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The Role of Auditors, Non-Auditors, and Internal Tax Departments in Corporate Tax Aggressiveness

Kenneth J. Klassen
University of Waterloo

Petro Lisowsky
University of Illinois at Urbana–Champaign
Norwegian Center for Taxation

Devan Mescall
University of Saskatchewan

ABSTRACT: Using confidential data from the Internal Revenue Service on who signs a corporation's tax return, we investigate whether the party primarily responsible for the tax compliance function of the firm—the auditor, an external non-auditor, or the internal tax department—is related to the corporation's tax aggressiveness. We report three key findings: (1) firms preparing their own tax returns or hiring a non-auditor claim more aggressive tax positions than firms using their auditor as the tax preparer; (2) auditor-provided tax services are related to tax aggressiveness even after considering tax preparer identity, which supports and extends prior research using tax fees as a proxy for tax planning; and (3) Big 4 tax preparers, in particular, are linked to less tax aggressiveness when they are the auditor than when they are not the auditor. Our findings help policymakers and researchers better understand an important feature of tax compliance intermediaries; particularly, how the dual role via audits is related to observable corporate tax outcomes.

Keywords: *tax preparer; auditor; tax fee; FIN 48; tax aggressiveness.*

I. INTRODUCTION

The importance of taxation to corporate decision-makers is large and growing. Alvarez & Marsal (2012) report that tax issues are considered by financial executives in up to 92 percent of global business decisions. Deloitte (2006) reports that about two-thirds of executives desire the tax function to play a leadership role in supporting major transactions within the firm. Taxand (2012) finds that CFOs identify a 16 percent increase in the number of boards of directors that identify tax as being on the board's agenda "to a great extent" compared to the prior year.¹ Of the tax issues facing corporations, tax compliance is increasingly crucial. Long (2004) notes:

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FIN 48 data and confidential tax return data were provided to one of the authors by the Internal Revenue Service (IRS) Large Business and International (LB&I) Planning, Analysis, Inventory, and Research Division (PAIR). Tax return data are not publicly available; the FIN 48 data were compiled and validated by the IRS and made available to one of the authors. Because tax data are confidential and protected by data non-disclosure agreements under the Internal Revenue Code (IRC), all statistics are presented in the aggregate; no statistics with three or fewer observations are disclosed. Any opinions are those of the authors and do not necessarily reflect the views of the IRS.

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¹ The Taxand (2012) survey asked, "To what extent are tax issues on your board's agenda?" The response choices were, "not particularly," "neutral," "to some extent," and "to a great extent" (Taxand 2012).

In today's risk-sensitive environment, tax compliance is increasingly taking center stage as the most important part of the challenge facing corporate tax departments. Mistakes in the compliance area are the ones most likely to get tax a hearing in the boardroom; not the way tax directors would want to receive such attention!

To meet their tax compliance responsibilities, firms employ internal tax specialists, their financial statement auditor, other external tax preparers, or a mix. Yet, despite the importance of tax in corporate decisions, the selection of the tax preparer type and any effects of such decisions are largely unknown. This study begins to overcome that shortcoming by using Internal Revenue Service (IRS) data on who signs the corporation's tax return, indicating extensive tax compliance services, to study the link between the tax preparer type—whether the internal tax department, an external non-auditor, or the auditor—and the aggressiveness of the corporation's tax positions.

Extensive research has examined the effect of auditors providing tax services on the audit process, e.g., how they affect financial reporting.² However, the literature remains silent on the *tax*-related preparation costs imposed on auditor-tax preparers and the relation of these costs to *tax* reporting outcomes. We contribute to this literature by exploring this alternative perspective. As described more fully below, we assert that the tax preparer contributes to corporate tax decisions in a client's pursuit of its goals, and that differing costs faced by tax preparer types are important in the delivery of tax preparer guidance and service. Specifically, an external preparer is more sensitive to having tax positions overturned by the tax authority when that preparer jointly provides tax and audit work (e.g., due to reputation threats) than when providing tax work alone. These higher enforcement-related costs will lead to more certain tax filing positions. Thus, we hypothesize that, in equilibrium, tax aggressiveness is less prevalent in tax returns prepared by an auditor than in returns prepared internally or by an external non-auditor. Our analysis of preparer costs not only leads us to consider how preparers relate to tax aggressiveness (as opposed to avoidance), but also identify when the preparer is the auditor. Further mirroring extant research, we identify whether external preparers are Big 4 accounting firms to analyze whether tax aggressiveness varies between preparer types (e.g., Big 4 firm is or is not an auditor-preparer) and within preparer types (e.g., auditor-preparer is a Big 4 or non-Big 4 firm).

