistics of Variables Used in OLS Regression Analysis

Variable	n	Mean	Median	Standard Deviation	25%	75%
<i>ACCtax</i>	1,485	-0.0100	-0.0037	0.0264	-0.0088	-0.0017
<i>ACCpteps</i>	1,485	-0.0207	-0.0090	0.0356	-0.0216	-0.0036
<i>ACCetr</i>	1,485	-0.0607	-0.0186	0.1592	-0.0452	-0.0077
<i>All_Tax</i>	1,485	0.8552	1.0000	0.3520	1.0000	1.0000
<i>UTB_change</i>	1,485	0.0000	0.0000	0.0060	-0.0013	0.0017
<i>IntPenMagn</i>	1,485	0.0080	0.0033	0.0216	0.0011	0.0091
<i>Foreign_Inc</i>	1,485	0.7879	1.0000	0.4089	1.0000	1.0000
<i>Leverage</i>	1,485	0.1994	0.1896	0.1602	0.0560	0.2992
<i>FirmSize</i>	1,485	8.4043	8.2540	1.6221	7.3131	9.4310
<i>ETR_STD</i>	1,485	0.0566	0.0294	0.0735	0.0126	0.0663
<i>ETR_change</i>	1,485	0.0749	0.0212	0.1631	0.0084	0.0620
<i>absPermDiff</i>	1,485	0.1292	0.0666	0.1828	0.0292	0.1553
<i>CompExp</i>	1,485	4.5037	5.0000	2.8671	2.0000	7.0000
<i>Loss</i>	1,485	0.0734	0.0000	0.2609	0.0000	0.0000
<i>TLCF</i>	1,485	0.5515	1.0000	0.4975	0.0000	1.0000
<i>RDS</i>	1,485	0.0539	0.0229	0.0718	0.0037	0.0709
<i>ANF</i>	1,485	13.6835	12.0000	8.0760	7.0000	19.0000
<i>Bm</i>	1,485	0.4402	0.3727	0.2886	0.2508	0.5497
<i>Mi</i>	1,485	0.3710	0.0000	0.4832	0.0000	1.0000
<i>Mills_All_Tax</i>	1,485	0.2472	0.2199	0.1658	0.1276	0.3524

Panel B: Correlations Matrix of Variables Used in OLS Regression Analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) <i>ACCtax</i>										
(2) <i>ACCpteps</i>	0.7424									
(3) <i>ACCetr</i>	0.3849	0.3495								
(4) <i>All_Tax</i>	-0.0165	-0.0129	0.0297							
(5) <i>UTB_change</i>	-0.0030	0.0418	0.0082	0.0055						
(6) <i>IntPenMagn</i>	0.0160	-0.0199	-0.1029	0.0002	-0.0171					
(7) <i>Foreign_Inc</i>	0.0793	0.0670	-0.0194	-0.0169	0.0172	0.0413				
(8) <i>Leverage</i>	-0.0315	-0.0011	0.0379	-0.1252	-0.0039	-0.0057	-0.0252			
(9) <i>FirmSize</i>	0.2142	0.3043	0.1580	-0.1335	0.0253	-0.0286	0.2088	0.1750		
(10) <i>ETR_STD</i>	-0.1834	-0.2048	-0.2416	0.0048	-0.0668	0.0194	-0.0390	-0.0627	-0.1982	
(11) <i>ETR_change</i>	-0.1520	-0.1507	-0.2411	0.0117	-0.0703	0.0028	-0.0365	-0.0501	-0.1805	0.6734
(12) <i>absPermDiff</i>	-0.0424	-0.0720	-0.1846	0.0144	0.0231	0.0250	0.0923	0.0045	-0.0716	0.2379
(13) <i>CompExp</i>	0.0516	0.0430	0.0293	0.1050	0.0770	-0.0258	0.0694	-0.3658	-0.2101	0.0027
(14) <i>Loss</i>	-0.3724	-0.4449	-0.2812	0.0424	0.0036	-0.1630	-0.0056	0.0565	-0.2171	0.1490
(15) <i>TLCF</i>	0.0242	0.0183	-0.0522	-0.0016	0.0135	0.0533	0.1382	0.0765	-0.1080	0.0513
(16) <i>RDS</i>	0.0717	0.0501	-0.0378	0.0056	0.0376	0.0545	0.2717	-0.2294	0.0160	0.0708
(17) <i>ANF</i>	0.1516	0.1975	0.1548	-0.0936	0.0296	-0.0487	0.0056	0.0252	0.6761	-0.1858
(18) <i>Bm</i>	-0.1826	-0.2980	-0.2232	0.0605	-0.0584	0.0259	-0.1245	-0.1098	-0.3534	0.2190
(19) <i>Mi</i>	-0.0207	0.0220	-0.0681	-0.0524	-0.0151	-0.0130	0.1053	0.2054	0.2140	0.0140
(20) <i>Mills_All_Tax</i>	0.0669	0.1335	0.0339	-0.2982	0.0200	-0.0323	-0.0288	0.3585	0.3754	-0.0787

