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How do disclosures of tax uncertainty to tax authorities affect reporting decisions? Evidence from Schedule UTP

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How do disclosures of tax uncertainty to tax authorities affect reporting decisions? Evidence from Schedule UTP

by

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Dedication

I dedicate this work to my father and fellow professor, Frederick S. Towery.
Thank you for always encouraging me to be the best me I can be.

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How do disclosures of tax uncertainty to tax authorities affect reporting decisions? Evidence from Schedule UTP

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This study exploits the recently-issued *Uncertain Tax Position Statement* (Schedule UTP) to examine the effect of mandatory disclosures of tax uncertainty to tax authorities on firms' reporting decisions. Schedule UTP requires firms to disclose federal income tax positions to the Internal Revenue Service that have been classified as 'uncertain' for financial reporting purposes. In showing how Schedule UTP disclosure requirements affect private and public reporting decisions, I provide insights into the usefulness of these disclosures. Using confidential tax return data and public financial statement data, I find that after imposition of Schedule UTP reporting requirements, firms report lower financial reporting reserves for uncertain income tax positions, but do not claim fewer income tax benefits on their federal tax returns. These findings suggest some firms changed their financial reporting for uncertain tax positions to avoid Schedule UTP reporting requirements without changing the underlying positions. The effect is concentrated among firms with greater business complexity, whose business operations facilitate tax planning strategies that are more difficult for the IRS to identify. More

broadly, my results imply private disclosures of tax uncertainty can affect the informativeness of public disclosures of tax uncertainty.

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Chapter 1: Introduction

Over the years, many countries have witnessed a proliferation of aggressive tax planning schemes and have developed various responses to address the risk such proliferation poses to their tax base. . . Recognizing the difficulties of relying on traditional audits alone, several countries have introduced complementary disclosure initiatives aimed at improving their capability to detect aggressive tax planning schemes.
(2011 OECD Report on Disclosure Initiatives)

Firms face increasing pressure from tax authorities to disclose information about tax planning strategies. A number of jurisdictions, including Canada, Ireland, Portugal, the United Kingdom and the United States (US), mandate early disclosure of transactions deemed tax shelter schemes. Other countries require groups of high-risk taxpayers to complete questionnaires designed to assess tax compliance risk. Most recently in the US, the Internal Revenue Service (IRS) released Schedule UTP, *Uncertain Tax Position Statement*, which requires a firm to list its uncertain US income tax positions in its corporate income tax return.[1] This evolving reporting environment calls into question whether and how these disclosure requirements affect firm behavior. Using confidential corporate tax return data, confidential Schedule UTP disclosures and public financial statement data, this study exploits the implementation of Schedule UTP to examine how mandatory disclosures of tax uncertainty to tax authorities affect reporting decisions.

Prior to Schedule UTP, the IRS relied on a combination of pre-audit statistical analyses and tax return audits to identify potential tax issues. Even with extensive audits, examiners likely missed potentially important tax issues due to limited resources. By

[1] For purposes of Schedule UTP, an uncertain tax position is defined as a tax position for which the firm has recorded a reserve in its audited financial statements. However, because of the possibility that firms could modify their financial reporting for tax uncertainty, I refer to uncertain tax positions throughout the manuscript as positions that might not be sustained if challenged by a tax authority. In addition, although firms can engage in non-income tax planning strategies (e.g., sales and use tax planning), this study focuses specifically on income tax uncertainty.

requiring a firm to disclose uncertain tax positions claimed on the tax return, the Schedule UTP should improve the IRS' audit process by making examiners and audit selection teams aware of some potential tax issues much sooner. Schedule UTP applies to federal tax positions for which a firm has recorded a reserve in its audited financial statements (Instructions for Schedule UTP).[2] In contrast with other reporting requirements to tax authorities, Schedule UTP is unique in that the disclosures depend on how a firm accounts for uncertain tax positions in its financial statements. Schedule UTP could therefore affect: (i) the decision to claim an uncertain tax position; and (ii) the decision to record a reserve for the position in the audited financial statements.

Theory and existing empirical evidence provide varying predictions on the effect of Schedule UTP on the decision of whether to claim an uncertain tax position. In the most basic tax compliance model, the decision to claim an uncertain position entails trading off the benefit of lower tax liability if undetected with the costs, such as penalties and interest, if detected (Allingham and Sandmo 1972). If disclosing such a position on Schedule UTP increases the likelihood the position will be detected, a firm should become less willing to claim an uncertain tax position. Indeed, game-theoretic models of tax compliance determine that increasing audit probability decreases firms' willingness to claim uncertain tax positions (e.g., Graetz, Reinganum and Wilde 1986), and recent empirical evidence supports this prediction (Hoopes, Mescall and Pittman 2012). Further, IRS Commissioner Doug Shulman acknowledged in remarks to the American Bar

[2] One exception to this general rule is that a firm must also disclose any position that the firm expects to litigate even if the firm has not recorded a reserve. Thus, even if a firm does not record a reserve for uncertain tax positions in its financial statements, the firm could still report a position on Schedule UTP.

Association in September of 2012 that one purpose of the Schedule UTP was to deter firms from 'pushing the envelope too far'.

However, a firm could also respond to the increased audit risk resulting from Schedule UTP disclosure by claiming even more uncertain tax benefits. Although disclosing a position on Schedule UTP increases the likelihood the position will be audited, some firms could view the IRS audit process as a negotiation where the final amount of tax liability falls somewhere between the firm's reported tax liability and the IRS' proposed higher tax liability. A firm could therefore claim more uncertain tax benefits to create a more aggressive starting point for negotiations with the goal of minimizing tax liability. Consistent with this intuition, in a controlled experiment with individual income taxpayers in Minnesota, high income taxpayers reported even lower taxable income amounts when told before filing that their tax return will be audited with certainty (Blumenthal, Christian and Slemrod 2001).

Finally, if the IRS is already aware that a firm is claiming a position via other tax return disclosures or prior audits, disclosing the existence of the position should be costless to the firm. In this case, Schedule UTP could have no effect on firms' willingness to claim uncertain tax positions. Therefore, whether the degree of tax uncertainty changes, and in what direction (if any), in response to Schedule UTP is an empirical question.

Schedule UTP can also affect a firm's financial reporting for tax uncertainty. If a firm could avoid booking a reserve for a claimed position, the firm would not have to list the position on Schedule UTP. Therefore, while external auditors provide some check on

a firm's financial reporting decisions, a firm could find ways to strategically avoid recording financial statement reserves for uncertain tax positions (Harvey 2010). This result would be similar in spirit to experimental findings by Cuccia, Hackenbrack and Nelson (1995) that adopting more stringent tax reporting standards does not mitigate tax uncertainty because firms find other ways to justify uncertain tax positions. I therefore also test whether financial reporting for tax uncertainty changes in response to Schedule UTP.

In related work, Abernathy, Davenport and Rapley (2012) and Ferraro (2012) document a decrease in financial statement reserves for uncertain tax positions in the Schedule UTP regime. However, because firm-level federal tax payments are not publicly-available, the studies cannot determine whether the decrease in reserves results from (i) lower federal tax uncertainty, or (ii) a change in financial reporting for tax uncertainty. Understanding which of these explanations drives the decrease in reserves is crucial to assessing the impact of the standard on tax and financial reporting. This study disentangles the two explanations by combining confidential federal tax return data with public financial statement data.

My main sample consists of 430 unique firms recording reserves for uncertain tax positions prior to Schedule UTP. I first report that most positions disclosed on Schedule UTP appear consistent with information reported elsewhere in the tax return and financial statements, supporting the notion that firms are willing to disclose positions of which the IRS is already aware. I then implement an interrupted time series approach to formally test the effect of Schedule UTP on federal tax payments and financial reporting reserves

for uncertain tax positions. My results collectively suggest firms modified their financial reporting for tax uncertainty to avoid disclosing positions unknown to the IRS on Schedule UTP, but not the underlying claims of such positions. I predict and find that the behavior is concentrated among multinational firms, whose complex business operations facilitate tax planning strategies that are more difficult for the IRS to identify.

To rule out confounding explanations, I conduct a number of falsification tests. First, I provide evidence that firms not subject to Schedule UTP (i.e., firms with less than $100 million of assets) do not change behavior in the Schedule UTP regime. Second, placebo tests of time periods before and after Schedule UTP reveal that the pattern of behavior observed in response to Schedule UTP is not explained by an overall time trend. Third, as Schedule UTP only applies to federal tax uncertainty, I report that foreign, state and local tax expense does not change in the Schedule UTP regime. Finally, I examine firms participating in a mutual compliance program with the IRS (Compliance Assurance Program, or CAP). Consistent with CAP firms already disclosing their federal tax uncertainty to the IRS prior to Schedule UTP, these firms do not change behavior in response to Schedule UTP.

This study contributes to multiple literatures. First, a rich stream of studies over the last two decades has broadened our understanding of how tax rules affect financial reporting choices, including inventory costing (Jenkins and Pincus 1998); asset capitalization (Cloyd, Pratt and Stock 1996); accrual policies (Guenther, Maydew and Nutter 1997; Calegari 2000); depreciation (Keating and Zimmerman 1999); and earnings deferral (Scholes, Wilson and Wolfson 1992; Dhaliwal and Wang 1992). I complement

these studies by providing evidence on the effect of confidential tax disclosure requirements on the informativeness of financial reporting for tax uncertainty. I find that firms strategically modify their financial reporting process in response to mandatory confidential disclosures of tax uncertainty, suggesting such requirements can affect the informativeness of financial reporting. Thus, this study also answers the call by Blouin and Robinson (2012) for more research on the decision usefulness of financial statement disclosures of tax uncertainty.

Second, confidential Schedule UTP disclosures enable me to describe specific transactions underlying financial statement reserves for uncertain tax positions. The composition of positions reported on Schedule UTP suggests the IRS was already aware of many reported positions prior to Schedule UTP. Further, empirical research finds that tax shelters often generate material temporary book-tax differences (Wilson 2009; Lisowsky, Robinson and Schmidt 2012). My finding that a majority of tax positions reported on Schedule UTP generate permanent book-tax differences suggests that identified tax shelters ('listed transactions') do not comprise the bulk of uncertain tax positions.

Finally, because the Schedule UTP requirement partially disaggregates a financial statement reserve, this study contributes to a growing stream of literature on the effects of accounting disaggregation (e.g. Otley and Dias 1982; Botosan and Stanford 2005; Hirst, Koonce and Venkataraman 2007; Libby and Brown 2012; Bonner, Clor-Proell, Koonce and Wang 2012). Having both financial statement data and confidential tax return data uniquely enables me to separate two potential effects of accounting disaggregation: an

economic effect (i.e. claiming uncertain tax positions) versus a financial reporting effect (i.e. creating reserves for uncertain tax positions). Although disaggregated disclosures are generally intended to increase transparency, my results suggest that requiring firms to disaggregate accounting information can have the unintended effect of decreasing transparency.

My findings are also important to tax administrators, policymakers and financial statement users. First, learning that firms could be modifying their financial reporting for tax uncertainty to avoid disclosing positions on Schedule UTP affects how tax authorities interpret tax return disclosures of tax uncertainty.[3] Specifically, my results suggest some uncertain positions are not disclosed on Schedule UTP. Second, understanding more about specific types of uncertain tax positions provides insight into firms' tax strategies and can inform policymakers in their discussions about corporate tax reform. Finally, financial statement users should exercise care in comparing financial statement reserves for tax uncertainty in pre- and post- Schedule UTP environments because Schedule UTP appears to have changed the methodology for recording reserves for some firms.

The remainder of the paper is organized as follows. Chapter 2 provides background information about Schedule UTP and the US tax disclosure environment. Chapter 3 develops the hypotheses. Chapter 4 describes the research design, Chapter 5 presents empirical results and Chapter 6 presents falsification tests. Chapter 7 presents an exploratory discussion on the effect of Schedule UTP on the informativeness of financial reporting for tax uncertainty. Chapter 8 summarizes and concludes.

[3] California requires each taxpayer to file a copy of the federal Schedule UTP with its California corporate income tax return. The Australian Taxation Office is developing a similar reportable transaction schedule.

Chapter 2: The role of Schedule UTP in the US tax disclosure environment

Over the past several years, the IRS has implemented a number of initiatives designed to identify tax planning strategies. Figure 1 provides a timeline describing the US tax disclosure environment. Understanding the objectives and consequences of the initiatives preceding Schedule UTP is important to understanding the motivation for and potential consequences of Schedule UTP. I discuss each of the initiatives in the following subchapters.

2.1 Reportable transaction disclosures

Beginning in 2000, firms participating in transactions deemed 'potentially abusive tax shelters' must disclose such transactions to the IRS in their corporate tax return on Form 8886. The list of transactions warranting disclosure ('reportable transactions') has grown over time as the IRS becomes aware of new tax planning strategies. For example, lease-in/lease out (LILO) transactions became a popular tax planning strategy in the 1990s. In these transactions, a firm generates tax benefits via accelerated deductions by leasing property from a tax-indifferent lessor and then immediately subleasing the property back to the lessor. When the IRS became aware of this strategy, LILOs were added to the list of reportable transactions. Using confidential data from the Office of Tax Shelter Analysis, Lisowsky (2010) provides evidence that firms with reportable transactions are larger and have lower leverage, presence in tax havens, greater foreign operations, litigation risk and greater profitability. To my knowledge, no empirical studies have examined the effect of the reportable transaction disclosure requirements on firm behavior. However, Sansing (1993) shows analytically that requiring disclosures of

tax uncertainty could either increase or decrease claims for uncertain tax benefits depending on the precision of the information environment. Importantly, these disclosures do not reveal tax planning strategies that have not yet been identified by the IRS.

2.2 Book-tax difference reconciliation

Tax planning strategies can and often do generate differences between financial reporting (book) income and taxable income. In fact, prior studies find that larger book-tax differences are associated with larger proposed audit adjustments by the tax authority (Mills 1998) and firms are less likely to claim uncertain tax positions when they generate book-tax differences (Mills and Sansing 2000). To further increase transparency, the IRS in 2004 began requiring firms to provide a detailed reconciliation of book income to taxable income (Schedule M-3).[4] Donohoe and McGill (2011) provide empirical evidence that firms reported smaller book-tax differences in response to these increased reporting requirements, consistent with Schedule M-3 causing firms to claim fewer uncertain tax positions. The authors also find a negative market response to the release of the final draft of Schedule M-3, suggesting investors expected higher future tax payments as a result of the new disclosure. However, Boynton, DeFilippes and Legel (2006) find that firms classify 89 percent of total book-tax differences as 'Other', which could limit the ability of Schedule M-3 to reveal tax planning strategies to the IRS.

[4] Prior to Schedule M-3, firms reported a limited reconciliation of book income to taxable income on Schedule M-1. See Mills and Plesko (2003) for a detailed discussion of the limitations of Schedule M-1 and the motivation for Schedule M-3.

2.3 Financial reporting for uncertain tax positions

Starting in 2007, FASB Financial Interpretation No. 48, *Accounting for Uncertainty in Income Taxes* (FIN 48/ASC 740-10), requires firms reporting under US GAAP to record and disclose reserves for uncertain tax positions in their public financial statements. Firms provide a reconciliation of the beginning balance to the ending balance of uncertain tax benefits. See Appendix A for a sample financial statement disclosure of uncertain tax benefits.