By examining the relation between tax preparers and tax aggressiveness, our research also contributes to the literature on how corporate actors, including owners (S. Chen, X. Chen, Cheng, and Shevlin 2010), CEOs (Dyreg, Hanlon, and Maydew 2010), and tax directors (Armstrong, Blouin, and Larcker 2012) shape a firm's tax positions. Tax preparers play a key role in tax systems that rely on taxpayers' self-assessments and reporting of tax liabilities. While much of the academic literature focuses on the role of tax *planning* in shaping tax outcomes (e.g., Cook, Huston, and Omer 2008), many tax decisions rely on the *compliance* function of the firm.³ Compliance efforts not only include filing the tax return, but also analyzing and modeling firm operations, testing and monitoring processes and transactions, providing oversight and control, and aligning the tax function with broader corporate goals (Deloitte Insights 2013; KPMG 2014). Although tax preparers help companies apply the tax rules to claim rightful deductions or credits, preparers also aid client management to claim tax benefits when tax rules are unclear, which, in turn, can facilitate companies' tax goals.

Third, we contribute to the literature on corporate tax compliance. Although a significant component of tax services is related to compliance, extant research largely focuses on individuals (Slemrod and Sorum 1984; Christian, Gupta, and Lin 1993) and not-for-profits (Neuman, Omer, and Thompson 2015). Hite and McGill (1992) study whether individuals dismiss their tax preparer if they disagree with the preparer's advice to claim an aggressive tax position. Omer and Yetman (2007) find that not-for-profit organizations overstate expenses to reduce their unrelated business income tax liability. Because fundamental differences exist between corporations, individuals, and not-for-profits due to tax audit intensity, penalties, agency costs, litigation risk, resources, and profit motive, insights into how *corporate* tax reporting is linked to tax compliance adds to this literature.⁴

Finally, while we focus on the types of tax preparers, we extend previous research on the link between tax aggressiveness and auditor tax fees. In particular, we test the relation between tax aggressiveness and tax fees after accounting for the tax compliance function of the firm via tax preparer types. By doing so, we sharpen our understanding of tax fees as a proxy for tax planning (e.g., Cook et al. 2008); specifically, the robustness of the proxy's interpretation to including explicit variables for the identity of the tax preparer.

² For example, see Davis, Ricchiute, and Trompeter (1993), DeFond, Raghunandan, and Subramanyam (2002), Abbott, Parker, Peters, and Raghunandan (2003), Kinney, Palmrose, and Scholz (2004), Francis and Ke (2006), Fortin and Pittman (2008), Lim and Tan (2008), Cripe and McAllister (2009), and Zaman, Hudai, and Haniffa (2011).

³ In a 1992 survey, Slemrod and Blumenthal (1996) estimate that the average aggregate annual cost of complying with federal and sub-federal income taxes for 1,300 large corporations is about \$2 billion, highlighting that the economics of tax preparation is significant for corporations specifically.

⁴ The link between tax preparers and non-compliance is also salient to tax authorities. Regarding individuals, the IRS began requiring tax preparers to pass an annual exam in response to individual tax return non-compliance; more than half of the 79 million individual tax returns with a paid preparer were unregulated (IRS 2013). Yet, in *Loving v. Internal Revenue Service*, the District Court for Washington, DC prevented the IRS from enforcing tax preparer quality criteria such as the annual exam (111 A.F.T.R.2d (RIA) 589; D.D.C. (January 18, 2013); affirmed by the DC Circuit Court of Appeals, No. 13-5061 (February 11, 2014); see, also, Schreiber 2014).

To test whether tax preparer type is related to tax aggressiveness, we regress current-year positions that increase the Financial Interpretation No. 48 (FIN 48) tax reserve (Financial Accounting Standards Board [FASB] 2006; [Lisowsky, Robinson, and Schmidt 2013](#)) on tax preparer type. To identify tax preparer type, we link confidential Internal Revenue Service (IRS) data on who signs the tax return with auditor data from Audit Analytics for 1,533 firm-years during 2008 and 2009. The merged data allow us to identify whether the tax compliance function of the firm is primarily administered by its internal tax department, the financial statement auditor, or an external non-auditor-preparer. Due to data limitations, extant research has only been able to identify the auditor's involvement in broadly defined tax services (e.g., [Lassila, Omer, Shelley, and Smith 2010](#); [Dhaliwal, Gal-Or, Naiker, and Sharma \[2013\]](#) is a notable exception). The IRS data allow us to identify the party, whether auditor or not, primarily responsible for tax compliance—one type of tax service.

The empirical tests support our hypotheses. First, internally prepared tax returns claim more aggressive tax positions than auditor-prepared returns. Second, external non-auditor-prepared tax returns claim more aggressive positions than auditor-prepared returns. We do not find that tax aggressiveness differs across internally and non-auditor prepared tax returns, consistent with our assertion that auditors bear unique tax-related compliance costs. Because our proxy for tax aggressiveness, the current-period FIN 48 tax reserve, is itself a financial statement accrual, we explicitly address the alternative explanation that our documented relations result from differing financial reporting rather than tax reporting. Our inferences hold after conducting various sensitivity tests that use alternative methods and measures of tax aggressiveness, including tax shelter use and tax haven subsidiaries, and of financial reporting aggressiveness.