Panel C: Correlations Matrix of Variables Used in OLS Regression Analysis (cont.)

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(12) <i>absPermDiff</i>	0.3045								
(13) <i>CompExp</i>	-0.0220	0.0340							

(continued on next page)

TABLE 5 (continued)

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(14) <i>Loss</i>	0.1467	0.1423	-0.0450						
(15) <i>TLCF</i>	0.0712	0.1301	-0.0130	-0.0266					
(16) <i>RDS</i>	0.0590	0.2281	0.5034	0.0342	0.0458				
(17) <i>ANF</i>	-0.1515	-0.0626	0.0819	-0.1435	-0.1383	0.0988			
(18) <i>Bm</i>	0.1964	0.2343	-0.2054	0.3370	0.0532	-0.0454	-0.2704		
(19) <i>Mi</i>	0.0196	0.0321	-0.3081	0.0244	0.0648	-0.1748	0.0387	0.0589	
(20) <i>Mills_All_Tax</i>	-0.0826	-0.0364	-0.1698	-0.0360	-0.0962	-0.0876	0.1509	-0.1963	0.0876

Panel D: Analyst Forecast Accuracy OLS Regression Analysis

Variable	Dependent Variable		
	<i>ACCtax</i> (1)	<i>ACCpteps</i> (2)	<i>ACCetr</i> (3)
Intercept	-0.0015 (-0.27)	-0.0360*** (-3.52)	-0.0612 (-1.12)
<i>All_Tax</i>	-0.0019 (-1.15)	0.0048** (1.99)	0.0278* (1.77)
<i>UTB_change</i>	-0.1746* (-1.65)	0.1695 (0.89)	-0.3005 (-0.39)
<i>IntPenMagn</i>	0.0093 (0.25)	-0.1208* (-1.82)	-1.0775** (-2.51)
<i>Foreign_Inc</i>	-0.0010 (-0.51)	-0.0041 (-0.98)	-0.0241 (-1.36)
<i>Leverage</i>	0.0056 (1.10)	-0.0002 (-0.02)	0.1203** (2.52)
<i>FirmSize</i>	0.0003 (0.52)	0.0056*** (3.74)	0.0077 (1.11)
<i>ETR_STD</i>	-0.0138 (-1.40)	-0.0386** (-2.15)	-0.1341 (-1.09)
<i>ETR_change</i>	-0.0057 (-1.11)	0.0033 (0.41)	-0.0898 (-1.35)
<i>absPermDiff</i>	0.0009 (0.35)	0.0004 (0.08)	-0.0450 (-1.48)
<i>CompExp</i>	0.0003 (1.32)	0.0001 (0.11)	-0.0003 (-0.16)
<i>Loss</i>	-0.0064* (-1.72)	-0.0438*** (-6.24)	-0.1379*** (-3.62)
<i>TLCF</i>	0.0002 (0.15)	0.0026 (1.37)	-0.0084 (-1.04)
<i>RDS</i>	-0.0063 (-0.76)	0.0306 (1.53)	-0.0134 (-0.16)
<i>ANF</i>	0.0000 (0.52)	-0.0002 (-1.03)	0.0010 (1.17)
<i>Bm</i>	0.0071* (1.78)	-0.0119** (-1.97)	-0.0224 (-0.95)
<i>ACCpteps</i>	0.5472*** (7.87)		
<i>Mi</i>	-0.0016* (-1.74)	0.0012 (0.74)	-0.0237 (-2.00)
<i>Mills_All_Tax</i>	-0.0129 (-1.13)	-0.0183 (-0.76)	-0.1308 (-1.37)
Industry Indicators	Yes	Yes	Yes
Year Indicators	Yes	Yes	Yes
Observations	1,485	1,485	1,485