The mechanics of the measurement rule arguably cause firms to overstate tax reserves because firms are required to ignore detection risk in measuring the reserves. These rules can therefore affect firms' incentives to claim uncertain tax positions because: (i) recording reserves reduces the benefit firms can recognize in current period financial earnings; and (ii) disclosing reserves provides a signal to tax authorities that could increase the risk of audit. Although a manager could have incentives to avoid recording reserves for uncertain tax positions, the manager must provide the external auditor with sufficient evidence for why the position does not warrant a reserve. Because the firm might have to incur a cost to obtain such evidence (e.g. by purchasing a legal opinion), the manager might rather create a reserve for the position.

Mills, Robinson and Sansing (2010) develop analytic predictions that these financial reporting requirements cause firms to cease claiming the weakest uncertain tax positions. In empirical work, Blouin, Gleason, Mills and Sikes (2010) find that firms settled disputed tax positions with tax authorities in 2006, consistent with incentives to avoid recording reserves for uncertain tax positions. Gupta, Mills and Towery (2013)

show that firms claimed fewer multistate uncertain tax positions when required to record and disclose financial reporting reserves for uncertain tax positions. These studies provide evidence that financial reporting rules requiring firms to record and disclose reserves for tax uncertainty disregarding audit risk decrease firms' incentives to claim uncertain tax positions.

However, one key feature of financial reporting reserves is the aggregation of uncertain tax positions across all jurisdictions. Thus, even though the magnitude of a firm's reserve provides tax authorities with a noisy signal about tax uncertainty, the IRS is generally unable to determine from the aggregate disclosure whether a firm's tax positions affect its federal tax liability. Further, firms are not required to disclose the specific tax positions underlying the reserves.

2.4 Schedule UTP

Despite the availability of reportable transactions disclosures, book-tax reconciliations and financial reporting reserves for tax uncertainty, the IRS still spends up to 25 percent of audit time searching for issues.[5] To increase efficiency in issue identification, the IRS announced a new disclosure initiative in January of 2010. Schedule UTP, *Uncertain Tax Position Statement*, effective beginning with 2010 tax returns for firms with $100 million or more in assets, requires firms to list federal tax positions claimed in the current year for which a reserve is recorded in the financial

[5] Source: Doug Shulman's remarks to New York State Bar Association on January 6, 2010 (http://www.irs.gov/uac/Prepared-Remarks-of-IRS-Commissioner-Doug-Shulman-to-New-York-State-Bar-Association-Taxation-Section-Annual-Meeting-in-New-York-City,-Jan.-26,-2010).

statements.[6] Thus, Schedule UTP enables the IRS to partially disaggregate financial statement reserves for tax uncertainty.

Edwards, Koester and Shevlin (2010) observe no market reaction to the initial Schedule UTP announcement, suggesting investors did not revise their expectations about future tax liabilities. The IRS released a draft Schedule UTP for comments in April of 2010, which required firms to provide a description of each position as well as the maximum tax adjustment. Unsurprisingly, the proposed schedule was poorly received. Several practitioners and professional organizations pressured the IRS to abandon the initiative, arguing that the draft schedule violated the IRS' long-standing policy of restraint with respect to discovering tax accrual workpapers. Consistent with practitioner concerns, Abernathy, Davenport and Rapley (2012) find a negative investor reaction to the release of the draft Schedule UTP.

In September of 2010, the IRS released the final version of Schedule UTP, which eliminated many controversial elements of the draft Schedule UTP, although the IRS did amend its policy of restraint. For each position, a firm must disclose: (i) a concise narrative description; (ii) the applicable Internal Revenue Code section(s); (iii) whether the position generates a permanent book-tax difference, a temporary book-tax difference or both; (iv) a ranking of the position relative to other federal uncertain tax positions; and (v) whether the position is a 'Major' position (at least 10 percent of the total reserves for

[6] Rules for recording tax reserves vary depending on the accounting standards used to prepare the financial statements. For example, US GAAP requires firms to record reserves for tax positions failing a more-likely-than-not threshold based on the technical merits of the position (ASC 740-10). In contrast, IFRS requires firms to record reserves for the amount of taxes the firm expects to pay (or settle) in the future (IASB International Accounting Standard No. 12, *Income Taxes* (IAS 12)).

federal tax positions).[7] The taxpayer is not required to disclose the magnitude of the position nor discuss the merits of the position. The IRS did not establish an explicit penalty regime for failure to comply with the Schedule UTP requirements. However, the IRS will seek enforcement action if a subsequent audit examination reveals a taxpayer did not disclose a position on Schedule UTP that was reserved for in the financial statements.

Abernathy, Davenport and Rapley (2012) and Ferraro (2012) document that firms reported lower reserves for tax uncertainty in the Schedule UTP regime. However, because they cannot observe federal tax payments, they are unable to determine whether the decrease is attributed to firms claiming fewer uncertain tax benefits or modifying their financial reporting for tax uncertainty.

[7] See http://www.irs.gov/uac/(Schedule-UTP)-Form-1120,-Uncertain-Tax-Position-Statement for the complete Schedule UTP.

Chapter 3: Development of Hypotheses

The purpose of this study is to examine whether and how the new Schedule UTP requirement affects the decision to claim an uncertain tax position and the decision to create a financial statement reserve for the uncertain tax position. The following subchapters discuss these decisions and develop hypotheses about the effect of Schedule UTP.

3.1 The tax reporting decision

Predictions from existing analytic models of tax compliance can be reasonably applied to Schedule UTP. In deciding whether to claim an uncertain tax position, a firm trades off the benefit of lower tax payments if undetected with the costs, such as penalties, interest and reputation costs, if detected (Allingham and Sandmo 1972). If disclosing an uncertain tax position on Schedule UTP increases the probability of a position being audited, thus increasing the likelihood of detection, firms should have less incentive to claim the position. Consistent with this intuition, Graetz, Reinganum and Wilde (1986) find analytically that increasing audit probability increases compliance. Hoopes, Mescall and Pittman (2012) provide empirical evidence that tax compliance is increasing in IRS audit likelihood using aggregate audit probability data obtained from the Transactional Records Access Clearinghouse (TRAC). Anecdotally, upon the release of Schedule UTP, some tax practitioners predicted firms could become less willing to claim uncertain tax positions knowing they must report the positions directly to the IRS (Kocieniewski 2010).

However, even with increased audit risk, the magnitude of tax savings generated

with tax planning strategies is substantial. Mills, Erickson and Maydew (1998) document that large firms save an average of $4 for every $1 spent on tax planning. Firms could therefore still have incentives to continue claiming uncertain tax positions even in the Schedule UTP regime. Further, to the extent a firm views an IRS audit as a negotiation where the outcome (settlement) will lie somewhere between the firm's assessment of taxable income to the IRS' assessment of taxable income, one strategy could be to claim more uncertain tax benefits so as to create a lower starting point for the negotiation with the goal of achieving a lower tax liability. Supporting this possibility, Blumenthal, Christian and Slemrod (2001) implement a controlled experiment where individual taxpayers in Minnesota learn before they file their return that they will be audited. They find that although low and middle-income taxpayers claimed fewer uncertain tax benefits, high income taxpayers claimed more uncertain tax benefits and reported even lower income values than in previous years. This evidence is consistent with firms claiming greater uncertain tax benefits in order to establish a lower bound for negotiation in the face of a certain audit. Although Schedule UTP does not guarantee a position will be audited (as was the case in Blumenthal, Christian and Slemrod (2001)), firms could expect the IRS to audit a disclosed position, which could encourage firms to claim more uncertain tax benefits. In addition, the 'tax morality' literature suggests when a taxpayer perceives an action by a tax authority to be unfair, he (or by extension the corporate tax director) might reciprocate by engaging in more tax uncertainty (Feld and Frey 2007).

Finally, there are also reasons why Schedule UTP could have no effect on a firm's incentives to claim uncertain tax positions. First, in contrast with the initial draft of

Schedule UTP, the final version does not require firms to disclose the magnitude of the uncertain tax position or an assessment of its merits. Thus, if the IRS is already aware of an uncertain tax position from previous or continual audits, disclosing the position on Schedule UTP should impose no cost on the firm. Second, Cuccia, Hackenbrack and Nelson (1995)) find that adopting more stringent tax reporting standards does not mitigate tax uncertainty because firms find alternative ways to justify uncertain tax positions. In a similar vein, a firm could avoid reporting an uncertain position on Schedule UTP by not recording a financial statement reserve for the position. In sum, whether Schedule UTP affects a firm's decision to claim an uncertain tax position is an empirical question.

Because of these competing predictions, I state my hypothesis in the null form.

H1: Federal income tax uncertainty does not change in response to Schedule UTP.

3.2 The financial reporting decision

As a first-order effect, the financial reporting decision is somewhat mechanically related to the tax compliance decision. In other words, ceteris paribus, reserves for uncertain tax positions should increase if a firm claims more uncertain tax positions and vice versa. However, because Schedule UTP only applies to tax positions for which a firm has recorded a reserve in the financial statements, firms have incentives to modify their financial reporting for tax uncertainty. Indeed, when the Schedule UTP was released, practitioners voiced concerns that firms would change their approach to recording and measuring financial reporting reserves for tax uncertainty in order to avoid

disclosing uncertain positions on Schedule UTP (Coder 2012; Harvey 2010).[8]

Potential techniques to avoid recording a financial statement reserve include: (i) purchasing legal opinions to reclassify 'uncertain' tax positions as 'certain'; (ii) increasing the materiality threshold for recording reserves (Harvey 2010); and (iii) assuming the IRS has an administrative practice of not challenging the tax position (Harvey 2010). Anecdotally, multiple audit firm partners conveyed to the author that they received substantially more legal opinion letters in 2010 after the announcement of Schedule UTP. Further, managers can exercise discretion in measuring and recording financial statement reserves, as evidenced by the diversity in recording and disclosing reserves for tax uncertainty (Robinson and Schmidt 2012; De Simone, Robinson and Stomberg 2012). Provided a firm can provide sufficient support to the external auditor to justify no longer reserving for a position, Schedule UTP could have a differential effect on tax uncertainty and financial reporting for tax uncertainty.

Because there are varying predictions for the effect of Schedule UTP on financial reporting for tax uncertainty, I state my hypothesis in the null.

H2: Financial reporting for federal income tax uncertainty does not change in response to Schedule UTP.

3.3 Business complexity

The primary risk of disclosing an uncertain tax position on Schedule UTP is that the IRS will investigate the position, thus potentially decreasing its value. In addition, in IRS LB&I Division Commissioner Heather Maloy's guidance on Schedule UTP to IRS

[8] In a Federal Tax Advisory published in July of 2012, Alston & Bird LLP speculated that a decline in reserves for uncertain tax positions could be explained by a firm 'stretching its analysis to avoid reporting a tax position on the UTP schedule'. The article is published online at http://www.alston.com/publications/.

field examiners, she stated that a UTP disclosure could induce scrutiny of the same issue in a pre-Schedule UTP tax year.[9] This amplifies the risk of disclosing a position on Schedule UTP. However, the prior/existing reporting initiatives discussed in Chapter 2 have increased the IRS' knowledge of tax planning opportunities, as evidenced by the increasing list of transactions deemed reportable transactions. The result is that a majority of tax planning strategies that have not yet been identified by the IRS now require complex business operations (e.g., operations in multiple tax jurisdictions).[10] Thus, I expect the effect of Schedule UTP, if any, to be strongest for firms with high business complexity. Stated formally,

H3: The response to Schedule UTP, if any, is concentrated among firms with greater business complexity.

[9] Source: http://www.irs.gov/Businesses/Corporations/LB&I-Schedule-UTP-Guidance.
[10] Supporting this conjecture, in 2010, the IRS merged its International Division into its Large and Mid-Sized Business Division to increase emphasis on international tax issues.

Chapter 4: Research Design

4.1 Sample & data sources

Schedule UTP became effective for tax years beginning on or after January 1, 2010. My initial sample includes 6,569 calendar firm-year observations in 2009 and 2010 from the Compustat Fundamentals Annual database. By requiring firm-years to have at least $100 million in assets and audited financial statements, the sample includes only firms subject to Schedule UTP in 2010. Panel A of Table 1 summarizes the sample construction. I merge the Compustat data with the confidential IRS Business Return Transaction File (BRTF) using the employer identification number (EIN).[11] The BRTF data transcribe limited data points from the first five pages of the US Corporation Income Tax Return Form 1120. Form 1120 includes the calculation of taxable income, book balance sheet data, and some stockholders' equity reconciliation and book-tax difference information. I exclude 1,531 observations missing tax return data. The sample excludes 2,435 observations with negative pretax income because: (i) effective tax rates are difficult to interpret for loss firms (Gupta and Newberry 1997); and (ii) eliminating loss observations limits my sample to firms relatively less affected by the financial crisis. I also require observations to have non-missing data to compute all regression variables.

I also require data for both 2009 and 2010 for each firm in order to compare behavior for the same firms across time. I limit my sample period to 2009 and 2010 for two reasons. First, financial statement reserves for uncertain tax positions are only

[11] The data made available to me for this project include: (1) selected data points from pages 1 through 5 of the US Corporate Income tax return (Form 1120); (2) Schedule UTP disclosures; and (3) a list of firms participating in the Compliance Assurance Program (CAP).

publicly observable beginning in 2007. However, including 2007 and 2008 in my sample could confound my results because the rules for *measuring* reserves also changed in 2007 for firms reporting under US GAAP. As mentioned in Chapter 2, empirical evidence suggests the financial statement reserve rules caused a change in behavior. Second, 2008 falls in the heart of the financial crisis, making it difficult to interpret firm behavior in 2008. I acknowledge that including only two years of data limits the interpretation of my results, but I attempt to address this concern using placebo tests (see Chapter 6).

Finally, because I am most interested in firms engaged in tax uncertainty prior to Schedule UTP, I require firms to report financial statement tax reserves for positions claimed in 2009 (prior to Schedule UTP). All firms that prepare audited financial statements (public and private) are subject to Schedule UTP. However, this final sample restriction requires me to exclude firms not filing public financial statements with the Securities and Exchange Commission because their reserves for uncertain tax positions are not publicly available. These restrictions yield a final sample of 860 calendar firm-years.