In recognizing that the selection of a tax preparer is a firm choice, we follow prior research focusing on the engagement and dismissal of auditors as tax service providers (e.g., [Lassila et al. 2010](#); [Cook and Omer 2012](#); [McGuire, Omer, and Wang 2012](#)) to identify several determinants of tax preparer type. In our tests, we employ multinomial probit and multinomial treatment effects models extended to a three-choice setting; the latter design accounts for potential self-selection and simultaneity biases related to tax preparer choices and tax aggressiveness. Although a deep examination of these determinants is not the focus of our study, it nevertheless complements prior research by examining tax preparers specifically—while still considering the audit role. We find that firms selecting their auditor as tax preparer are less tax aggressive in the past, smaller, less international, higher growth, and use their auditor for extensive non-audit, non-tax work.

We include tax fees paid to the auditor, in addition to our tax preparer indicator variables to also test whether tax fees explain tax aggressiveness. We find that the link between tax fees and tax aggressiveness is significantly positive; in fact, the link becomes stronger after tax compliance is considered. Thus, the interpretation in prior research (e.g., [Cook et al. 2008](#)) that tax fees likely proxy for tax planning is consistent with our results.⁵

In our final analysis, we find that the tax returns prepared by Big 4 accounting firms are less tax aggressive when the preparer is also the company's auditor, relative to when the preparer does not have this additional role. This result is interesting because it establishes that—for the same quality preparer—tax aggressiveness is lower in the presence of an audit relationship. It also corroborates our assertion that the dual provisioning of audit and tax work imposes additional costs to tax aggressiveness on auditor-preparers, particularly among Big 4 firms.

Due to the paucity of archival data on corporate tax preparers, this study improves our understanding of their important role in the U.S. tax and financial reporting system. We are the first to document the distribution of tax preparers for a sample of large U.S. firms, report their association with tax aggressiveness, and uncover firm characteristics relating to the selection of a tax preparer. Identifying auditors who also serve as tax preparers allows us to explore them as a possible factor in tax reporting decisions by some corporations, and whether those choices are consistent with the regulatory environment. Our results inform debates over audit firms providing tax services to the same client (e.g., [Public Company Accounting Oversight Board \[PCAOB\] 2004](#)) in that, at least as far as tax compliance work is concerned, returns prepared by auditors, especially by Big 4 auditors, are reliably less tax aggressive. These results are consistent with incremental costs of aggressive tax positions being borne when an audit relationship is present.

The remainder of the paper is organized as follows. Section II provides background. Sections III and IV develop our hypotheses and research design, respectively. Section V reports our main results. Section VI provides additional analysis. Section VII concludes.

⁵ Auditors are used extensively for tax work even if they do not sign the tax return. For example, more than 80 percent of our sample firms pay tax fees to their auditor, but only 20 percent of tax returns are prepared by the auditor. Therefore, auditors of our sample companies appear to frequently perform limited-scope tax compliance work, tax planning, tax-related financial reporting, and/or dispute resolution, even if they rarely take on broad responsibility over tax return preparation. However, we cannot observe a complete picture of tax costs, lacking tax fees paid to non-auditors or the resources invested internally; i.e., tax fees are only observable when *auditors* provide some type of tax service. Also, while our findings corroborate extant work, our sample period is after the implementation of Sarbanes-Oxley that is the setting of prior research. Concurrent work by [Dhaliwal et al. \(2013\)](#) bifurcate tax fees paid to the auditor between compliance and planning. We discuss this potentially fruitful avenue of research below.

II. INSTITUTIONAL BACKGROUND

Tax Compliance and Tax Preparers

To meet regulatory, disclosure, and value-enhancing objectives, corporations procure a variety of tax services, including (1) tax compliance; (2) tax advisory and planning; (3) financial reporting of income taxes; and (4) tax dispute support (Ernst & Young 2011, 29). Compliance involves interpreting and applying the tax law, including jurisdictional issues, with the objective of preparing tax returns and reporting them to tax authorities. Advisory and planning services help develop transactions that enhance firm value from a tax perspective (Scholes et al. 2014), e.g., developing a tax-efficient merger structure. Financial reporting includes supporting the company's regulatory mandates regarding disclosures of taxes. Finally, tax dispute services aid the company when tax authorities challenge the firm's tax positions. These four services can be executed internally by a firm's tax department or externally by accounting, law, or other firms.

Tax compliance work determines a preparer's signing responsibility. Internal Revenue Code (IRC) Section 6694 outlines penalties related to external preparers signing tax returns containing unreasonable positions that result in an understatement of tax liability.⁶ This penalty equals the greater of \$1,000 or half of the income derived or expected to be derived with respect to preparing the tax return (§6694(a)(1)). This latter explicit penalty, coupled with litigation and implicit costs (e.g., damaged reputation), can be economically significant for large preparers.

The effect of the penalty regime is that an external preparer will not sign the tax return unless it is confident it has obtained enough information to support the validity of the underlying tax position(s). Therefore, if an external party does not sign the tax return, it is either because it did not provide any tax work at all, or it only provided a limited scope of work, such as advising on a specific transaction (e.g., calculating a tax credit). A narrow scope does not require the tax preparer to sign the return. In fact, the preparer will prefer not to sign the return because it has not adequately evaluated the merits underlying the rest of the tax return, so signing the return would impose substantial risk on the preparer. If there is no other external party primarily responsible for the tax compliance work, then the tax return is not signed by an external preparer.