(continued on next page)

TABLE 5 (continued)

Variable	Dependent Variable		
	<i>ACCtax</i> (1)	<i>ACCpteps</i> (2)	<i>ACCetr</i> (3)
Adjusted R ²	58.79%	35.21%	23.08%

Panel E: Analyst Forecast Accuracy and UTB Interest and Penalty Magnitude OLS Regression Analysis

Variable	<i>ACCpteps</i>			<i>ACCetr</i>		
	Full Sample (1)	<i>All_Tax</i> = 1 (2)	<i>All_Tax</i> = 0 (3)	Full Sample (4)	<i>All_Tax</i> = 1 (5)	<i>All_Tax</i> = 0 (6)
Intercept	−0.0360*** (−3.52)	−0.0240** (−2.12)	−0.1533*** (−5.43)	−0.0612 (−1.12)	−0.0649 (−1.35)	−0.5538* (−1.95)
<i>All_Tax</i>	0.0048** (1.99)			0.0278* (1.77)		
<i>UTB_change</i>	0.1695 (0.89)	0.3218* (1.70)	−1.7050*** (−2.95)	−0.3005 (−0.39)	0.0294 (0.04)	−9.0449* (−1.74)
<i>IntPenMagn</i>	−0.1208* (−1.82)	−0.1086 (−1.55)	−0.3766** (−2.30)	−1.0775** (−2.51)	−0.3971 (−1.16)	−3.9964** (−3.14)
<i>Foreign_Inc</i>	−0.0041 (−0.98)	−0.0029 (−0.61)	−0.0167 (−1.46)	−0.0241 (−1.36)	−0.0166 (−0.80)	−0.0863 (−1.25)
<i>Leverage</i>	−0.0002 (−0.02)	0.0016 (0.13)	−0.0204 (−0.53)	0.1203** (2.52)	0.0621 (1.60)	0.1531 (0.81)
<i>FirmSize</i>	0.0056*** (3.74)	0.0047*** (3.00)	0.0199*** (4.06)	0.0077 (1.11)	0.0093 (1.36)	0.0567* (1.79)
<i>ETR_STD</i>	−0.0386** (−2.15)	−0.0393* (−1.87)	0.0122 (0.32)	−0.1341 (−1.09)	−0.1000 (−0.80)	0.1953 (0.62)
<i>ETR_change</i>	0.0033 (0.41)	−0.0008 (−0.10)	0.0265 (1.61)	−0.0898 (−1.35)	−0.0953 (−1.23)	0.0315 (0.61)
<i>absPermDiff</i>	0.0004 (0.08)	0.0008 (0.17)	−0.0138 (−0.80)	−0.045 (−1.48)	−0.0472 (−1.45)	0.0757 (0.75)
<i>CompExp</i>	0.0001 (0.11)	−0.0001 (−0.09)	0.0022* (1.78)	−0.0003 (−0.16)	−0.0017 (−0.94)	0.0156 (1.43)
<i>Loss</i>	−0.0438*** (−6.24)	−0.0451*** (−5.95)	−0.0087 (−0.72)	−0.1379*** (−3.62)	−0.0976*** (−3.40)	−0.2365* (−1.72)
<i>TLCHF</i>	0.0026 (1.37)	0.0027 (1.24)	0.0048 (1.03)	−0.0084 (−1.04)	−0.0177** (−2.16)	0.0409 (1.16)
<i>RDS</i>	0.0306 (1.53)	0.0349 (1.64)	−0.0090 (−0.14)	−0.0134 (−0.16)	0.0095 (0.12)	−0.4544 (−1.18)
<i>ANF</i>	−0.0002 (−1.03)	−0.0002 (−0.74)	−0.0009** (−2.14)	0.001 (1.17)	−0.0002 (−0.27)	−0.0028 (−1.39)
<i>Bm</i>	−0.0119** (−1.97)	−0.0133** (−2.04)	0.0123 (0.91)	−0.0224 (−0.95)	−0.028 (−1.16)	0.0912 (1.00)
<i>Mi</i>	0.0012 (0.74)	0.0019 (1.09)	−0.0091 (−1.20)	−0.0237** (−2.00)	−0.0287** (−2.17)	0.0078 (0.24)
<i>Mills_All_Tax</i>	−0.0183 (−0.76)	−0.0136 (−0.51)	−0.0103 (−0.14)	−0.1308 (−1.37)	−0.0183 (−0.19)	−0.0148 (−0.04)
Industry Indicators	Yes	Yes	Yes	Yes	Yes	Yes
Year Indicators	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,485	1,270	215	1,485	1,270	215
Adjusted R ²	35.21%	36.88%	52.51%	23.08%	22.61%	60.13%