Panel B of Table 1 presents the number of sample firms in each industry. I use the Fama-French 10-industry classifications with two exceptions: (i) I separate Financial firms from the 'Other' classification, and (ii) I combine Consumer Durables and Consumer NonDurables into one classification.[12] These classifications enable me to group together firms with similar opportunities for claiming uncertain tax positions. Manufacturing, High-technology and Healthcare firms comprise almost half of my

[12] The Fama-French industry classifications can be found in the Data Library on Ken French's website (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html).

sample, consistent with these firms having opportunities to engage in tax uncertainty.[13] The concentration of firms in these industries results from my requirement that firms must report reserves for uncertain tax positions prior to the Schedule UTP regime. Firms in the 'Other' category include Mining, Construction, Building Management, Transportation, Hotels, Business Services and Entertainment.[14]

4.2 Measures of tax uncertainty and financial reporting for tax uncertainty

I employ one measure of federal tax uncertainty and three measures of financial reporting for federal tax uncertainty, each scaled by book pretax income (Compustat PI). The measure of federal tax uncertainty, *FederalTaxPaid*, equals the total tax reported on the US Corporate Income Tax Return (Line 31 of Page 1 from the BRTF data). The first measure of financial reporting for tax uncertainty, *ReservesCYPositions*, equals the financial statement reserves for uncertain tax positions claimed in the current year (Compustat TXTUBPOSINC). The second measure of financial reporting for tax uncertainty, *DecReservesPYPositions*, equals the decrease in financial statement reserves for uncertain tax positions claimed in prior years (Compustat TXTUBPOSPDEC). Finally, *FederalTaxExpense*, equals the current federal tax expense (Compustat TXFED) reported in the financial statements.[15] Generally, *FederalTaxExpense* should equal

[13] In August of 2011, Tax Notes reported that 'By taking advantage of lax U.S. and foreign tax laws, Apple has been able to book a large share of its foreign profits in low-tax jurisdictions and greatly reduce its tax liability in the United States and other major countries where it conducts most of its real business activity' (Tax Notes, August 1, 2011). Senator Bernie Sanders wrote in a letter published in the Wall Street Journal, 'Many corporations, including General Electric and Exxon-Mobil, have made billions in profits while using loopholes to avoid paying any federal income taxes' (Wall Street Journal, July 29, 2011).

[14] The small percentage of wholesale and retail firms is likely due to excluding non-calendar year end firms.

[15] I use current federal tax expense rather than total federal tax expense (current plus deferred federal tax expense) to maintain consistency with my tax return measure, *FederalTaxPaid*, which equals current federal taxes paid.

FederalTaxPaid if the firm records no reserves for uncertain tax positions and the affiliates included in consolidated book income are also included in consolidated taxable income. All variables are defined in Appendix B.

Consider the following example. Assume a firm faces a 35 percent federal corporate income tax rate and is deciding whether to claim an uncertain tax position that would decrease its effective tax rate by 5 percent in Years 1 and 2.

In Scenario 1, the firm does not claim the uncertain tax position in Year 1 or Year 2. In this scenario, *FederalTaxPaid* and *FederalTaxExpense* both equal 35 percent and the firm does not create a reserve because the firm does not claim the position.

S(1)	***Federal TaxPaid***	***Reserves CYPositions***	***DecReserves PYPositions***	***Federal TaxExpense***
Year 1	35.0%	0.0%	0.0%	35.0%
Year 2	35.0%	0.0%	0.0%	35.0%

In Scenario 2, the firm claims the uncertain tax position in Years 1 and 2 and does not record a reserve for the position in Years 1 or 2. In this scenario, the firm can recognize the benefit of the position in current period earnings because it does not record a reserve. Thus, *FederalTaxPaid* and *FederalTaxExpense* both equal 30 percent.

S(2)	***Federal TaxPaid***	***Reserves CYPositions***	***DecReserves PYPositions***	***Federal TaxExpense***
Year 1	30.0%	0.0%	0.0%	30.0%
Year 2	30.0%	0.0%	0.0%	30.0%

In Scenario 3, the firm claims the uncertain tax position and records a reserve for the position in Years 1 and 2. In this scenario, *FederalTaxPaid* equals 30 percent, but because the firm creates a reserve for the position, the firm does not recognize the benefit of the position in current period earnings, resulting in *FederalTaxExpense* of 35 percent.

S(3)	***Federal TaxPaid***	***Reserves CYPositions***	***DecReserves PYPositions***	***Federal TaxExpense***
Year 1	30.0%	5.0%	0.0%	35.0%
Year 2	30.0%	5.0%	0.0%	35.0%

Finally, in Scenario 4, the firm claims the uncertain tax position in Years 1 and 2, records a reserve for the position in Year 1, but obtains a legal opinion in Year 2 stating that the firm no longer has to reserve for the position (see Harvey (2010) for other ways firms can justify no longer reserving for a position). In this scenario, the firm does not reserve for the position in Year 2, but the firm also reverses the reserve recorded in Year 1 (*DecReservesPYPositions*). Therefore, *FederalTaxPaid* equals 30 percent in Years 1 and 2 and *FederalTaxExpense* equals 35 percent in Year 1 and 25 percent in Year 2.

S(4)	***Federal TaxPaid***	***Reserves CYPositions***	***DecReserves PYPositions***	***Federal TaxExpense***
Year 1	30.0%	5.0%	0.0%	35.0%
Year 2	30.0%	0.0%	5.0%	25.0%

This example illustrates two key observations. First, *FederalTaxPaid* is not affected by financial reporting reserves and therefore always reflects true federal tax uncertainty. Second, to the extent firms are not able to recognize the full benefit of tax

savings from claiming uncertain tax positions in their current financial earnings because they record reserves, *FederalTaxExpense* underestimates true federal tax uncertainty. This explains the difference between *FederalTaxPaid* and *FederalTaxExpense* in Scenarios 3 and 4.

In the example, I assume *ReservesCYPositions* relates to federal tax uncertain tax positions. Although *ReservesCYPositions* represents the most direct assessment of tax uncertainty (Lisowsky, Robinson and Schmidt 2012), it captures foreign, state and local tax uncertainty in addition to federal tax uncertainty (Gupta, Mills and Towery 2013). Therefore, *ReservesCYPositions* does not simply equal the difference between *FederalTaxPaid* and *FederalTaxExpense* if the firm claims uncertain tax positions in multiple jurisdictions.[16] Given these observations, I use *FederalTaxPaid* to test Hypothesis 1, and *ReservesCYPositions*, *DecReservesPYPositions* and *FederalTaxExpense* to test Hypothesis 2.

4.3 Time series tests

Because Schedule UTP became effective for firms in 2010, I implement an interrupted time series approach to examine the effect of Schedule UTP on federal tax uncertainty and financial reporting for federal tax uncertainty.[17] Specifically, I compare behavior in the pre-Schedule UTP regime (2009) with behavior in the Schedule UTP regime (2010). I present the model with control variables below.

[16] *FederalTaxPaid* can also differ from *FederalTaxExpense* because settlements and lapses in the statute of limitations for positions reserved for in prior years can affect *FederalTaxExpense*, but not *FederalTaxPaid.* In addition, differences between US GAAP consolidation rules and Internal Revenue Code consolidation rules can create differences between *FederalTaxPaid* and *FederalTaxExpense*. I discuss this issue further in Chapter 5.

[17] See Shadish, Cook and Campbell (2002) for a comprehensive discussion of interrupted time series research designs.

$$FederalTaxUncert_{i,t} \,/\, FinRepFederalTaxUncert_{i,t} = \beta_0 + \beta_1 * UTPRegimeInd_t + \beta_2 * Leverage_{i,t} + \beta_3 * ROA_{i,t} + \beta_4 * CapIntensity_{i,t} + \beta_5 * NOL_{i,t} + \beta_6 * OptionTaxBen_{i,t} + \beta_7 * PerfAdjDiscAccr_{i,t} + \beta_8 * ln(Assets)_{i,t} + \beta_9 * RD_{i,t} + \sum \beta_{10\text{-}18} * Industry_i + \varepsilon \quad (1)$$

I estimate this model for each of my measures of federal tax uncertainty and financial reporting for federal tax uncertainty (i.e., four equations). However, financial reporting rules for tax uncertainty can affect the decision of whether to claim an uncertain tax position, and the tax reporting decision informs the financial reporting decision. To address potentially correlated residuals across equations, I estimate the equations together using seemingly-unrelated regression. To address potential serial dependence in the data, I cluster by firm and report Huber-White robust standard errors (Rogers 1993, generalizing White 1980), which are robust to heteroskedasticity and serial correlation (StataCorp 1999; Petersen 2009).

In Model (1), my primary variable of interest, *UTPRegimeInd*, equals 1 for firm-years for which Schedule UTP is mandatory (2010) and 0 otherwise. If firms reduce tax uncertainty in the Schedule UTP regime and maintain their method of financial reporting for tax uncertainty, firms will report higher *FederalTaxPaid*, lower *ReservesCYPositions*, and the same or higher *FederalTaxExpense* depending on whether firms created reserves for the full amount of the uncertain tax position(s) prior to Schedule UTP. In the prior example, this is similar to moving from Scenario 3 to Scenario 1. If firms increase tax uncertainty in the Schedule UTP regime and maintain their method of financial reporting for tax uncertainty, firms will report lower *FederalTaxPaid*, higher *ReservesCYPositions*, and the same or lower *FederalTaxExpense* depending on whether firms created reserves

for the full amount of the uncertain tax position(s) prior to Schedule UTP. In the prior example, this is similar to moving from Scenario 1 to Scenario 3. If firms maintain their level of tax uncertainty but change their method of financial reporting for tax uncertainty to avoid Schedule UTP disclosure, they will report the same level of *FederalTaxPaid*, lower *ReservesCYPositions*, higher *DecReservesPYPositions* (because they are reversing reserves recorded in prior years), and lower *FederalTaxExpense*. In the prior example, this is similar to moving from Scenario 3 to Scenario 4.

To rule out confounding explanations for a change in behavior in the Schedule UTP regime, I include two sets of control variables in addition to controlling for industry membership. The first six variables represent firm characteristics associated with the incentive to claim uncertain tax positions. *Leverage* equals long-term debt (Compustat DLTT) divided by lagged total assets (Compustat AT). Interest deductions generated by leverage can be a substitute for tax uncertainty (DeAngelo and Masulis 1980; Graham and Tucker 2006), suggesting a negative association between *Leverage* and tax uncertainty. I include *ROA*, equal to GAAP pretax income divided by lagged total assets, because firms have incentives to claim uncertain tax positions to shield profits from taxation. *CapIntensity* equals net property, plant and equipment (Compustat PPENT) divided by lagged total assets. Firms claiming accelerated depreciation have less need for tax uncertainty.

NOL equals net operating loss carryforwards (Compustat TLCF) divided by lagged total assets. Net operating losses enable firms to reduce taxable income, thus decreasing the need for tax uncertainty. *OptionTaxBen* equals the excess tax benefit of

stock options (Compustat TXBCO) divided by lagged total assets. Firms with excess tax benefits from stock options have reduced incentives to claim other tax benefits (Graham, Lang and Shackelford 2004). Finally, I include performance-adjusted discretionary accruals based on the Kothari, Leone and Wasley (2005) modified cross-sectional Jones (1991) model (*DAP*) to control for financial reporting aggressiveness. Firms who report aggressively for financial reporting purposes also report aggressively for tax reporting purposes (Frank, Lynch and Rego 2009). In addition, if firms have greater incentive to manage earnings using tax expense in the Schedule UTP regime, firms could find ways to record lower reserves for tax uncertainty, thus also lowering tax expense.

The next two control variables represent firm characteristics associated with the opportunity to claim uncertain tax positions. Although the firms in my sample have at least $100 million in assets, larger firms might have more business segments thus enabling them to potentially shift income. Further, Dyreng, Hanlon and Maydew (2008) show long-run tax avoidance is positively associated with firm size. I therefore include the log of total assets (Compustat AT). *RD* equals research and development expenses (Compustat XRD or zero if XRD missing) divided by lagged total assets. Intangible assets such as research and development expenditures provide opportunities for income and expense shifting.

All continuous variables are winsorized at the 2.5 and 97.5 percentiles.

4.4 Cross-sectional tests

In addition to comparing behavior over time (pre- versus post- Schedule UTP regime), I also compare behavior in the cross-section to test Hypothesis 3. My cross-

sectional measure, *MultinationalInd*, equal to 1 if foreign pretax income (Compustat PIFO) is at least 10 percent of book pretax income (Compustat PI) and 0 otherwise (consistent with Mills and Newberry (2005)), captures business complexity. I present the expanded model with control variables below.

$$\begin{aligned} \textit{FederalTaxUncert}_{i,t} \,/\, \textit{FinRepFederalTaxUncert}_{i,t} &= \beta_0 + \beta_1 * \textit{UTPRegimeInd}_t \\ &+ \beta_2 * \textit{MultinationalInd}_{i,t} + \beta_3 * \textit{UTPRegimeInd}_t * \textit{MultinationalInd}_{i,t} \\ &+ \beta_4 * \textit{Leverage}_{i,t} + \beta_5 * \textit{ROA}_{i,t} + \beta_6 * \textit{CapIntensity}_{i,t} + \beta_7 * \textit{NOL}_{i,t} \\ &+ \beta_8 * \textit{OptionTaxBen}_{i,t} + \beta_9 * \textit{PerfAdjDiscAccr}_{i,t} + \beta_{10} * \textit{ln(Assets)}_{i,t} + \beta_{11} * \textit{RD}_{i,t} \\ &+ \sum \beta_{12\text{-}20} * \textit{Industry}_i + \varepsilon \end{aligned} \quad \textbf{(2)}$$

In Model (2), my main variable of interest is the interaction between *UTPRegimeInd* and *MultinationalInd*. If the effect of Schedule UTP is concentrated among firms with greater business complexity, I expect the main result (Model 1) to be stronger for multinational firms. The control variables are as defined above.

Chapter 5: Empirical Results

5.1 Descriptive analysis

Before I formally examine firms' response to Schedule UTP, I describe univariate differences between the pre-Schedule UTP regime (2009) and the Schedule UTP regime (2010). Table 2 presents the descriptive statistics. Panel A presents descriptive statistics for all firms and Panel B (C) presents descriptive statistics for multinational (domestic) firms.

In Panel A, the mean *FederalTaxPaid* of 0.178 in 2010 is not statistically different from the mean *FederalTaxPaid* of 0.191 in 2009. Thus, univariate evidence suggests federal tax uncertainty did not change in response to Schedule UTP. However, the mean *ReservesCYPositions* of 0.016 in 2010 is significantly lower than the mean *ReservesCYPositions* of 0.025 in 2009, consistent with firms reporting lower reserves for uncertain tax positions in 2010. Further, the mean *DecReservesPYPositions* of 0.015 in 2010 is significantly higher than the mean *DecReservesPYPositions* of 0.012 in 2009, consistent with firms reversing reserves recorded in prior years for positions claimed in prior years. The mean *FederalTaxExpense* of 0.197 in 2010 is significantly lower than the mean *FederalTaxExpense* of 0.216 in 2009. Consistent with firms not recognizing the full benefit of tax savings in their financial statements because of reserves, mean *FederalTaxExpense* is substantially higher than mean *FederalTaxPaid* in both 2009 and 2010. The mean *StateTaxExpense* and *ForeignTaxExpense* are not statistically different in 2009 and 2010. These descriptive statistics provide initial evidence that although firms did not claim fewer uncertain tax positions in the Schedule UTP regime, they did change

their financial reporting for uncertain tax positions and recorded fewer reserves for uncertain tax positions.[18]

For multinational firms (Panel B), the mean *FederalTaxPaid* of 0.132 in 2010 is not statistically different from the mean *FederalTaxPaid* of 0.146 in 2009. The mean *ReservesCYPositions* of 0.021 in 2010 is significantly lower than the mean *ReservesCYPositions* of 0.032 in 2009. The mean *DecReservesPYPositions* of 0.020 in 2010 is significantly higher than the mean *DecReservesPYPositions* of 0.014 in 2009. The mean *FederalTaxExpense* of 0.143 in 2010 is significantly lower than the mean *FederalTaxExpense* of 0.176 in 2009. Thus, the descriptive statistics for multinational firms mirror the descriptive statistics for the full sample.