If a corporation would like an external preparer to sign its tax return, then the §6694 penalty regime provides strong incentives for the preparer to require a large enough scope of work to adequately document and support the positions underlying the entire tax return. If a preparer reasons that through the additional work, its compliance-related responsibilities are met, then it signs the tax return (in the "Paid Preparer" section) alongside the corporation's tax officer (e.g., the Tax Director or Vice President of Tax).⁷ If the work by the external preparer is substantial, then the preparer is required to sign the tax return. That is, conditional on the work performed, the signature itself is *not* an election.⁸ In all, the strict regulatory regime underlying §6694, which exposes an external preparer to substantial business risk if sufficient support is not gathered in preparing the return, provides strong institutional incentives that ensure that the signature on the tax return identifies the party primarily associated with executing the firm's tax compliance work.

Our discussion reveals (at least) three approaches to tax preparation. First, the company can use its auditor for its tax compliance work. Second, the company can employ another firm to provide compliance services. Because both audit and tax work require a detailed knowledge of the company, the choice between the company's auditor and another preparer is driven by a trade-off between the synergies of having both services provided by the same party and the potential costs to providing both services.⁹ A third alternative is to prepare the tax return internally, potentially hiring external parties for narrow aspects of work.

⁶ An unreasonable position is one that (1) the tax preparer knew or reasonably should have known of the position; (2) there was not a reasonable belief that the position would more likely than not be sustained on its merits; and (3) the position was not disclosed or there was no reasonable basis for the position (§6694(a)(2)). Separately, the Statement on Standards for Tax Services No. 1, issued by the American Institute of Certified Public Accountants (AICPA), provides strict guidelines on paid preparers for reporting and disclosing their clients' tax positions to the tax authorities.

⁷ Although a corporate agent must always sign the tax return, the absence (presence) of a preparer signature implies that the compliance work is predominantly executed internally (externally). We use this fact in our research design.

⁸ A tax partner at a large accounting firm told us that if clients want his firm to sign their tax returns, his firm has to be "comfortable that [his firm] has substantially impacted the development of the return. If we are signing the return, we have to feel in good conscience that the return is properly prepared. We will not sign a return that we have not substantially worked on, and similarly, if we have substantially worked on the return, we cannot duck the responsibility by not signing the tax return." If the preparer performs substantial work, but disagrees with a position taken by the taxpayer, then the preparer is still required to sign the return and must disclose the issue to the IRS. Although the signature itself is not an election, assessing whether the work is "substantial" involves practitioner judgment. The tax partner viewed substantial work as referring both to the number of transactions that are prepared or executed and to the materiality of the transactions involved in the return. The tax partner noted that there is rarely a "gray area" in terms of whether to sign the tax return because the engagement letter specifies the amount of work to be performed and whether a signing responsibility arises, resolving the ambiguity over signing responsibilities early. The accounting firms also have compliance officers ensuring that signature responsibilities are met.

⁹ In terms of audits, these costs may include actual or perceived threats to auditor independence that such an arrangement could generate. In terms of tax services, these costs may include additional scrutiny within the company, or fees imposed on the company from the auditor-preparers' exposure to additional costs (e.g., litigation).

This alternative can produce cost savings if the internal staff has a better understanding of the company and is more closely aligned to management's objectives, but the company must hire dedicated corporate staff and invest managerial time in supervising the internal tax function.

Challenges in Identifying Tax Compliance Activities

The economics of corporate tax compliance are very large (Slemrod and Blumenthal 1996); however, to our knowledge, there is no archival evidence in a corporate setting on tax compliance differences by tax preparers. The main challenge facing analysts and researchers in assessing corporate tax compliance is observing the transactions undertaken, the competing tax treatments of the transactions, and management's tax objectives when determining their filing position. Thus, researchers are left using noisy observable outputs to infer unobservable inputs.

For example, Cook et al. (2008) use tax fees paid to auditors as a proxy for tax-planning activities. They infer that the negative relation between tax fees and changes in third- to fourth-quarter effective tax rates is consistent with tax planning and earnings management incentives. Dhaliwal et al. (2013) partially corroborate the approach in Cook et al. (2008) by studying voluntary disclosures of tax planning and tax compliance fees in a sample of firms that use their auditor for tax services. Our study is similar to Dhaliwal et al. (2013) in that we both investigate tax-related compliance and planning activities. We do so by identifying tax preparer type (our proxy for tax compliance) and tax fees (which Cook et al. [2008] use as a proxy for tax planning), while Dhaliwal et al. (2013) bifurcate auditor tax fees to measure planning and compliance.

However, there are several differences between our studies. First, we conduct an analysis across and within three tax preparer types, while Dhaliwal et al. (2013) conduct a within-auditor analysis. That is, the Dhaliwal et al. (2013) sample necessarily includes only firms that engage their auditor for tax services and voluntarily disclose the bifurcation of tax fees. In contrast, we can identify auditors, non-auditors, and internal tax departments as providers of tax compliance work on an equal footing; the data are not censored to only one type of provider.¹⁰

Second, we examine total tax fees in conjunction with tax preparer type, which we believe is interesting in light of the fact that we can identify firms that pay tax fees to their auditor, but for which the auditor does not sign the tax return. Thus, we can examine these auditors' role in tax aggressiveness compared to other groups who might also pay their auditor tax fees, but use a different preparer. Dhaliwal et al. (2013) do not examine preparer type and its interaction with tax fees because the preparer identity is unavailable from public disclosures. Of course, a limitation of our study is that we can only employ a binary variable for the tax preparer type rather than a continuous measure of compliance work; costs related to compliance by tax departments or non-auditors are not available to us.