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent, respectively. Significance tests are two-tailed for all variables.

Table 5, Panel A presents the descriptive statistics for the variables used in the regression for analysts' forecast error. Panels B and C present the Pearson correlations for those variables. Correlations significant at the 10 percent level or better are reported in bold. Panels D and E present the coefficient estimates and significance levels from estimating the following OLS regression:

(continued on next page)

TABLE 5 (continued)

$$Accuracy_{i,t} = \beta_0 + \beta_1 All_Tax_{i,t} + \beta_2 UTB_change_{i,t} + \beta_3 IntPenMagn_{i,t} + \beta_4 ForeignInc_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 FirmSize_{i,t} + \beta_7 ETR_STD_{i,t} \\ + \beta_8 ETR_change_{i,t} + \beta_9 absPermDiff_{i,t} + \beta_{10} CompExp_{i,t} + \beta_{11} Loss_{i,t} + \beta_{12} TLCF_{i,t} + \beta_{13} RDS_{i,t} + \beta_{14} ANF_{i,t} + \beta_{15} Bmi_{i,t} + \beta_{16} Mi_{i,t} \\ + \beta_{17} Mills_AllTax_{i,t} + Industry\ and\ Year\ Indicators + \varepsilon_{i,t} \quad (2)$$

Accuracy is measured with three different variables: *ACCtax*, *ACCpteps*, and *ACCetr*. Reported t-values are shown in parentheses below the coefficients. See Appendix B for variable definitions and calculations.

penalty expense in tax expense (*All_Tax* = 1). Finally, Columns (3) and (6) use the sample of firms that does not include all of UTB interest and penalty expense in tax expense (*All_Tax* = 0). For Panel E, *IntPenMagn* is the variable of interest and is negative and significant at the 5 percent level in both Columns (3) and (6) (−0.377, *t* = −2.30; −3.996, *t* = −3.14). However, in Columns (2) and (5), the coefficient on *IntPenMagn* is not significant. This indicates that larger values of interest and penalties make pre-tax income and ETR more difficult for analysts to forecast when not included in the more common income statement classification (i.e., tax expense). This suggests that both the size and location of UTB interest and penalty expenses can affect analysts' forecast accuracy. This provides additional evidence that the classification discretion allowed by FIN 48 may diminish the decision usefulness of FIN 48.