For domestic firms (Panel C), the mean *FederalTaxPaid* of 0.222 in 2010 is not statistically different from the mean *FederalTaxPaid* of 0.232 in 2009. Similar to the multinational firms, the mean *ReservesCYPositions* of 0.012 in 2010 is significantly lower than the mean *ReservesCYPositions* of 0.019 in 2009, consistent with firms reporting lower reserves for uncertain tax positions in 2010. However, unlike the multinational firms, the mean *FederalTaxExpense* of 0.249 in 2010 is not statistically different than the mean *FederalTaxExpense* of 0.252 in 2009. Further, the mean *DecReservesPYPositions* of 0.010 in 2010 is not statistically different from the mean *DecReservesPYPositions* of 0.010 in 2009. This suggests the decrease in reserves for domestic firms might be driven by decreases in state and local tax uncertainty or financial

[18] This result does not represent firms switching from claiming uncertain tax positions in 2009 to certain tax positions in 2010. If a firm must decide between claiming an uncertain tax position and a certain tax position that yield identical tax savings, the firm will always choose the certain position because the savings are less risky and thus have a higher net present value to the firm. If a firm could substitute between uncertain and certain tax positions, the firms would have done so in all years.

reporting for state and local tax uncertainty. Although firms report state and local current and deferred tax expense in their financial statements, I cannot observe state and local taxes paid without access to state and local tax returns. However, I do observe total taxes paid reported in the financial statements. The mean *TotalTaxPaid* of 0.305 in 2010 is higher than the mean *TotalTaxPaid* of 0.287 in 2009. Although the difference is not statistically significant, I find in untabulated multivariate tests that *TotalTaxPaid* significantly increases for domestic firms in 2010 after controlling for incentives and opportunities for claiming uncertain tax positions. In contrast with the multinational firms, this suggests domestic firms claimed fewer tax benefits in the Schedule UTP regime. Because domestic firms do not claim fewer federal tax benefits in the Schedule UTP regime, this result suggests domestic firms claimed fewer state and local tax benefits in the Schedule UTP regime.

Almost 72 percent of multinational firms reported at least one tax position on Schedule UTP, while approximately 53 percent of domestic firms reported at least one tax position on Schedule UTP.[19] This confirms that both sets of firms continue claiming uncertain tax positions in the Schedule UTP environment. Multinational firms reported slightly more tax positions than domestic firms, with multinational firms reporting between 2 and 3 positions on average and domestic firms reporting between 1 and 2 positions on average. In the full sample, firms are more profitable and obtain greater tax benefits from stock option exercises in 2010 than in 2009. The lack of statistical

[19] The large percentage of multinational firms reporting positions on Schedule UTP does not negate the possibility that these firms modify their financial reporting for tax uncertainty to avoid Schedule UTP reporting for some positions. These firms almost certainly claim positions of which the IRS is already aware. They could want to avoid disclosing positions not yet discovered by the IRS.

significance for differences in the other control variables provides some comfort that firm operations were similar in 2009 and 2010.

5.2 Composition of uncertain tax positions

As mentioned in Chapter 2, Schedule UTP requires firms to provide a concise narrative description of each federal uncertain tax position for which a firm has recorded a financial statement reserve. Per the Instructions for Schedule UTP, the description should describe the relevant facts affecting the tax treatment of the position. However, firms should not include an assessment of the merits of the position. Below are three examples of concise descriptions provided in the Schedule UTP Guidance for Preparing Concise Descriptions. These positions represent the three most common types of positions reported on Schedule UTP: (i) transfer pricing, (ii) the research and experimentation credit and (iii) business expense deductions (Coder 2011). I cannot include actual descriptions reported on Schedule UTP due to taxpayer confidentiality concerns. However, most Schedule UTP descriptions are generally similar in length and content to the hypothetical descriptions provided in the guidance.[20]

Transfer pricing: "*The taxpayer allocated management service costs between its domestic subsidiaries and a foreign subsidiary located in Country X using a methodology the taxpayer considers reasonable. The issue is whether the taxpayer's method of allocating these costs is acceptable by the IRS.*"

Research and experimentation credit: "*The taxpayer incurred support department costs that were allocated to various research projects based upon a methodology the*

[20] However, there is cross-sectional variation in the number of positions and the length of the descriptions across firms. In future work, I will use textual analysis techniques to assess the readability of Schedule UTP disclosures. I can also explore how the disclosures vary from 2010 to 2011, especially given that the IRS issued more guidance on Schedule UTP compliance after examining the 2010 disclosures (see IRS Schedule UTP Guidance for Preparing Concise Descriptions). Further, comparing the readability of UTP disclosures with the readability of financial statement disclosures enable me to potentially shed new light on the incentives underlying public and private disclosure decisions.

taxpayer considers reasonable. The issue is whether the taxpayer's method of allocating these costs is acceptable by the IRS."

Business expense deduction: "*The Taxpayer claimed a deduction for travel and entertainment expenses for conventions and sales meetings. The issues are whether adequate documentation has been retained to substantiate the deductions claimed and whether some of the expenses constitute entertainment subject to a 50% limitation.*"

Table 3 describes the uncertain tax positions reported on Schedule UTP in each industry. The 268 sample firms filing Schedule UTP collectively reported 831 tax positions. Of these, 648 (78.0 percent) positions generated permanent book-tax differences, 166 (20.0 percent) positions generated temporary book-tax differences and 17 (2.0 percent) generated both permanent and temporary book-tax differences. The preponderance of permanent UTPs shows a large proportion of uncertain tax positions reported on Schedule UTP generate permanent tax savings. That being said, some firms might not record reserves for uncertain tax positions generating temporary differences because the issue concerns the *timing* of tax treatment rather than the *amount*. For these temporary differences, the firm must still accrue interest and penalties, but some firms might not classify the accrued interest and penalties as reserves for uncertain tax positions. For example, the Wilson Bank Holding Company 2010 annual report states 'There were no unrecognized tax benefits at December 31, 2010', but goes on to say the company does have 'approximately $10.9 million of tax positions ... for which the ultimate deductibility is highly certain but for which there is uncertainty about the timing of such deductibility'. Thus, because Schedule UTP only applies to positions for which the firm has recorded a financial statement reserve and some firms do not classify accrued interest and penalties as reserves for uncertain tax positions, some firms might

not disclose positions generating temporary differences on Schedule UTP.

The most common positions reported by sample firms relate to the research and experimentation credit, international transfer pricing and business deductions. Tax positions related to capitalization, depreciation and accruals generally create temporary book-tax differences because the issues concern the timing of expense deductibility or revenue recognition rather than the amount. On the other hand, tax positions related to research and experimentation, international operations, business deductions and mergers and acquisition activity generally create permanent differences.

The consumer durables and nondurables, manufacturing, energy, high-technology and healthcare industries are the most likely to report tax positions. Firms in the consumer durables and nondurables, manufacturing, high technology and healthcare industries report positions related to research and experimentation, transfer pricing and business deductions, consistent with those industries having substantial foreign operations and research and development expenditures. Energy firms claim international tax positions not related to transfer pricing, consistent with uncertainty about whether foreign taxes are creditable and other foreign tax issues. A majority of the tax positions related to mergers and acquisitions are reported by construction firms (in the 'Other' industry category), an industry experiencing frequent merger and acquisition activity in 2010. The 'Other UTPs' category includes positions related to gains/losses, financial products, insurance reserves, gains/losses, various tax credits and income recognition.

Table 3 suggests uncertain tax positions reported on Schedule UTP arise from firms' application of tax rules to their business operations and corporate structure.

Accordingly, such transactions are likely disclosed elsewhere either on the tax return or in the financial statements. For example, a firm disclosing a position related the research and experimentation credit also reports the actual research and experimentation credit in their tax return, suggesting the IRS could glean this position without the Schedule UTP disclosure. This provides some support for the notion that firms are willing to disclose positions of which the IRS is already aware. Consistent with this finding, Eli Dicker of the Tax Executives Institute conjectured that the issues being disclosed on Schedule UTP are 'not surprising' (Luscombe 2012).

5.3 Effect of Schedule UTP on tax uncertainty and financial reporting for tax uncertainty

Table 4 presents the results from estimating Model (1), which examines the effect of Schedule UTP on tax uncertainty and financial reporting for tax uncertainty. The results mirror the univariate results in Table 2. After controlling for incentives and opportunities to claim uncertain tax positions, *FederalTaxPaid* is no different in the Schedule UTP regime than in the non-Schedule UTP regime, consistent with firms continuing to claim benefits for uncertain tax positions in the Schedule UTP regime. I therefore fail to reject Hypothesis 1 that federal income tax uncertainty does not change in response to Schedule UTP.

However, *ReservesCYPositions* is significantly lower and *DecReservesPYPositions* is significantly higher in the Schedule UTP regime, consistent with firms not only reporting lower reserves for positions claimed in the current year, but also reversing reserves for positions claimed in prior years. Finally, *FederalTaxExpense*

is lower in the Schedule UTP regime, providing evidence that the changes in reserves are at least partially attributed to federal tax positions. In terms of economic magnitude, *ReservesCYPositions* is on average 1 percentage point lower ($7.4 million lower) in the Schedule UTP regime. *DecReservesPYPositions* is 0.33 percentage points lower ($2.9 million lower) in the Schedule UTP regime. Finally, *FederalTaxExpense* is 1.7 percentage points lower ($14.4 million lower) in the Schedule UTP regime. The significant changes in *ReservesCYPositions*, *DecReservesPYPositions*, and *FederalTaxExpense* are consistent with firms changing their financial reporting for federal tax uncertainty in response to Schedule UTP to avoid disclosing uncertain tax positions to the IRS. I therefore reject Hypothesis 2 that financial reporting for federal income tax uncertainty does not change in response to Schedule UTP.

The control variables are generally consistent with my predictions. *FederalTaxPaid* is lower, on average, for large firms with greater capital intensity, greater net operating loss carryforwards, greater excess tax benefits from stock options, more aggressive financial reporting, and more research and development activity. Consistent with my predictions, *ReservesCYPositions* is higher, on average, for larger firms with more research and development activity. However, *ReservesCYPositions* is also higher for firms with net operating loss carryforwards and lower for firms with greater profitability. These unexpected relations could be due to the exclusion of firms not reporting reserves in 2009 from my sample, thus forcing some degree of homogeneity within sample firms. On average, *DecReservesPYPositions* is higher for larger firms and lower for firms with greater profitability and greater capital intensity. *FederalTaxExpense*

is lower, on average, for larger, more capital intensive firms with greater net operating losses and fewer excess tax benefits from stock options. Firms with higher discretionary accruals also report lower *FederalTaxExpense*, consistent with managers reporting aggressively in public financial statements also recording lower federal tax expense, on average.

Table 5 presents the results from estimating Model (2), which examines the differential impact of Schedule UTP for firms with greater business complexity. The coefficients on the interaction between *UTPRegimeInd* and *MultinationalInd* in the models of financial reporting for tax uncertainty are all statistically significant. Further, the coefficients on the *UTPRegimeInd*, which represent the effect of Schedule UTP on domestic firms, are not statistically significant with the exception of the coefficient on *ReservesCYPositions*. The lower *ReservesCYPositions* suggests some change in non-federal tax uncertainty for domestic firms, although I cannot formally test this without state and local tax return data. Overall, these results are consistent with the effect of Schedule UTP being concentrated among firms with greater business complexity, consistent with Hypotheses 3. For multinational firms, *ReservesCYPositions* is on average 1.1 percentage point lower ($13.9 million lower) in the Schedule UTP regime. *DecReservesPYPositions* is 0.65 percentage points lower ($7.9 million lower) in the Schedule UTP regime. Finally, *FederalTaxExpense* is 2.7 percentage points lower ($32.3 million lower) in the Schedule UTP regime. The effects of the control variables on federal tax uncertainty and financial reporting for tax uncertainty are generally similar to Table 4.

The results in Tables 4 and 5 collectively suggest firms with greater business complexity change their financial reporting for federal tax uncertainty in response to Schedule UTP to avoid disclosing uncertain tax positions to the IRS.

5.4 Sensitivity analyses

I conduct multiple sensitivity analyses. First, I examine the effect of Schedule UTP using a changes specification to alleviate the concern of potential correlated omitted variables. Table 6 presents the results from estimating the changes specification. Panel A presents the results for multinational firms and Panel B presents the results for domestic firms. Because the sample only includes 2009 and 2010 observations, the intercept is my primary variable of interest. The results using a changes specification are consistent with Tables 4 and 5, thus providing further evidence that firms with greater business complexity changed their financial reporting for uncertain tax positions in the Schedule UTP regime.[21]

Second, although I winsorize continuous variables at the 2.5 and 97.5 percentiles in my main analyses, my results are also robust to winsorizing at the 1 and 99 percentiles, the 2 and 98 percentiles and the 5 and 10 percentiles.

Third, consistent with the economy improving in 2010, mean and median *GAAPPreTaxIncome* are higher in 2010 relative to 2009 (although the difference in means and the difference in medians are not statistically significant). This raises the concern that changes in the scaled measures of tax uncertainty could be driven by

[21] I have also implemented the changes specification including *MultinationalInd* to test whether the differences in reporting behavior for multinational and domestic firms are statistically significant. Although the coefficients on *MultinationalInd* are not statistically significant, the results are inferentially similar.

increases in the denominator rather than changes in the numerator. In untabulated tests, I replace the denominator to be 2010 *GAAPPreTaxIncome* for both 2009 and 2010 to address this concern. My results are inferentially unchanged and still statistically significant.

Finally, under US GAAP, subsidiaries in which a parent company has at least a 50 percent ownership percentage must be consolidated into the parent company's financial statements (FASB Statement of Financial Accounting Standards No. 94 (ASC 810), *Consolidation of All Majority-Owned Subsidiaries*). However, for US tax purposes, consolidation is not required and foreign subsidiaries are not consolidated into the parent company's tax return. Thus, differences between the effect of Schedule UTP on the tax reporting decision and the effect of Schedule UTP on the financial reporting decision could be driven by different consolidation rules. I therefore conduct my main analyses excluding firm-years where the difference in assets reported in the financial statements and assets reported on the US corporate tax return exceeds 20 percent of assets reported in the financial statements. My results are inferentially unchanged and still statistically significant when excluding these firm-years.

Chapter 6: Falsification tests

Contemporaneous events present a substantial threat to validity with interrupted time series research designs (Shadish, Cook and Campbell 2002). I therefore conduct falsification tests intended to rule out alternative explanations. Specifically, I identify settings where I would not expect to observe an effect of Schedule UTP, and examine whether behavior changes in these settings. I discuss each of these tests in the following subchapters.