Finally, only about 25 percent of the sample in Dhaliwal et al. (2013) voluntarily disclose the bifurcation of tax fees between planning and compliance work; the vast majority of firms continue to report only total auditor tax fees. Because filing and signing tax returns are required by law, there are no obvious self-selection issues related to disclosure in the IRS preparer data we use compared to the voluntary bifurcation of tax fees. In all, because differences between our studies are structural (e.g., sample composition and data access), we caution that inferences from one setting might not apply to the other, and that each study contributes to the literature by offering different perspectives on related questions. If anything, our discussion only highlights the acute challenges in identifying the source and nature of internal and external tax work.

Financial Reporting of Aggressive Tax Positions

In 2006, the FASB promulgated Financial Interpretation No. 48, or FIN 48 (FASB 2006; ASC 740-10-25) to standardize the financial statement recognition, measurement, and disclosure of liabilities surrounding income tax uncertainties. In concept, the FIN 48 tax reserve is a liability that reflects the dollar amount of tax benefits (e.g., deductions or credits) related to all open tax positions that may ultimately be disallowed by the tax authority. Effective for fiscal years beginning after December 15, 2006, FIN 48 involves two steps—recognition and measurement. Recognition requires that the tax benefit should be more likely than not (i.e., more than 50 percent likely) sustainable in a court of law based on its technical merits, assuming the position is audited by the tax authority. If the tax benefit meets this test, then the amount of the benefit that is recognized as a reduction in current tax expense is measured as the largest value that has a cumulative probability of being realized upon settlement of 50 percent. Any remaining benefit claimed on the tax return, but not recognized on the income statement, is held in reserve as the unrecognized tax benefit (UTB). FIN 48 requires firms to publicly disclose the UTB amount and the sources of its change in the financial statement footnotes. Prior research concludes that the FIN 48 tax reserve is a suitable summary proxy

¹⁰ Note that neither of our studies can reveal whether the preparer or the auditor is the only party involved in a firm's compliance work, or whether other service providers are involved (and if so, their identity and nature of services).

for tax aggressiveness, even after considering that it can be subject to financial reporting preferences by managers (Lisowsky et al. 2013).¹¹

III. HYPOTHESIS DEVELOPMENT

Tax laws are often complex and ambiguous. Even absent tax planning, the tax treatment associated with a given transaction may be highly uncertain at the time of its initiation. Well-intentioned parties observing the same economic activity may arrive at different assessments of the probability that filed positions will be sustained (see Lisowsky et al. 2013). Archival research suggests that the types of tax benefits claimed by firms are shaped by owners (Chen et al. 2010), CEOs (Dyregang et al. 2010), and tax directors (Armstrong et al. 2012). However, an under-studied area of corporate tax decision-making is how the party preparing the tax return is linked to the aggressiveness of the tax benefits claimed on that return.

In practice, how are tax compliance activities and tax aggressiveness related? Due to the complexity of regulations and organizations, compliance is not simply entering data to produce a tax return. Compliance activities include collecting tax and business information from systems and individuals, assisting with internal and external reporting, testing and monitoring business processes, and performing analyses and modeling for firm operations (Deloitte Insights 2013).¹² Brown (2002) estimates that 75 percent of compliance work performed by external preparers involves processes, technology, and communications underlying the tax return. Compliance activities also provide a measure of oversight and control to ensure that tax positions are not only compliant with the law, but align with objectives of both corporate management and the tax service provider, if any. Thus, the compliance service provider can affect the firm's tax aggressiveness by providing oversight, control, and advice over the tax reporting of business activities. Firms likely consider this role as they select their tax compliance service provider.

The Scholes-Wolfson paradigm provides a framework for considering the role of taxes in business decision-making. According to Shackelford and Shevlin (2001, 323), "The three themes—all parties, all taxes, and all costs—provide a structure for tax management that achieves organizational goals, such as profit or wealth maximization." We investigate the role of tax preparers as one factor in this optimization process. We assert that different types of preparers impose different costs and benefits on the company due to their own risk tolerance. For example, with the joint provision of audit and tax services, auditor-preparers bear greater costs, relative to other preparer parties, if a position is overturned due to a tax audit and court action.¹³

Direct and indirect costs can be higher for auditor-preparers because there are at least two types of risk that are absent in other preparer types: (1) financial reporting restatement risk due to an audit failure related to the tax accounts; and (2) reputation risk, in that the auditor-preparer's work is more visible and sensitive to the firm's leadership. For example, if the firm employs its auditor for tax services, then its audit committee has explicitly sanctioned this relationship under the requirements of the Sarbanes-Oxley Act of 2002 (SOX). Therefore, the board of directors, as well as managers, may bear additional costs if negative tax outcomes result from joint provisioning (Deloitte 2011; Zaman et al. 2011), relative to the case if the tax work was conducted separately from the audit. Moreover, institutional features can compel firms using auditor-preparers to be less aggressive than those using other external preparers, e.g., PCAOB Rule 3522 prevents auditors from providing their clients with tax services that facilitate tax shelter use.