CONCLUDING REMARKS

An express purpose of FIN 48 was to provide consistency and comparability in measuring income taxes (FASB 2006). However, FIN 48 allows discretion as to where UTB interest and penalties are included on the income statement (e.g., income tax expense, interest expense, selling, general and administrative expense, or other). We investigate how tax avoidance, management compensation, and firm debt agreements impact managers' decision of where to include UTB interest and penalty expense on the income statement and whether the income statement classification decision has implications for financial statement users.

First, we examine how tax avoidance (lower GAAP ETR, tax disputes), CEO bonus compensation, and debt covenants potentially influence firms' financial reporting decisions. Managers have incentives to report tax expenses that are not "too high" or "too low." Therefore, we predict and find a positive relation between tax avoidance and including all UTB interest and penalty expenses as tax expense. We also investigate whether the determinant of CEO bonuses influences the classification of UTB interest and penalty expense. CEOs with incentive compensation based on pre-tax income are more likely to classify all of UTB interest and penalty expense in tax expense to avoid reducing pre-tax income. Accordingly, we predict and provide support for a positive relation between CEO bonus alignment with pre-tax income and classification of all UTB interest and penalty expense in tax expense. Finally, we examine whether interest debt covenants are a determinant of the income statement classification of UTB interest and penalty expenses. We do not find support for interest debt covenants as a determinant of the income statement classification of UTB interest and penalty expense. The results suggest that managers strategically classify UTB interest and penalty expenses on the income statement in an effort to mask their tax avoidance behavior and to increase their incentive compensation.

Next, we investigate the implications of management's income statement classification decision on financial reporting comparability. Consistent with expectations, we find a significant association between including all UTB interest and penalty expense in tax expense and analysts' forecasted ETR error. This result suggests that the classification discretion of UTB interest and penalty expense permitted by FIN 48 leads to a decrease of the decision usefulness of FIN 48, particularly for firms choosing less common reporting practices.

Our research suggests that the classification of interest and penalties affects managers and financial statement users. In response to comment letters on the FIN 48 exposure draft, the FASB suggested that they would consider providing more guidance on interest and penalty classification, if necessary. Our results provide evidence that additional guidance may be useful in increasing financial statement comparability.

We make several other contributions to the literature. First, we are the first to investigate determinants associated with UTB interest and penalty expenses classification decisions for the income statement. We provide support for the effects of financial reporting incentives on managers' decisions. Our findings suggest that tax aggressive firms are more likely to choose to report interest and penalties as tax expense. This finding may be interesting to financial statement users, politicians, and activists who want to identify which firms are not paying their "fair share," as well as researchers who use proxies for tax aggressiveness derived, in part, from tax expense. We also provide evidence that size and classification of interest and penalty expense affects

analysts' ETR forecast accuracy. Finally, prior research has identified several methods firms use to manage financial statement users' impressions of firms' performance. We identify another method, UTB interest and penalty expense classification, that managers can use to manage financial statement users' impressions.

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APPENDIX A

Interest and Penalty Expense Disclosures Examples

PepsiCo, Inc.

In addition, we accrue interest related to reserves for income taxes in our provision for income taxes and any associated penalties are recorded in selling, general and administrative expenses. The gross amount of interest accrued, reported in other liabilities, was \$670 million as of December 29, 2012, of which \$10 million was recognized in 2012. The gross amount of interest accrued, reported in other liabilities, was \$660 million as of December 31, 2011, of which \$90 million was recognized in 2011.