6.1 Non-treatment firms

I first create a sample of firms exhibiting similar characteristics that are not subject to Schedule UTP reporting requirement. The IRS implemented Schedule UTP in phases: firms with at least $100 million in assets must file Schedule UTP beginning in 2010; firms with at least $50 million in assets must file Schedule UTP beginning in 2012; and firms with at least $10 million in assets must file Schedule UTP beginning in 2014. Therefore, firms with less than $100 million in assets are not required to file Schedule UTP in 2010, thus making them a strong control sample. However, the sample of firm-years with less than $100 million in assets meeting my initial sample selection criteria is very small (n=30). Nonetheless, I implement Model (1) for this sample of firms. A similar pattern of results would suggest that an alternative contemporaneous event could be explaining my result. Table 7 presents the results from this analysis. I find that *FederalTaxPaid*, *ReserveCYPositions*, *DecReservePYPositions* and *FederalTaxExpense* are statistically the same before and after Schedule UTP. Although this could be driven

by the lack of statistical power, it supports my main result that Schedule UTP contributed to the change in behavior for my main sample.[22]

6.2 Placebo tests

I compare behavior in 2009 (pre-Schedule UTP regime) and 2010 (Schedule UTP regime) in my main analyses. However, the behavior I observe could be a part of a larger time trend. To address this concern, I conduct placebo tests for other year pairings surrounding the adoption of Schedule UTP. In other words, I implement identical sample selection criteria and the same empirical analyses for years prior to the Schedule UTP regime and years during the Schedule UTP regime. Observing a similar pattern of results for these alternate year pairings would suggest that the pattern of behavior I observe in response to Schedule UTP could be explained by a time trend rather than Schedule UTP. I therefore examine three alternative year pairings: (i) 2007 and 2008; (ii) 2008 and 2009; and (iii) 2010 and 2011. I cannot examine year pairings with years prior to 2007 because firms were only required to disclose financial statement reserves for uncertain tax positions beginning in 2007. Below is the model with control variables.

$$\begin{aligned} \textit{FederalTaxUncert}_{i,t} \,/\, \textit{FinRepFederalTaxUncert}_{i,t} &= \beta_0 + \beta_1 * \textit{PlaceboInd}_t \\ &+ \beta_2 * \textit{MultinationalInd}_{i,t} + \beta_3 * \textit{PlaceboInd}_t * \textit{MultinationalInd}_{i,t} \\ &+ \beta_4 * \textit{Leverage}_{i,t} + \beta_5 * \textit{ROA}_{i,t} + \beta_6 * \textit{CapIntensity}_{i,t} + \beta_7 * \textit{NOL}_{i,t} \\ &+ \beta_8 * \textit{OptionTaxBen}_{i,t} + \beta_9 * \textit{PerfAdjDiscAccr}_{i,t} + \beta_{10} * \textit{ln(Assets)}_{i,t} + \beta_{11} * \textit{RD}_{i,t} \\ &+ \sum \beta_{12\text{-}20} * \textit{Industry}_i + \varepsilon \end{aligned} \quad \textbf{(3)}$$

The control variables are as defined previously. Table 8 presents these results. Panel A presents the change in behavior from 2007 to 2008 (*PlaceboInd* equals 1 for

[22] The lack of statistically significant changes in behavior for non-treatment firms also holds in univariate analysis, somewhat alleviating concerns about the low power.

2008 firm-years and 0 otherwise); Panel B presents the change in behavior from 2008 to 2009 (*PlaceboInd* equals 1 for 2009 firm-years and 0 otherwise); and Panel C presents the change in behavior from 2010 to 2011 (*PlaceboInd* equals 1 for 2011 firm-years and 0 otherwise). In Panel A, tax uncertainty and financial reporting for tax uncertainty do not change for either domestic or multinational firms from 2007 to 2008. In Panel B, domestic firms report lower *ReserveCYPositions* and lower *FederalTaxExpense* in 2009 relative to 2008, but tax uncertainty and financial reporting for tax uncertainty do not change for multinational firms. Finally, in Panel C, domestic firms report lower *FederalTaxPaid* and lower *ReserveCYPositions* in 2011 relative to 2010, but tax uncertainty and financial reporting for tax uncertainty do not change for multinational firms. Taken together with my main analyses, these results suggest my result that firms with greater business complexity (multinational firms) change their financial reporting in response to Schedule UTP is not explained by a general trend over time.[23]

As a supplemental analysis to my placebo tests, I also plot the trend in average *FederalTaxPaid* and *ReserveCYPositions* from 2007 to 2011 for a sample of firms reporting profits in each year. Figure 2 presents these trends. Consistent with my main result, there are no visible changes in *FederalTaxPaid* over the time period (Panel A), but *ReserveCYPositions* decreases dramatically in 2010 (Panel B). These trends provide further support that the main pattern of results is not part of a larger time trend.

[23] In future work, I will pool observations from my main analyses and these placebo tests to further examine the trend over time.

6.3 Foreign and state and local tax expense

Because the US economy emerged from a recession in 2010, firms might have had increased incentives to manage earnings in order to demonstrate recovery. Firms could manage earnings by recording lower reserves for tax uncertainty, thus also lowering tax expense. Because this could explain my pattern of results, in my main analyses, I control for earnings management by including *DAP* in my model and limiting my sample to firms reporting profits in both 2009 and 2010. In addition, if firms did manage earnings via manipulating reserves for tax uncertainty, I also expect to observe a decrease in foreign and state and local tax expense in 2010 that mirrors the decrease in federal tax expense. Therefore, to further rule out the earnings management story, I substitute foreign and state and local tax expense for federal tax expense in Model (1). I present the model with control variables below.

$$\begin{aligned} \textit{StateTaxExpense}_{i,t} \,/\, \textit{ForeignTaxExpense}_{i,t} = {} & \beta_0 + \beta_1 * \textit{UTPRegimeInd}_t \\ & + \beta_2 * \textit{Leverage}_{i,t} + \beta_3 * \textit{ROA}_{i,t} + \beta_4 * \textit{CapIntensity}_{i,t} + \beta_5 * \textit{NOL}_{i,t} \\ & + \beta_6 * \textit{OptionTaxBen}_{i,t} + \beta_7 * \textit{PerfAdjDiscAccr}_{i,t} + \beta_8 * \textit{ln(Assets)}_{i,t} + \beta_9 * \textit{RD}_{i,t} \\ & + \sum \beta_{10\text{-}18} * \textit{Industry}_i + \varepsilon \end{aligned} \quad \textbf{(4)}$$

StateTaxExpense equals current state tax expense (Compustat TXS) reported in the financial statements divided by book pretax income (Compustat PI), and *ForeignTaxExpense* equals current foreign tax expense (Compustat TXFO) reported in the financial statements divided by book pretax income. The control variables are as defined previously. Table 9 presents the results. In contrast with the statistically significant lower *FederalTaxExpense* in the Schedule UTP regime, foreign and state and local tax expense are statistically the same before and after Schedule UTP for both

multinational and domestic firms.[24] This provides further evidence that Schedule UTP explains my main pattern of results.

6.4 Compliance Assurance Program (CAP) firms

Finally, I examine the effect of Schedule UTP on firms participating in the Compliance Assurance Program (CAP). The IRS implemented CAP in 2005 in an effort to resolve uncertain tax issues prior to the filing of the tax return, thus making the tax examination process more efficient for both the taxpayer and the IRS. Each firm accepted into the program voluntarily discloses information related to financial performance, corporate actions, and uncertain tax issues. The IRS assigns each firm a Team Coordinator, who reviews all information and works with the firm to resolve any outstanding federal uncertain tax issues prior to filing the tax return. Beck and Lisowsky (2012) find that CAP firms report lower financial statement reserves after joining the program, consistent with the CAP process resolving tax uncertainty. However, these firms could still record reserves for federal uncertain tax positions and thus report positions on Schedule UTP if positions are not resolved with the IRS prior to the firm filing its corporate tax return. The program began with 17 participating firms and had 140 participating firms when it was made permanent in 2011.

These firms face different reporting incentives due to their special relationship with the IRS. Firms in the IRS CAP program disclose all uncertain federal tax issues to the IRS prior to filing their tax returns to reduce uncertainty about potential outcomes.

[24] Although federal taxable income is often a starting point for calculating state and local taxable income, many federal uncertain tax positions relate to federal tax credits (e.g., Research and Experimentation credit), which do not necessarily affect state and local taxable income.

These firms represent a strong control group because although they claim uncertain tax positions, they should not be affected by Schedule UTP because they already disclose tax positions via the CAP program. Although there are limited CAP firm-years in my sample (n=40), I examine their behavior surrounding Schedule UTP. Table 10 presents my results from this analysis. As with the non-treatment firms, I find that *FederalTaxPaid*, *ReserveCYPositions*, *DecReservePYPositions* and *FederalTaxExpense* are statistically the same before and after Schedule UTP. This provides further evidence that the behavior I observe in my main analyses is explained by Schedule UTP.

Chapter 7: Exploratory discussion on the effect of Schedule UTP on the informativeness of financial reporting for tax uncertainty

My main results imply private disclosures of tax uncertainty to tax authorities can impact the informativeness of financial disclosures of tax uncertainty. A firm enters the same economic transaction prior to Schedule UTP and in the Schedule UTP regime, but accounts for the transaction in different ways. Thus, the financial statements for the firm are not consistent across years.

Another aspect of infornativeness is decision usefulness, or the ability of financial statement tax expense to predict future cash tax outflows. On the one hand, financial statement tax expense could become less predictive of future cash tax outflows in the Schedule UTP regime if firms no longer reserve for positions and the firm eventually pays out the amount that would have been reserved. On the other hand, empirical evidence suggests financial statement reserves for tax uncertainty are overstated (Robinson, Stomberg and Towery 2013). This is because financial reporting rules for tax uncertainty require firms to record reserves assuming (i) a position will be audited with certainty, and (ii) tax authorities have full knowledge of the position. If reserves are overstated because the assumptions are unreasonable, and Schedule UTP reverses these overstated reserves, financial statement tax expense could become more predictive of future tax cash outflows. Even if reserves are not overstated, firms could reduce their level of tax uncertainty by gathering additional information for uncertain tax positions (e.g., purchasing legal opinions) in the Schedule UTP regime. This could also improve the ability of financial statement tax expense to predict future tax cash outflows.

The ideal dataset to examine the effect of Schedule UTP on the decision usefulness of financial statement tax expense would include (i) financial statement tax expense before and after the implementation of Schedule UTP; and (ii) taxes paid (including settlements) to the IRS before and after the implementation of Schedule UTP. For example, a researcher would need to observe whether a position is audited before the statute of limitations lapses, and if so, the outcome of the audit, to examine whether the current year tax expense reflects future tax cash outflows. This would require multiple years of data subsequent to Schedule UTP. Unfortunately, only 2011 data is available at this time. When data on future IRS settlements become available, I will compare the predictability of federal tax expense to future tax paid prior to Schedule UTP and in the Schedule UTP regime. I present the model below.

$$\textit{FederalTaxPaidPlusSettlements}_{i,t} = \beta_0 + \beta_1 * \textit{FederalTaxExpense}_{i,t-1} + \beta_2 * \textit{UTPRegimeInd}_t + \beta_3 * \textit{FederalTaxExpense}_{i,t-1} * \textit{UTPRegimeInd}_t + \varepsilon \quad (5)$$

FederalTaxPaidPlusSettlements equals the total tax reported on the US Corporate Income Tax Return (Line 31 of Page 1) plus cash paid to the IRS due to settlements (from confidential corporate tax return data). *FederalTaxExpense* equals the current federal tax expense (Compustat TXFED) reported in the financial statements. *UTPRegimeInd*, equals 1 for firm-years for which Schedule UTP is mandatory (2010) and 0 otherwise. My main variable of interest is the interaction between *FederalTaxExpense* and *UTPRegimeInd*. If financial statement tax expense becomes more (less) informative in the Schedule UTP regime, I expect a positive (negative) coefficient on the interaction term.

Chapter 8: Conclusion

A growing number of tax authorities require firms to disclose information about uncertain tax positions, broadly defined in this study as positions that might not be sustained if challenged by the tax authority. Understanding how firms respond to such disclosure requirements provides insight into the usefulness of these disclosures. This study exploits the recent implementation of Schedule UTP to examine the effect of mandatory disclosures of tax uncertainty to tax authorities on firms' tax and financial reporting decisions.

I present two main findings. First, the positions disclosed on Schedule UTP appear consistent with information reported elsewhere in the tax return and financial statements, supporting the notion that firms are willing to disclose positions on Schedule UTP of which the IRS is already aware. Second, although firms decrease financial statement reserves for tax uncertainty in response to Schedule UTP, federal tax uncertainty does not change with the adoption of Schedule UTP. These findings provide evidence that some firms found ways to change their financial reporting for tax uncertainty to avoid disclosing positions unknown to the IRS on Schedule UTP. The result is concentrated among firms with greater business complexity, whose operations facilitate tax planning strategies that are more difficult for the IRS to identify.

Collectively, my study provides the first evidence that private disclosures of tax uncertainty to tax authorities can affect the informativeness of financial reporting disclosures of tax uncertainty. This study thus addresses the call by Blouin and Robinson

(2012) for more research on whether financial reporting disclosure rules for tax uncertainty provide decision-useful information.

While these findings are important to academics, practitioners, financial statement users, tax authorities and standard setters, there are multiple limitations and caveats to this study. First, my result suggesting firms avoid disclosing some uncertain tax positions on Schedule UTP does not imply that these reporting initiatives are not helpful to tax authorities. Although one purpose of the requirement is to identify issues of which the IRS is not already aware, the IRS also intended to use Schedule UTP disclosures to identify and understand gaps and ambiguity in existing guidance and to spend more time applying the tax law to a taxpayer's facts rather than looking for information. My results only suggest tax authorities should exercise caution in interpreting tax return disclosures dependent on financial accounting rules. Further, as more jurisdictions implement similar initiatives, future work can provide additional evidence on the costs and benefits.

Second, although I make several research design choices intended to rule out confounding explanations, I cannot entirely rule out the possibility that my results are explained by some other contemporaneous event, such as firms emerging from the US recession. Third, in requiring sample firm-years to report a financial reporting reserve increase prior to Schedule UTP, I omit firms who claim tax benefits and do not record a financial reporting reserve. However, I expect these firms continued claiming positions in the Schedule UTP regime. Fourth, because Schedule UTP is only required beginning with 2010 tax years, I cannot directly observe the specific tax positions claimed by firms prior to Schedule UTP. I therefore rely on aggregate measures of federal tax uncertainty and

financial reporting for tax uncertainty. Finally, although I provide a preliminary discussion on the effect of Schedule UTP on the association between federal tax expense and future tax liabilities, future studies can provide a deeper understanding of the decision-usefulness of financial reporting disclosures of tax uncertainty as more data become available.