Focusing on auditors' incremental costs of providing tax services, we predict that, in equilibrium, tax returns prepared by auditors are associated with less aggressive tax positions. However, external preparers who are not the auditors of a particular client are often auditors of other clients (i.e., the same accounting firms perform tax preparation services to audit and non-audit clients). Thus, it is possible that external tax preparers (auditors or non-auditors) have similar costs, and they are associated with the same level of tax aggressiveness in all their clients. To allow for this possibility, we separately consider internally prepared tax returns from tax returns prepared by external non-auditors. In either case, we hypothesize that auditors have greater costs than either internal tax departments or external non-auditor-preparers related to clients' tax aggressiveness.

All else equal, due to the greater costs of tax aggressiveness borne by the auditor, we expect that there is an equilibrium in which firms using their auditor as the tax preparer engage in less aggressive tax behavior and report a smaller FIN 48 tax reserve, compared to firms using either of the two other non-auditor-preparer types:

¹¹ Reflecting researchers' interest that the UTB could reflect both financial and tax reporting preferences, Robinson, Stomberg, and Towery (2014) find some evidence of over-reserving, while Ciconte, Donohoe, Lisowsky, and Mayberry (2014) do not, on average.

¹² For example, KPMG's (2014) Corporate Compliance Services describes their process as follows: "We start by understanding your objectives, your systems, your culture and your tax risks—because we believe it's the only way to evaluate the best approach to tax compliance for your business. Working on site with you, we will support you in setting your compliance goals and tax risk management strategy. We will always talk you through your tax returns so that you can feel totally comfortable that any position taken is consistent with your wider tax strategy objectives."

¹³ Due to indirect costs and risks to the external preparer, we expect that the cost of an overturned tax position is higher for these parties even if no direct penalties exist for the preparer. We assume that the company internalizes the increased costs arising with the external preparer, which may occur through higher fees paid or greater scrutiny by the audit committee.

H1: Corporations that internally prepare their tax returns are associated with more tax aggressiveness than corporations that use their financial statement auditor to prepare their tax returns.

H2: Corporations that prepare their tax returns using an external non-auditor are associated with more tax aggressiveness than corporations that use their financial statement auditor to prepare their tax returns.

In light of our arguments that the costs to auditor-preparers are higher than to non-auditors, a company's desire for aggressive tax positions may also affect its selection of the tax preparer (similar to opinion-shopping in the audit literature; see [Lennox \[2000\]](#)). A tax aggressive firm may wish for its auditor to sign its tax return because the auditor is aware of the positions and can ensure that the financial statements fairly reflect them. Also, if the auditor is the preparer, then it may be more likely to defend its client in the face of tax authority challenge. These arguments suggest a positive link between tax aggressiveness and auditor-preparers. However, it is possible that a firm's desire for tax aggressiveness may decrease the likelihood that an auditor-preparer will agree to sign the firm's tax return in the first place. This relation also raises an issue of endogeneity, which we explicitly control for in our research design.

Finally, because tax avoidance can be benign (e.g., electing bonus depreciation), the costs potentially borne by preparers should not vary when they simply ensure that their clients follow the tax rules. However, tax aggressiveness involves claiming tax positions with weak facts that are susceptible to being overturned by the tax authorities ([Lisowsky et al. 2013](#)), and can impose costs on preparers. Claiming and defending weak positions should vary by tax preparer because the costs of losing a dispute are different, as explained above. Thus, preparer type should matter in tax aggressiveness, not tax avoidance.

IV. METHOD

Research Design

To test our hypotheses, we design an empirical model to examine whether tax returns prepared by internal tax departments or non-auditor-preparers are more aggressive than tax returns prepared by firms' auditors. We estimate the following pooled Tobit regression of current-year FIN 48 tax reserves (denoted Log_UTB_CY) on the choice of preparer for firm i at time t :

$$\begin{aligned} Log_UTB_CY_{it} = & \beta_0 + \gamma_1 INTERNAL_PREP_{it} + \gamma_2 OTHER_PREP_{it} + \beta_1 TAX_FEES_{it} + \beta_2 Log_ASSETS_{it} \\ & + \beta_3 PRETAX_ROA_{it} + \beta_4 \%FOR_SALES_{it} + \beta_5 NOL_{it} + \beta_6 R\&D_{it} + \beta_7 AUDIT_FEES + \beta_8 YR2008 \\ & + \sum_{k=9}^{16} \beta_k Ind_{it} + e_{it} \end{aligned} \quad (1)$$

We define the model variables in Appendix A.¹⁴

We use the current-year increase in the tax reserve from FIN 48 disclosures as our proxy for tax aggressiveness for two key reasons. First, [Lisowsky et al. \(2013\)](#) find that it is a reliable proxy for tax aggressiveness.¹⁵ Second, [Lisowsky et al. \(2013\)](#) demonstrate that the information on tax aggressiveness contained in the FIN 48 reserve is not eliminated due to managers' discretion arising from non-tax factors, including financial reporting preferences ([Hanlon and Heitzman 2010](#)). Thus, we use the current-year increase in the UTB as this proxy for tax aggressiveness best suits our research question.¹⁶