The Coca-Cola Company

The Company recognizes accrued interest and penalties related to unrecognized tax benefits in income tax expense. The Company had \$113 million, \$110 million and \$112 million in interest and penalties related to unrecognized tax benefits accrued as of December 31, 2012, 2011 and 2010, respectively. Of these amounts, \$33 million of expense, \$2 million of benefit and \$17 million of expense were recognized through income tax expense in 2012, 2011 and 2010, respectively. If the Company were to prevail on all uncertain tax positions, the reversal of this accrual would also be a benefit to the Company's effective tax rate.

ConocoPhillips Company

Interest related to unrecognized tax benefits is reflected in interest expense, and penalties in production and operating expenses.

Chevron Corporation

On the Consolidated Statement of Income, the company reports interest and penalties related to liabilities for uncertain tax positions as "Income tax expense." As of December 31, 2012, accruals of \$293 for anticipated interest and penalty obligations were included on the Consolidated Balance Sheet, compared with accruals of \$118 as of year-end 2011. Income tax expense (benefit) associated with interest and penalties was \$145, \$(64) and \$40 in 2012, 2011 and 2010, respectively.

APPENDIX B

Variable Definitions

Variable	Definition	Calculation
Dependent Variables		
<i>All_Tax</i>	Indicator variable for UTB interest and penalty expenses both reported within tax expense.	Based on hand collecting from 10K filings, the indicator variable equals 1 when the firm includes all UTB interest and penalty expenses within the tax expense line item on the income statement, and 0 otherwise.
<i>ACCtax</i>	Analysts' implied tax expense forecast accuracy.	Median of the absolute value of each analyst's implied forecast accuracy of firm <i>i</i> 's tax expense for the current fiscal year, scaled by market value and multiplied by -1 . The implied tax expense forecasts are based on each analyst's first forecast (in I/B/E/S) following the announcement of the prior year's earnings and must occur within 90 days of that earnings announcement. The implied tax expense is calculated as the I/B/E/S pre-tax income minus I/B/E/S net income.
<i>ACCpteps</i>	Analysts' pre-tax income forecast accuracy.	Median of the absolute value of each analyst's forecast accuracy of firm <i>i</i> 's pre-tax income for the current fiscal year, scaled by market value and multiplied by -1 . The forecasts are based on each analyst's first forecast (in I/B/E/S) following the announcement of the prior year's earnings and must occur within 90 days of that earnings announcement.
<i>ACCetr</i>	Analysts' ETR forecast accuracy (measured by the difference between analysts' implied ETR forecast and actual GAAP ETR).	Median of the absolute value of each analyst's implied forecast accuracy of firm <i>i</i> 's effective tax rate for the current fiscal year less the implied actual GAAP effective tax rate according to I/B/E/S, and multiplied by -1 . The implied forecasts are based on each analyst's first forecast following the announcement of the prior year's earnings and must occur within 90 days of that earnings announcement.
Independent Variables		
<i>GAAP_ETR</i>	Three-year GAAP effective tax rate.	Previous three years' tax expense/previous three years' pre-tax income ($\sum \text{TXT} / \sum \text{PI}$). <i>GAAP_ETR</i> is only calculated when the three-year cumulative pre-tax income is positive; additionally, <i>GAAP_ETR</i> is constrained to be between 0 and 1. To allow for a broader sample of firms to be included in the analysis, a two-year GAAP ETR measure is used when the three-year measure is unavailable. Likewise, if both the three-year and two-year measures are unavailable, this variable is calculated based on the prior year ETR. The analysis is robust to limiting the sample to availability of the three-year measure.
<i>Tax_Disputes</i>	Indicator variable for outstanding tax disputes.	Indicator variable equals 1 when Kinder, Lydenberg, and Domini's (KLD) STATS database indicates a rating of concern regarding a firm's disputes with tax authorities ($\text{COM_CON_D} = 1$), and 0 when KLD indicates there is not a rating of concern ($\text{COM_CON_D} = 0$).
<i>PreTax_CEO_Pay</i>	CEO cash compensation is more sensitive to pre-tax income than after-tax income.	Indicator variable equals 1 when the R^2 from the firm-specific time series analysis of CEO cash compensation (logged total of salary, bonus, and nonequity incentives) regressed on pre-tax income is greater than the R^2 from the firm-specific time series analysis of CEO cash compensation regressed on net income. CEO compensation is acquired from Execucomp, and all firm observations available from 1993 to 2006 were utilized. A minimum of four years of data is required to calculate this variable.