Figures

Figure 1
Timeline of US tax disclosure environment

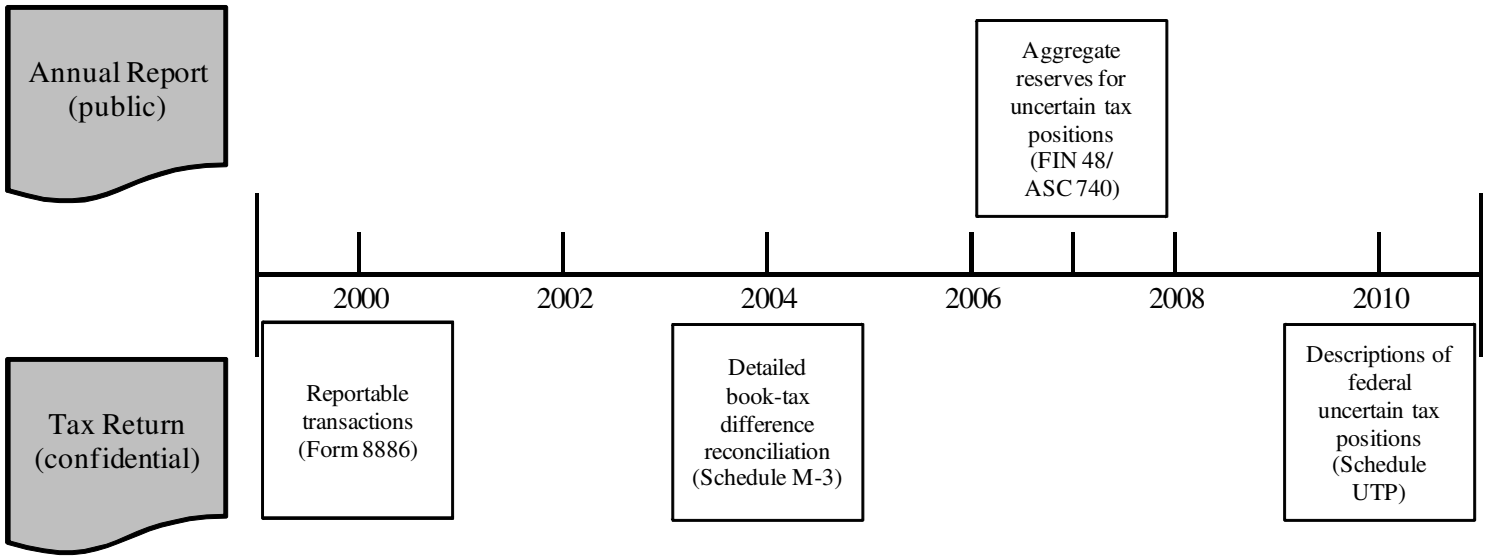
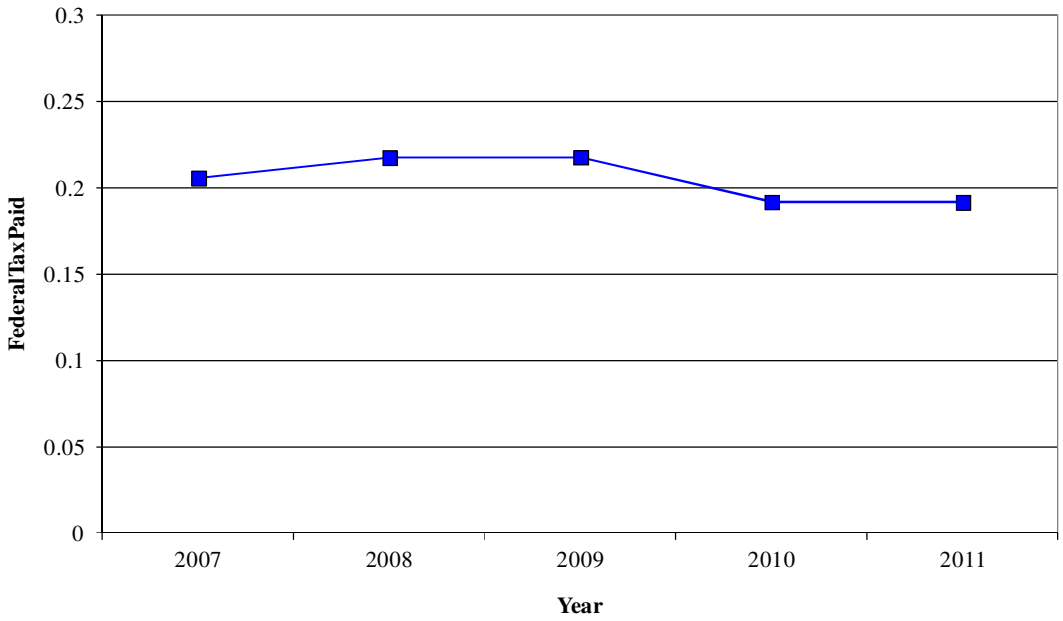


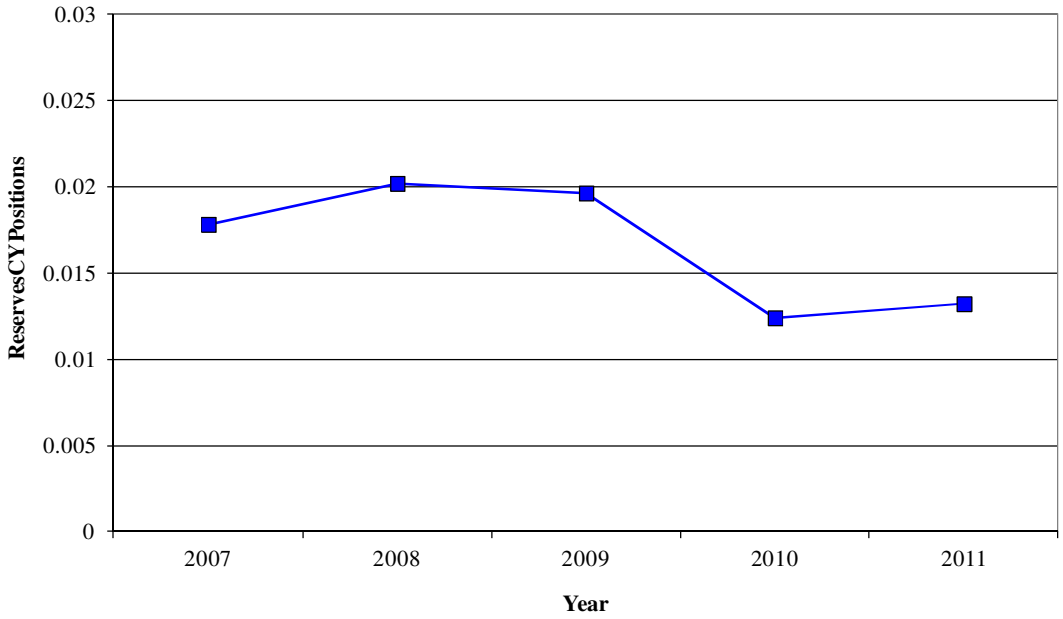
Figure 2

Trends of federal tax uncertainty and financial reporting for federal tax uncertainty

Panel A: Trend in *FederalTaxPaid*



Panel B: Trend in *ReservesCYPositions*



Tables

Table 1
Sample Derivation

This table provides a summary of the sample selection process. Panel A presents the aggregate number of firm-years. Panel B shows the number of firms by industry.

Panel A, Aggregate number of firm-years

2009 and 2010 calendar year-end observations with >=$100M in assets filing SEC Form 10-K	6,569
Less: observations not matched with tax return data	(1,531)
Less: observations with negative pretax income	(2,435)
Less: observations missing regression variables	(874)
Less: firms missing 2009 or 2010 data	(403)
Less: firms with non-positive reserves for tax positions claimed in 2009	(466)
Final sample	**860**
Multinational sample	**412**
Domestic sample	**448**

Panel B, Number of firms by industry

	Number	Percentage
Consumer Durables & NonDurables	46	10.7%
Manufacturing	69	16.0%
Energy	15	3.5%
High-Technology	82	19.1%
Telecommunications	17	4.0%
Wholesale & Retail	35	8.1%
Healthcare	61	14.2%
Utilities & Financial	35	8.1%
Other	70	16.3%
	430	100.0%

Table 2
Descriptive statistics

This table provides descriptive statistics for the pre-Schedule UTP and Schedule UTP regimes. All continuous variables are winsorized at the 2.5 and 97.5 percentiles. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. See Appendix B for variable definitions.

Panel A, Descriptive statistics for full sample

	Pre-Schedule UTP (n=430)					Schedule UTP (n=430)					
	Mean	SD	P25	Median	P75	Mean		SD	P25	Median	P75
GAAPPreTaxIncome ($M)	782.6	1,723.0	47.1	166.3	520.3	947.4		2,079.2	61.2	188.0	614.1
FederalTaxPaid	0.191	0.136	0.076	0.180	0.288	0.178		0.123	0.073	0.172	0.268
ReservesCYPositions	0.025	0.034	0.004	0.011	0.032	0.016	***	0.021	0.003	0.009	*** 0.020
DecReservesPYPositions	0.012	0.023	0.000	0.002	0.013	0.015	*	0.029	0.000	0.002	0.013
FederalTaxExpense	0.216	0.155	0.099	0.203	0.309	0.197	*	0.149	0.111	0.205	0.296
StateTaxExpense	0.033	0.030	0.010	0.028	0.048	0.032		0.030	0.012	0.028	0.046
ForeignTaxExpense	0.060	0.087	0.000	0.020	0.089	0.058		0.077	0.000	0.026	0.088
TotalTaxPaid	0.286	0.191	0.164	0.277	0.363	0.295		0.148	0.201	0.291	0.376
UTPInd	N/A	N/A	N/A	N/A	N/A	0.623		0.485	0.000	1.000	1.000
NumUTPs	N/A	N/A	N/A	N/A	N/A	1.933		4.194	0.000	1.000	2.000
Leverage	0.179	0.176	0.004	0.147	0.291	0.188		0.191	0.004	0.147	0.288
ROA	0.122	0.087	0.058	0.104	0.163	0.136	**	0.093	0.070	0.112	** 0.181
CapIntensity	0.464	0.375	0.185	0.353	0.646	0.474		0.394	0.181	0.348	0.646
NOL	0.033	0.068	0.000	0.000	0.030	0.032		0.066	0.000	0.000	0.031
OptionTaxBen	0.001	0.003	0.000	0.000	0.001	0.002	***	0.005	0.000	0.000	0.002
PerfAdjDiscAccr	-0.007	0.061	-0.040	-0.002	0.027	-0.003		0.056	-0.037	-0.005	0.028
TotalAssets ($M)	9,071	20,386	599	1,566	6,488	9,945		21,903	684	1,813	7,351
RD	0.029	0.046	0.000	0.001	0.042	0.029		0.046	0.000	0.002	0.043

Table 2 (continued)
Descriptive statistics

This table provides descriptive statistics for the pre-Schedule UTP and Schedule UTP regimes. All continuous variables are winsorized at the 2.5 and 97.5 percentiles. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. See Appendix B for variable definitions.

Panel B, Descriptive statistics for multinational sample

	Pre-Schedule UTP (n=203)					Schedule UTP (n=209)					
	Mean	SD	P25	Median	P75	Mean		SD	P25	Median	P75
GAAPPreTaxIncome ($M)	1,107.4	2,096.5	71.9	261.6	825.2	1,321.6		2,536.4	100.8	295.5	886.0
FederalTaxPaid	0.146	0.125	0.053	0.124	0.203	0.132		0.105	0.043	0.116	0.193
ReservesCYPositions	0.032	0.039	0.006	0.016	0.041	0.021	***	0.025	0.004	0.011	*** 0.025
DecReservesPYPositions	0.014	0.024	0.000	0.003	0.016	0.020	**	0.035	0.000	0.005	0.021
FederalTaxExpense	0.176	0.151	0.072	0.154	0.237	0.143	**	0.144	0.067	0.151	0.218
StateTaxExpense	0.026	0.028	0.007	0.020	0.039	0.024		0.026	0.008	0.019	0.034
ForeignTaxExpense	0.115	0.097	0.048	0.091	0.152	0.107		0.083	0.044	0.085	0.141
TotalTaxPaid	0.284	0.191	0.170	0.262	0.342	0.284		0.151	0.193	0.263	0.344
UTPInd	N/A	N/A	N/A	N/A	N/A	0.718		0.451	0.000	1.000	1.000
NumUTPs	N/A	N/A	N/A	N/A	N/A	2.263		3.131	0.000	1.000	3.000
Leverage	0.175	0.164	0.011	0.150	0.280	0.195		0.180	0.025	0.178	0.293
ROA	0.122	0.087	0.058	0.102	0.167	0.134		0.087	0.077	0.112	* 0.179
CapIntensity	0.444	0.347	0.190	0.344	0.603	0.450		0.354	0.196	0.334	0.591
NOL	0.038	0.075	0.000	0.005	0.037	0.039		0.071	0.000	0.008	0.040
OptionTaxBen	0.001	0.003	0.000	0.000	0.001	0.002	*	0.004	0.000	0.000	0.002
PerfAdjDiscAccr	0.001	0.056	-0.030	0.005	0.031	-0.001		0.054	-0.035	-0.005	0.029
TotalAssets ($M)	11,371	22,602	860	2,536	9,699	12,514		24,480	1,086	3,014	10,177
RD	0.035	0.045	0.000	0.014	0.052	0.034		0.045	0.000	0.017	0.052

Table 2 (continued)
Descriptive statistics

This table provides descriptive statistics for the pre-Schedule UTP and Schedule UTP regimes. All continuous variables are winsorized at the 2.5 and 97.5 percentiles. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. See Appendix B for variable definitions.

Panel C, Descriptive statistics for domestic sample

	Pre-Schedule UTP (n=227)					Schedule UTP (n=221)					
	Mean	SD	P25	Median	P75	Mean		SD	P25	Median	P75
GAAPPreTaxIncome ($M)	492.1	1,235.7	40.9	110.9	317.0	593.5		1,445.2	49.7	135.9	362.9
FederalTaxPaid	0.232	0.133	0.127	0.243	0.319	0.222		0.123	0.133	0.228	0.305
ReservesCYPositions	0.019	0.027	0.003	0.008	0.020	0.012	***	0.015	0.002	0.006	*** 0.015
DecReservesPYPositions	0.010	0.021	0.000	0.001	0.011	0.010		0.022	0.000	0.001	0.010
FederalTaxExpense	0.252	0.150	0.157	0.276	0.329	0.249		0.134	0.171	0.265	0.333
StateTaxExpense	0.040	0.031	0.021	0.036	0.056	0.040		0.032	0.020	0.037	0.057
ForeignTaxExpense	0.011	0.026	0.000	0.000	0.010	0.012		0.028	0.000	0.000	0.011
TotalTaxPaid	0.287	0.192	0.157	0.297	0.383	0.305		0.145	0.228	0.310	0.390
UTPInd	N/A	N/A	N/A	N/A	N/A	0.534		0.500	0.000	1.000	1.000
NumUTPs	N/A	N/A	N/A	N/A	N/A	1.620		4.983	0.000	1.000	2.000
Leverage	0.182	0.186	0.001	0.144	0.294	0.182		0.201	0.000	0.135	0.271
ROA	0.122	0.087	0.056	0.106	0.161	0.139	*	0.099	0.064	0.116	* 0.184
CapIntensity	0.482	0.398	0.178	0.364	0.690	0.497		0.428	0.159	0.355	0.754
NOL	0.028	0.061	0.000	0.000	0.024	0.025		0.060	0.000	0.000	0.010
OptionTaxBen	0.001	0.003	0.000	0.000	0.001	0.003	**	0.006	0.000	0.000	0.001
PerfAdjDiscAccr	-0.014	0.066	-0.052	-0.007	0.022	-0.004		0.058	-0.037	-0.006	0.023
TotalAssets ($M)	7,014	17,981	441	1,068	3,146	7,516		18,887	491	1,217	3,354
RD	0.024	0.046	0.000	0.000	0.022	0.025		0.047	0.000	0.000	0.018

Table 3
Composition of uncertain tax positions

This table presents the composition of uncertain tax positions reported on Schedule UTP. See Appendix B for variable definitions.