Because H1 seeks to examine the tax aggressiveness of firms that internally prepare their return relative to those that use their auditor, our test variable is $INTERNAL_PREP$, equal to 1 if the firm does not use any external tax preparer, as reported on its tax return. If tax returns prepared by internal tax departments are more aggressive than those prepared by auditors, then γ_1 will yield a significantly positive sign. To test H2 on the relation between tax aggressiveness and non-auditor external preparers

¹⁴ We follow [Petersen \(2009\)](#) and cluster the standard errors by firm and include a 2008 time indicator variable. All regressions also include industry fixed effects at the one-digit SIC level. We winsorize continuous variables at the 1st and 99th percentiles to mitigate the effect of outliers. Due to the prevalence of zero values in our dependent variable, we use a Tobit regression. We also consider self-selection and simultaneity issues, as described in the next section.

¹⁵ [Lisowsky et al. \(2013\)](#) compare the explanatory power of the logged UTB ending balance to the generally accepted accounting principles (GAAP) effective tax rate, cash effective tax rate, total book-tax differences, permanent book-tax differences, and discretionary permanent book-tax differences, and find that the non-UTB measures are not associated with tax shelter use in multivariate tests. Their inferences hold when they use the increase in the tax reserve due to current-year positions (i.e., Log_UTB_CY). While we are not interested in tax shelters *per se*, tax shelter data from the IRS are a useful non-financial statement benchmark against which [Lisowsky et al. \(2013\)](#) infer the nature of transactions underlying the FIN 48 tax reserve. The resulting inference is that the tax reserve most strongly reflects aggressive tax positions.

¹⁶ Based on analyses of heteroscedasticity and explanatory power, we follow prior literature and use a logarithmic transformation of the tax reserve due to current-year positions (i.e., Log_UTB_CY). Conclusions are not sensitive to deflating the tax reserve due to current-year positions by total assets. In Section V, we also evaluate the robustness of our results by considering financial reporting aggressiveness. All results are consistent with our main inferences.

relative to auditor preparers, we include *OTHER_PREP*, equal to 1 if the external tax preparer is not the firm's auditor, and 0 otherwise. We expect the coefficient on *OTHER_PREP*, or γ_2 , will have a significantly positive sign.¹⁷

To identify our control variables, we draw on prior literature on investments in tax planning (Mills, Erickson, and Maydew 1998), auditor-provided tax services (McGuire et al. 2012), FIN 48 tax reserves (Lisowsky et al. 2013), and audit effort (Donohoe and Knechel 2014). They include the ratio of tax fees paid to total fees paid to a company's auditor (*TAX_FEES*), size (*Log_ASSETS*), profitability (*PRETAX_ROA*), foreign sales activity (*%FOR_SALES*), existence of operating losses (*NOL*), research and development activities (*R&D*), and the ratio of audit fees to total assets (*AUDIT_FEES*). Prior literature suggests positive coefficients on the control variables.

Empirical Model of the Choice of Tax Preparer

Two important empirical issues arise in testing our hypotheses. First, because the differences in costs faced by preparers are likely known to corporations, the choice of preparer is unlikely to be random, giving rise to potential self-selection bias. Second, the selection of preparer type might be determined at the same time when the firm chooses to be tax aggressive, giving rise to simultaneity bias. As a result of these issues, the Tobit specification in Equation (1), above, may produce upwardly biased estimates.

To address self-selection, we use a treatment effects model to estimate Equation (1), where the determinants of preparer choice are explicitly modeled using the following selection equation:

$$\begin{aligned} \text{PREPARER TYPE}_{it} = & \alpha_0 + \alpha_1 \text{Log_ASSETS}_{it} + \alpha_2 \text{PRETAX_ROA}_{it} + \alpha_3 \text{\%FOR_SALES}_{it} + \alpha_4 \text{NOL}_{it} + \alpha_5 \text{R\&D}_{it} \\ & + \alpha_6 \text{AUDIT_FEES}_{it} + \alpha_7 \text{Log_UTB_BB}_{it} + \alpha_8 \text{MTB}_{it} + \alpha_9 \text{LEVERAGE}_{it} + \alpha_{10} \text{NON-TAX_FEES}_{it} \\ & + \alpha_{11} \text{YR2008}_{it} + \sum_{k=12}^{19} \alpha_k \text{Ind}_{it} + e_{it} \end{aligned} \quad (2)$$

We use a multinomial model because it facilitates a three-choice outcome, where *PREPARER TYPE* takes on the categories *INTERNAL_PREP*, *OTHER_PREP*, or neither (i.e., *AUD_PREP*). As in Equation (1), the base category is auditor-prepared tax returns.¹⁸