(continued on next page)

APPENDIX B (continued)

Variable	Definition	Calculation
<i>IntCovenantDummy</i>	Indicator variable for the existence of a debt covenant based on the interest coverage ratio.	Indicator variable equals 1 if the firm has an interest coverage ratio debt covenant listed in the DealScan database, and 0 otherwise.
Controls		
<i>IntPenMagn</i>	UTB interest and penalty expense size scaled by pre-tax income.	Absolute value of UTB interest and penalty expense (TXTUBXINTIS) scaled by pre-tax income (PI).
<i>Foreign_Inc</i>	Indicator variable for firms with foreign income.	Indicator variable equal to 1 when a firm has non-zero pre-tax foreign income (PIFO), and 0 otherwise.
<i>Leverage</i>	Leverage ratio.	Total debt divided by total assets ((DLTT + DLC)/AT).
<i>FirmSize</i>	Log of market value.	The natural log of the common stock's market value at the beginning of the year (CSHO * PRCC_F).
<i>Inst_Own</i>	Institutional ownership percentage.	Percent of the institutional ownership, calculated as the number of shares held by institutions at year-end divided by total shares outstanding.
<i>UTB_change</i>	Change in UTB balance during the year.	The UTB ending balance (TXTUBEND) minus the UTB beginning balance (TXTUBBEGIN), all scaled by lagged market value (CSHO * PRCC_F).
<i>ETR_STD</i>	Effective tax rate volatility.	The standard deviation of the previous four years of effective tax rates (as determined by the implied ETR based on actual pre-tax income and net income reported in I/B/E/S).
<i>ETR_change</i>	Absolute value of the prior year change in ETR.	The prior year calculation for the absolute value of the difference between the current prior year effective tax rates. The ETRs are calculated based on I/B/E/S reported actual pre-tax income and net income.
<i>absPermDiff</i>	ETR distance from standard rate.	The absolute value of the difference between the prior year's GAAP ETR and 35 percent.
<i>CompExp</i>	Equity compensation.	The decile rank of firm <i>i</i> 's prior year stock compensation expense (STKCO) plus implied option expense (XINTOPT in Compustat divided by 0.65), if any, scaled by total assets (AT).
<i>Loss</i>	Indicator variable for firms with net loss.	Indicator variable that equals 1 if there is negative net income in the current year, and equals 0 otherwise.
<i>TLCF</i>	Indicator variable for firms with a tax loss carryforward.	An indicator variable that equals 1 if the firm has non-zero tax loss carryforwards (TLCF) in the prior year, and 0 otherwise.
<i>RDS</i>	Research and development expense.	R&D spending (XRD) divided by sales (SALE) for firm <i>i</i> during the prior year. The variable is set to 1 if R&D spending exceeds sales.
<i>ANF</i>	Number of analysts following the firm.	The number of I/B/E/S analysts issuing EPS forecasts for firm <i>i</i> during the current fiscal year.
<i>Bm</i>	Book-to-market value.	Book value of firm <i>i</i> as of the end of the prior fiscal year (CEQ), divided by market value as of the end of prior fiscal year (CSHO * PRCC_F).
<i>Mi</i>	Indicator variable for firms with minority interest.	Indicator variable that equals 1 if there is non-zero minority interest (MII or MIB) during the current fiscal year, and equals 0 otherwise.
<i>Mills_All_Tax</i>	Inverse Mills ratio.	Inverse Mills ratio based on the selection model. To maximize variable availability, the selection model with <i>GAAP_ETR</i> was utilized (i.e., Column (1) of Table 4).