	ALL	*Cons. Dur. & NonDur.*	*Manufa-cturing*	*Energy*	*High-Tech*	*Telecom municat ions*	*Whole-sale & Retail*	*Health care*	*Utilities & Financi al*	*Other*
Total firms	**430**	46	69	15	82	17	35	61	35	70
% filing UTP	**62.3%**	56.5%	65.2%	73.3%	84.1%	64.7%	31.4%	70.5%	51.4%	48.6%
Mean *FederalTaxPaid*	**0.178**	0.198	0.150	0.136	0.120	0.126	0.210	0.205	0.218	0.222
Mean *ReservesCYPositions*	**0.016**	0.013	0.015	0.010	0.026	0.013	0.013	0.021	0.006	0.012
Mean *DecReservesPYPositions*	**0.015**	0.015	0.017	0.005	0.018	0.018	0.009	0.018	0.009	0.015
Mean *FederalTaxExpense*	**0.197**	0.193	0.140	0.135	0.185	0.124	0.231	0.228	0.227	0.243
Total Number of UTPs	**831**	65	102	56	171	36	41	136	43	181
Number of Permanent UTPs	**648**	51	84	39	156	18	27	114	24	135
Number of Temporary UTPs	**166**	13	14	17	15	16	13	19	19	40
Number of Perm/Temp UTPs	**17**	<=5	<=5	<=5	<=5	<=5	<=5	<=5	<=5	6
Number of R&E Credit UTPs	**177**	17	32	<=5	60	9	<=5	35	<=5	15
Number of International (TP) UTPs	**155**	11	11	7	52	<=5	10	46	<=5	11
Number of Deduction-related UTPs	**132**	18	20	<=5	28	<=5	10	16	7	26
Number of M&A UTPs	**81**	<=5	<=5	<=5	<=5	<=5	<=5	<=5	<=5	72
Number of International (non-TP) UTPs	**75**	<=5	10	16	13	<=5	<=5	12	<=5	11
Number of Capitalization UTPs	**58**	<=5	7	11	<=5	7	8	<=5	<=5	10
Number of Depreciation UTPs	**43**	<=5	<=5	9	<=5	<=5	<=5	<=5	<=5	17
Number of Accruals UTPs	**36**	<=5	<=5	<=5	<=5	<=5	<=5	7	<=5	<=5
Number of Other UTPs	**74**	<=5	13	<=5	7	7	<=5	8	13	16

Table 4

The effect of Schedule UTP on tax and financial reporting

This table presents multivariate results on the effect of Schedule UTP on tax and financial reporting. Robust standard errors are reported in parentheses. All continuous variables are winsorized at the 2.5 and 97.5 percentiles. Asterisks ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. See Appendix B for variable definitions.

$$FederalTaxUncert \ / \ FinRepFederalTaxUncert = \beta_0 + \beta_1 * UTPRegimeInd + \text{Controls} + \text{Industry FE}$$

	DV: *Federal TaxPaid*	DV: *Reserves CYPositions*	DV: *DecReserves PYPositions*	DV: *Federal TaxExpense*
Intercept	0.3930 ***	0.0159 ***	-0.0044	0.4352 ***
	(0.0288)	(0.0058)	(0.0056)	(0.0321)
UTPRegimeInd	**-0.0080**	**-0.0085 *** **	**0.0033 ** **	**-0.0167 ** **
	(0.0058)	**(0.0013)**	**(0.0016)**	**(0.0077)**
Leverage	-0.0084	0.0060	0.0045	-0.0088
	(0.0288)	(0.0064)	(0.0055)	(0.0334)
ROA	0.0389	-0.0700 ***	-0.0545 ***	-0.0171
	(0.0581)	(0.012)	(0.0096)	(0.0676)
CapIntensity	-0.0332 **	-0.0025	-0.0056 **	-0.0430 ***
	(0.0146)	(0.0031)	(0.0022)	(0.0157)
NOL	-0.3260 ***	0.0361 *	0.0262	-0.4381 ***
	(0.0726)	(0.0199)	(0.0167)	(0.0837)
OptionTaxBen	-2.7579 ***	0.1787	0.0845	2.3600 **
	(0.8828)	(0.2203)	(0.1627)	(1.0338)
PerfAdjDiscAccr	-0.1547 *	0.0017	-0.0007	-0.2395 **
	(0.0846)	(0.0186)	(0.015)	(0.0937)
ln(Assets)	-0.0192 ***	0.0014 **	0.0034 ***	-0.0217 ***
	(0.0031)	(0.0006)	(0.0007)	(0.0037)
RD	-0.2600 *	0.0742 **	0.0338	0.1045
	(0.1491)	(0.0378)	(0.0264)	(0.1575)
Industry fixed effects	Yes	Yes	Yes	Yes
N	860	860	860	860
R-squared	0.1921	0.1552	0.1126	0.1683

Table 5

Cross-sectional variation in the effect of Schedule UTP on tax and financial reporting

This table presents multivariate tests of cross-sectional variation in the effect of Schedule UTP on tax and financial reporting. Robust standard errors are reported in parentheses. All continuous variables are winsorized at the 2.5 and 97.5 percentiles. Asterisks ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. See Appendix B for variable definitions.

$$FederalTaxUncert \ / \ FinRepFederalTaxUncert = \beta_0 + \beta_1 * UTPRegimeInd + \beta_2 * MultinationalInd + \beta_3 * UTPRegimeInd * MultinationalInd + \text{Controls} + \text{Industry FE}$$

	DV: *Federal TaxPaid*	DV: *Reserves CYPositions*	DV: *DecReserves PYPositions*	DV: *Federal TaxExpense*
Intercept	0.3721 ***	0.0170 ***	-0.0016	0.4083 ***
	(0.028)	(0.0059)	(0.0057)	(0.0317)
UTPRegimeInd	-0.0040	-0.0061 ***	0.0003	-0.0018
	(0.0087)	(0.0016)	(0.0018)	(0.0101)
MultinationalInd	-0.0612 ***	0.0106 ***	0.0015	-0.0522 ***
	(0.0125)	(0.0032)	(0.0024)	(0.0149)
UTPRegimeInd*MultinationalInd	**-0.0077**	**-0.0052 ***	**0.0062 ***	**-0.0304 ***
	(0.0124)	**(0.003)**	**(0.0033)**	**(0.0161)**
Leverage	-0.0076	0.0061	0.0042	-0.0071
	(0.0268)	(0.0062)	(0.0055)	(0.0317)
ROA	0.0548	-0.0721 ***	-0.0555 ***	-0.0011
	(0.0542)	(0.0118)	(0.0094)	(0.0638)
CapIntensity	-0.0390 ***	-0.0018	-0.0052 **	-0.0491 ***
	(0.0139)	(0.003)	(0.0022)	(0.0148)
NOL	-0.2817 ***	0.0311	0.0226	-0.3906 ***
	(0.0758)	(0.0202)	(0.0167)	(0.0856)
OptionTaxBen	-3.0044 ***	0.1973	0.1128	2.0626 **
	(0.868)	(0.2138)	(0.1628)	(0.98)
PerfAdjDiscAccr	-0.1403 *	-0.0015	-0.0004	-0.2298 **
	(0.0822)	(0.0186)	(0.015)	(0.0907)
ln(Assets)	-0.0137 ***	0.0007	0.0030 ***	-0.0160 ***
	(0.0031)	(0.0007)	(0.0007)	(0.0037)
RD	-0.2576 *	0.0736 **	0.0339	0.1059
	(0.1495)	(0.0372)	(0.0263)	(0.1585)
Industry fixed effects	Yes	Yes	Yes	Yes
N	860	860	860	860
R-squared	0.2428	0.173	0.1224	0.2102

Table 6
Changes specification

This table presents multivariate results on the effect of Schedule UTP on tax and financial reporting using a changes specification. Robust standard errors are reported in parentheses. Asterisks ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. See Appendix B for variable definitions.

$\Delta FederalTaxUncert$ / $\Delta FinRepFederalTaxUncert = \beta_0 + Controls$

Panel A, Multinational firms

	DV: *Federal TaxPaid*	DV: *Reserves CYPositions*	DV: *DecReserves PYPositions*	DV: *Federal TaxExpense*
Intercept	**-0.0127**	**-0.0086** ***	**0.0091** ***	**-0.0286** **
	(0.0081)	**(0.0033)**	**(0.0031)**	**(0.0138)**
ΔLeverage	-0.0355	-0.0390	-0.0158	0.0418
	(0.0610)	(0.0358)	(0.0283)	(0.1349)
ΔROA	-0.2677	-0.1543 ***	-0.1216 **	0.1970
	(0.1762)	(0.0579)	(0.0524)	(0.2574)
ΔCapIntensity	-0.1242	0.0526 *	0.0076	-0.1172
	(0.0800)	(0.0313)	(0.0345)	(0.0963)
ΔNOL	0.2065	-0.0256	-0.0341	-0.1900
	(0.1416)	(0.0475)	(0.0462)	(0.2234)
ΔOptionTaxBen	-0.3950	1.3974 *	0.8976	-4.7887
	(1.7557)	(0.8044)	(0.7426)	(3.4186)
ΔPerfAdjDiscAccr	0.0607	-0.0321	-0.0221	-0.1512
	(0.0928)	(0.0409)	(0.0400)	(0.1515)
ΔAssets	0.0000 **	0.0000 **	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
ΔRD	-0.7403	-0.3993	-0.5108	2.7746
	(0.6466)	(0.4598)	(0.3703)	(1.992)
N	209	209	209	209
R-squared	0.0774	0.0591	0.0471	0.0284

Table 6 (continued)
Changes specification

This table presents multivariate results on the effect of Schedule UTP on tax and financial reporting using a changes specification. Robust standard errors are reported in parentheses. Asterisks ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. See Appendix B for variable definitions.

$$\Delta FederalTaxUncert \;/\; \Delta FinRepFederalTaxUncert = \beta_0 + \text{Controls}$$

Panel B, Domestic firms

	DV: *Federal TaxPaid*	DV: *Reserves CYPositions*	DV: *DecReserves PYPositions*	DV: *Federal TaxExpense*
Intercept	**-0.0003**	**-0.0109** ***	**-0.0004**	**-0.0060**
	(0.0092)	**(0.0023)**	**(0.0017)**	**(0.0117)**
ΔLeverage	-0.1881 **	0.0006	0.0052	-0.1920 **
	(0.0914)	(0.0185)	(0.0121)	(0.0897)
ΔROA	-0.4725 **	-0.0707 **	-0.0597 **	-0.5622 **
	(0.1853)	(0.0345)	(0.0303)	(0.2467)
ΔCapIntensity	0.0674	0.0301	-0.0129	0.2070
	(0.1955)	(0.0434)	(0.0192)	(0.1279)
ΔNOL	0.0733	0.0624	0.2179 **	-0.0170
	(0.3208)	(0.1359)	(0.0903)	(0.3148)
ΔOptionTaxBen	-4.7585 **	0.4491	-0.2766	3.1035
	(2.4098)	(0.7172)	(0.3087)	(3.0404)
ΔPerfAdjDiscAccr	-0.0172	-0.0246	0.0781 ***	-0.2223
	(0.1082)	(0.0255)	(0.0221)	(0.1376)
ΔAssets	0.0000	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
ΔRD	2.3245 ***	-0.6249 **	-0.3892 *	0.2036
	(0.8747)	(0.2649)	(0.2332)	(1.5927)
N	221	221	221	221
R-squared	0.1047	0.0662	0.1624	0.0733

Table 7
Non-treatment firms

This table presents multivariate results for firms not subject to Schedule UTP (firms with less that $100 million in assets). Robust standard errors are reported in parentheses. All continuous variables are winsorized at the 2.5 and 97.5 percentiles. Asterisks ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. See Appendix B for variable definitions.

$$FederalTaxUncert \text{ / } FinRepFederalTaxUncert = \beta_0 + \beta_1 * UTPRegimeInd + \text{Controls} + \text{Industry FE}$$

	DV: *Federal TaxPaid*	DV: *Reserves CYPositions*	DV: *DecReserves PYPositions*	DV: *Federal TaxExpense*
Intercept	0.0639	0.0056	0.0280	0.1408
	(0.2227)	(0.0853)	(0.0548)	(0.1784)
UTPRegimeInd	**0.0103**	**0.0044**	**0.0054**	**-0.0063**
	(0.03)	**(0.0158)**	**(0.0073)**	**(0.0288)**
Leverage	0.1264	-0.0284	0.0193	-0.0899
	(0.2072)	(0.0388)	(0.024)	(0.1871)
ROA	0.2361	-0.0690	-0.0398	0.4903 ***
	(0.1754)	(0.0639)	(0.0381)	(0.1494)
CapIntensity	-0.0376	-0.0047	-0.0091	0.0308
	(0.1039)	(0.0456)	(0.0252)	(0.0887)
NOL	-0.1819 ***	0.0444	0.0093	-0.0171
	(0.0485)	(0.0285)	(0.0139)	(0.0539)
OptionTaxBen	-5.5109	-0.3831	-0.6344	-0.8259
	(4.0445)	(1.0007)	(0.5933)	(3.5617)
PerfAdjDiscAccr	-0.3366 ***	-0.0197	-0.0097	-0.2595 *
	(0.123)	(0.0431)	(0.0254)	(0.1371)
ln(Assets)	0.0232	0.0027	-0.0051	-0.0022
	(0.0538)	(0.0181)	(0.0116)	(0.0421)
RD	-0.2660	0.0190	0.0680 ***	-0.6298 ***
	(0.1722)	(0.038)	(0.0213)	(0.1305)
Industry fixed effects	Yes	Yes	Yes	Yes
N	30	30	30	30
R-squared	0.6881	0.4001	0.4899	0.7497

Table 8
Placebo tests

This table presents results from implementing placebo tests. Panel A presents the 2007 and 2008 placebo test; Panel B presents the 2008 and 2009 placebo test; Panel C presents the 2010 and 2011 placebo test. Robust standard errors are reported in parentheses. All continuous variables are winsorized at the 2.5 and 97.5 percentiles. Asterisks ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. See Appendix B for variable definitions.

$$FederalTaxUncert\ /\ FinRepFederalTaxUncert = \beta_0 + \beta_1 * PlaceboInd + \beta_2 * MultinationalInd + \beta_3 * PlaceboInd * MultinationalInd + \text{Controls} + \text{Industry FE}$$

Panel A, 2007 and 2008 placebo test

	DV: *Federal TaxPaid*	DV: *Reserves CYPositions*	DV: *DecReserves PYPositions*	DV: *Federal TaxExpense*
Intercept	0.3568 ***	0.0288 ***	-0.0055	0.3784 ***
	(0.0394)	(0.0076)	(0.0061)	(0.0394)
2008Ind	0.0093	-0.0022	0.0028	0.0100
	(0.0113)	(0.0025)	(0.0028)	(0.0107)
MultinationalInd	-0.0765 ***	0.0080 ***	0.0012	-0.0795 ***
	(0.0135)	(0.003)	(0.0026)	(0.0126)
2008Ind*MultinationalInd	**-0.0071**	**-0.0007**	**-0.0031**	**0.0052**
	(0.0154)	**(0.0035)**	**(0.0038)**	**(0.0153)**
Leverage	0.0137	0.0030	0.0056	-0.0234
	(0.0319)	(0.0058)	(0.005)	(0.0292)
ROA	-0.1129 *	-0.0914 ***	-0.0652 ***	-0.1136 *
	(0.0612)	(0.013)	(0.0118)	(0.0655)
CapIntensity	-0.0322 *	-0.0057 *	0.0014	-0.0383 **
	(0.0168)	(0.0034)	(0.0033)	(0.017)
NOL	-0.3746 ***	0.0071	0.0296 *	-0.3865 ***
	(0.0815)	(0.0192)	(0.0173)	(0.0917)
OptionTaxBen	-0.1481	0.0596	-0.0578	4.3514 ***
	(1.2753)	(0.289)	(0.1611)	(1.1743)
PerfAdjDiscAccr	-0.3223 ***	-0.0166	0.0401 **	-0.3483 ***
	(0.0904)	(0.0201)	(0.0175)	(0.0944)
ln(Assets)	-0.0104 ***	0.0005	0.0027 ***	-0.0089 **
	(0.004)	(0.0008)	(0.0007)	(0.004)
RD	-0.1468	0.1115 ***	0.0124	-0.0085
	(0.1639)	(0.0399)	(0.0316)	(0.1774)
Industry fixed effects	Yes	Yes	Yes	Yes
N	770	770	770	770
R-squared	0.2013	0.1724	0.1028	0.2164

Table 8 (continued)
Placebo tests

This table presents results from implementing placebo tests. Panel A presents the 2007 and 2008 placebo test; Panel B presents the 2008 and 2009 placebo test; Panel C presents the 2010 and 2011 placebo test. Robust standard errors are reported in parentheses. All continuous variables are winsorized at the 2.5 and 97.5 percentiles. Asterisks ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. See Appendix B for variable definitions.

$$FederalTaxUncert\ /\ FinRepFederalTaxUncert = \beta_0 + \beta_1 * PlaceboInd + \beta_2 * MultinationalInd + \beta_3 * PlaceboInd * MultinationalInd + \text{Controls} + \text{Industry FE}$$

Panel B, 2008 and 2009 placebo test

	DV: *Federal TaxPaid*	DV: *Reserves CYPositions*	DV: *DecReserves PYPositions*	DV: *Federal TaxExpense*
Intercept	0.3609 ***	0.0240 ***	-0.0027	0.4035 ***
	(0.0387)	(0.0087)	(0.0067)	(0.0417)
2009Ind	-0.0194	-0.0042 *	-0.0032	-0.0439 ***
	(0.0134)	(0.0024)	(0.0028)	(0.0134)
MultinationalInd	-0.0690 ***	0.0098 **	-0.0009	-0.0629 ***
	(0.0167)	(0.0041)	(0.0034)	(0.0173)
2009Ind*MultinationalInd	**0.0089**	**0.0008**	**0.0007**	**0.0182**
	(0.0172)	**(0.004)**	**(0.004)**	**(0.0186)**
Leverage	-0.0220	0.0065	-0.0014	-0.0317
	(0.0355)	(0.0108)	(0.0061)	(0.0359)
ROA	-0.0899	-0.1239 ***	-0.0583 ***	-0.1638 **
	(0.0757)	(0.0225)	(0.0137)	(0.0797)
CapIntensity	-0.0683 ***	-0.0037	0.0005	-0.0661 ***
	(0.0175)	(0.0039)	(0.0035)	(0.0192)
NOL	-0.3357 ***	0.0421	0.0387 *	-0.2874 ***
	(0.0682)	(0.0282)	(0.0219)	(0.0842)
OptionTaxBen	-0.2842	0.9335	-0.1557	7.7975 ***
	(2.4877)	(0.637)	(0.3173)	(2.3111)
PerfAdjDiscAccr	-0.2439 **	-0.0245	0.0250	-0.2563 ***
	(0.1004)	(0.0253)	(0.0181)	(0.0981)
ln(Assets)	-0.0094 **	0.0010	0.0031 ***	-0.0112 **
	(0.0041)	(0.0009)	(0.0008)	(0.0046)
RD	-0.1477	0.1276 ***	0.0454	-0.0161
	(0.1771)	(0.0464)	(0.038)	(0.185)
Industry fixed effects	Yes	Yes	Yes	Yes
N	702	702	702	702
R-squared	0.1946	0.177	0.0984	0.1735

Table 8 (continued)
Placebo tests

This table presents results from implementing placebo tests. Panel A presents the 2007 and 2008 placebo test; Panel B presents the 2008 and 2009 placebo test; Panel C presents the 2010 and 2011 placebo test. Robust standard errors are reported in parentheses. All continuous variables are winsorized at the 2.5 and 97.5 percentiles. Asterisks ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. See Appendix B for variable definitions.

$$FederalTaxUncert\ /\ FinRepFederalTaxUncert = \beta_0 + \beta_1 * PlaceboInd + \beta_2 * MultinationalInd + \beta_3 * PlaceboInd * MultinationalInd + \text{Controls} + \text{Industry FE}$$

Panel C, 2010 and 2011 placebo test

	DV: *Federal TaxPaid*	DV: *Reserves CYPositions*	DV: *DecReserves PYPositions*	DV: *Federal TaxExpense*
Intercept	0.3398 ***	0.0180 ***	-0.0027	0.3872 ***
	(0.0272)	(0.0051)	(0.0058)	(0.0307)
2011Ind	-0.0173 **	-0.0035 **	-0.0024	-0.0104
	(0.0079)	(0.0016)	(0.0019)	(0.0087)
MultinationalInd	-0.0762 ***	0.0028	0.0018	-0.0917 ***
	(0.0109)	(0.0022)	(0.0029)	(0.0128)
2011Ind*MultinationalInd	**0.0154**	**0.0023**	**-0.0034**	**0.0105**
	(0.0106)	**(0.0022)**	**(0.0031)**	**(0.0131)**
Leverage	-0.0077	0.0045	0.0071	0.0004
	(0.0228)	(0.0047)	(0.0054)	(0.0239)
ROA	0.1178 **	-0.0610 ***	-0.0571 ***	0.0512
	(0.0488)	(0.0097)	(0.0105)	(0.0549)
CapIntensity	-0.0347 ***	-0.0029	-0.0032	-0.0471 ***
	(0.0122)	(0.0021)	(0.0028)	(0.0139)
NOL	-0.2482 ***	0.0678 ***	0.0338	-0.1998 **
	(0.07)	(0.0202)	(0.0217)	(0.0931)
OptionTaxBen	-3.9467 ***	-0.0130	-0.0532	2.3962 ***
	(0.8874)	(0.1779)	(0.1457)	(0.8674)
PerfAdjDiscAccr	-0.2297 ***	0.0007	-0.0316 *	-0.3653 ***
	(0.067)	(0.0156)	(0.0172)	(0.075)
ln(Assets)	-0.0117 ***	0.0006	0.0032 ***	-0.0144 ***
	(0.0028)	(0.0006)	(0.0008)	(0.0032)
RD	-0.2649 **	0.0959 ***	0.0218	-0.1043
	(0.126)	(0.0291)	(0.0287)	(0.1395)
Industry fixed effects	Yes	Yes	Yes	Yes
N	902	902	902	902
R-squared	0.2952	0.198	0.1296	0.2891

Table 9

Foreign and state tax uncertainty

This table presents multivariate results for the effect of Schedule UTP on state and local tax expense and foreign tax expense. Standard errors are reported in parentheses. All continuous variables are winsorized at the 2.5 and 97.5 percentiles. Asterisks ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. See Appendix B for variable definitions.

$$StateTaxExpense \ / \ ForeignTaxExpense = \beta_0 + \beta_1 * UTPRegimeInd + \text{Controls} + \text{Industry FE}$$

	Multinational firms		Domestic firms	
	DV: *StateTax Expense*	DV: *Foreign TaxExpense*	DV: *StateTax Expense*	DV: *Foreign TaxExpense*
Intercept	0.0753 ***	0.0418	0.0672 ***	-0.0040
	(0.01)	(0.0299)	(0.0104)	(0.0165)
UTPRegimeInd	**-0.0014**	**-0.0068**	**0.0002**	**0.0013**
	(0.0021)	**(0.0056)**	**(0.0025)**	**(0.0016)**
Leverage	-0.0066	0.0149	0.0050	-0.0156 **
	(0.0085)	(0.0306)	(0.0093)	(0.0071)
ROA	-0.0596 ***	-0.1912 ***	-0.0044	-0.0009
	(0.0206)	(0.0606)	(0.018)	(0.0288)
CapIntensity	-0.0107 **	0.0084	-0.0014	-0.0078 **
	(0.0042)	(0.0179)	(0.0053)	(0.0031)
NOL	-0.0197	-0.0110	0.0241	-0.0155
	(0.0268)	(0.0512)	(0.0242)	(0.0188)
OptionTaxBen	0.0896	-1.3943	1.3112 ***	-0.2095
	(0.4933)	(0.9895)	(0.3656)	(0.2465)
PerfAdjDiscAccr	-0.0201	-0.0503	-0.0378 *	-0.0005
	(0.0286)	(0.0807)	(0.0208)	(0.0183)
ln(Assets)	-0.0041 ***	0.0104 ***	-0.0030 **	0.0026
	(0.0008)	(0.0031)	(0.0012)	(0.0019)
RD	0.0605	-0.2610 *	-0.1150 ***	0.0415
	(0.0484)	(0.143)	(0.04)	(0.0372)
Industry fixed effects	Yes	Yes	Yes	Yes
N	412	412	448	448
R-squared	0.1711	0.2517	0.1352	0.0868

Table 10

Compliance Assurance Program (CAP) firms

This table presents multivariate results for firms participating in the Compliance Assurance Program (CAP). Robust standard errors are reported in parentheses. All continuous variables are winsorized at the 2.5 and 97.5 percentiles. Asterisks ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. See Appendix B for variable definitions.

$$FederalTaxUncert \ / \ FinRepFederalTaxUncert = \beta_0 + \beta_1 * UTPRegimeInd + \text{Controls} + \text{Industry FE}$$

	DV: *Federal TaxPaid*	DV: *Reserves CYPositions*	DV: *DecReserves PYPositions*	DV: *Federal TaxExpense*
Intercept	0.2870 ***	-0.0329	0.1338 ***	0.1783
	(0.0838)	(0.0405)	(0.0391)	(0.1404)
UTPRegimeInd	**-0.0177**	**-0.0007**	**-0.0006**	**-0.0375**
	(0.024)	**(0.0086)**	**(0.009)**	**(0.0407)**
Leverage	1.2498 ***	-0.0183	-0.2148 *	0.6714 **
	(0.2895)	(0.1047)	(0.1184)	(0.3287)
ROA	0.7468 ***	-0.2287 ***	-0.2820 *	1.1353 ***
	(0.1618)	(0.0767)	(0.146)	(0.4222)
CapIntensity	-0.3397 **	-0.0378	0.0458	-0.1138 *
	(0.131)	(0.0379)	(0.0297)	(0.0615)
NOL	-0.5928 ***	0.1925 ***	0.1747 **	-0.5554 **
	(0.1939)	(0.0638)	(0.0675)	(0.2575)
OptionTaxBen	-107.6422 **	3.8845	13.3597	-31.3581
	(51.5178)	(12.4754)	(16.8828)	(31.0652)
PerfAdjDiscAccr	-0.3662 *	-0.0421	0.1662	-0.8037 *
	(0.2173)	(0.0639)	(0.1363)	(0.4363)
ln(Assets)	-0.0154	0.0105 **	-0.0090 **	-0.0173
	(0.0159)	(0.0045)	(0.0039)	(0.014)
RD	4.6554 ***	-0.2496	-0.5203	2.5618 ***
	(1.1126)	(0.3785)	(0.3459)	(0.6237)
Industry fixed effects	Yes	Yes	Yes	Yes
N	40	40	40	40
R-squared	0.7624	0.6016	0.5636	0.658

Appendices

Appendix A

Example of financial statement disclosure of uncertain tax positions

Balance at January 1, 20XX	$XXX
Additions based on tax positions related to the current year	XX
Additions for tax positions of prior years	XX
Reductions for tax positions of prior years	(XX)
Settlements	(XX)
Lapse of applicable statute of limitations	(XX)
Balance at December 31, 20XX	**$XXX**

Appendix B
Variable definitions

GAAPPreTaxIncome	=	Book pretax income (Compustat PI)
FederalTaxPaid	=	Total tax reported on Line 31 of Form 1120 divided by *GAAPPreTaxIncome*
ReservesCYPositions	=	Financial statement reserves for uncertain tax positions claimed in the current year (Compustat TXTUBPOSINC) divided by *GAAPPreTaxIncome*
DecReservesPYPositions	=	Decrease in financial statement reserves for uncertain tax positions claimed in prior years (Compustat TXTUBPOSPDEC) divided by *GAAPPreTaxIncome*
FederalTaxExpense	=	Current federal tax expense (Compustat TXFED) divided by *GAAPPreTaxIncome*
StateTaxExpense	=	Current state tax expense (Compustat TXS) divided by *GAAPPreTaxIncome*
ForeignTaxExpense	=	Current foreign tax expense (Compustat TXFO) divided by *GAAPPreTaxIncome*
TotalTaxPaid	=	Total tax paid (Compustat TXPD) divided by *GAAPPreTaxIncome*
UTPInd	=	1 if firm reported at least one tax position on Schedule UTP and 0 otherwise
NumUTPs	=	Number of tax positions reported on Schedule UTP
Leverage	=	Long-term debt (Compustat DLTT) divided by lagged *TotalAssets*
ROA	=	Book pretax income (Compustat PI) divided by lagged *TotalAssets*
CapIntensity	=	Net property, plant and equipment (Compustat PPENT) divided by lagged *TotalAssets*
NOL	=	Net operating loss carryforwards (Compustat TLCF) divided by lagged *TotalAssets*
OptionTaxBen	=	Excess tax benefit from stock options (Compustat TXBCO) divided by lagged *TotalAssets*
PerfAdjDiscAccr	=	Performance-matched discretionary accruals based on the Kothari, Leone and Wasley (2005) modified-Jones model (Jones (1991))
TotalAssets	=	Compustat AT
RD	=	Research and development expenses (Compustat XRD) divided by lagged *TotalAssets*
UTPRegimeInd	=	1 if year equals 2010 and 0 otherwise
MultinationalInd	=	1 if foreign pretax income (Compustat PIFO) is at least 10 percent of worldwide pretax income (Compustat PI) and 0 otherwise
PlaceboInd	=	1 if year equals placebo year and 0 otherwise

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