To also address simultaneity, we jointly estimate Equations (1) and (2) by employing a maximum likelihood treatment effects model (Greene 2008), as extended by Deb and Trivedi (2006) to a multinomial setting.¹⁹ See Appendix B for a formal description and implementation of this model. In this case, we estimate the equations simultaneously because the familiar two-step procedure used in a Heckman (1979) model, or even an instrumental variables model, implicitly assumes a sequence of events (e.g., firm chooses the preparer type first, then tax aggressiveness, even though they may be jointly determined), and that these models have not been extended to a multinomial choice setting, i.e., Equation (2) cannot be a Heckman (1979) model because there are three outcomes (Maddala 1983). However, the simultaneous multinomial treatment effects model is similar to Heckman (1979) in that it requires exogenous variables that explain preparer type (i.e., are significant in Equation (2)), but do not explain tax aggressiveness (i.e., are insignificant in Equation (1)). Our approach of specifying a multinomial selection model using a simultaneous equations approach addresses both self-selection and simultaneity concerns in one step.

We highlight that our approach does not establish causality; we only make inferences on the association between preparer type and tax aggressiveness, consistent with the equilibrium nature of our hypotheses. Namely, it is possible that a firm's desire to be tax aggressive can influence preparer choice, and the choice, once made, reinforces itself with further aggressive positions. As a result, we include *Log_UTB_BB*, or the log of the beginning balance of the UTB. However, the choice of preparer is persistent over time and our data have a severely limited time-series. Thus, we are unable to provide insight into the process that leads to the observed relation.

We include three exogenous variables in Equation (2) that are not significant if included in Equation (1) (untabulated). The market-to-book ratio (*MTB*) is a common proxy for growth opportunities (e.g., Smith and Watts 1992; Rajan and Zingales 1995; Kayhan and Titman 2007). Companies with higher growth opportunities are more likely to use their auditor because the synergy benefits associated with doing so are greater. This prediction implies a negative coefficient on α_8 . A second variable is

¹⁷ While a tax preparer change specification is potentially a more powerful design, we do not have a sufficient number of changes in preparer type to identify such a model, as described in more detail below.

¹⁸ More formally, *INTERNAL_PREP* = [1,0], *OTHER_PREP* = [0,1], and *AUD_PREP* = [0,0]. See Appendix B.

¹⁹ An alternative approach is to separately estimate the system of equations on subsets of data that exclude one of the preparer types. Using this approach produces qualitatively similar results to those reported below.

leverage (*LEVERAGE*). Similar to *MTB*, less leverage is consistent with growth firms. Thus, the predicted coefficient on *LEVERAGE* (α_9) is positive.

We also include *NON-TAX_FEES*, or fees paid to the auditor for services other than audit and tax, deflated by the total non-tax fees paid to the auditor. *NON-TAX_FEES* is a measure of the willingness of the firm to use its auditor for non-audit and non-tax services and has been used in similar choice equations (McGuire et al. 2012). We anticipate that the coefficient on *NON-TAX_FEES*, or α_{10} , will be negative because higher reliance on the auditor for non-audit and non-tax services will lead to a lower likelihood of deviating from the auditor for tax work, either by internally preparing the return or using an external non-auditor-preparer.

We assert that each of these exogenous variables is either ambiguously or not associated with current-period tax aggressiveness. Growth opportunities, captured by *MTB* and *LEVERAGE*, may allow for greater tax-planning opportunities, but they can also be linked to managerial focus on operations and avoiding the distraction of aggressive tax reporting. The likelihood to use the auditor for non-tax, non-audit work should also not be related to the client's tax reporting choices, since the services captured in *NON-TAX_FEES* are not related to tax (McGuire et al. 2012).

The inclusion of these exogenous variables produces two additional variables that we include in Equation (1) to correct for self-selection. These variables, denoted $\lambda_{INTERNAL_PREP}$ and λ_{OTHER_PREP} , are conceptually similar to (but empirically different from) inverse Mill's ratios in a Heckman (1979) approach, as they correct for selection across three groups instead of two.

Sample Selection

We obtain data from four sources: (1) FIN 48 tax reserve (UTB) data from the IRS Large Business & International Division (LB&I); (2) tax return preparer identity from the corporate tax return Form 1120 provided by IRS-LB&I; (3) financial statement data from Compustat; and (4) auditor identity, tax fee, and audit fee data from Audit Analytics.²⁰ We select our sample in several steps. First, we obtain the intersection of the FIN 48 data provided by LB&I with additional financial statement data from Compustat during 2008–2009, consisting of 10,881 firm-years.²¹ We then merge the financial statement data with tax return data on preparer identities for a restricted set of 1,590 calendar year-end firms in the Standard & Poor's (S&P) 1500.²² We identify the tax preparer by name and identification number (PTIN) in the "Paid Preparer" signature area of the tax return; if preparer identity is missing, we assign the firm's tax return as being internally prepared.²³ We then merge the datasets with Audit Analytics to determine whether the preparer, if external, is also the firm's auditor, and to estimate control variables. This step results in a final test sample of 1,533 firm-years (or 804 firms in 2008 and 729 in 2009) with non-missing data for all analyses.²⁴

Descriptive Statistics

Table 1, Panel A presents descriptive statistics of the tax preparer types. In our sample of 1,533 firm-years, 690 (45 percent) of the tax returns are externally prepared, of which 545 (145) are prepared by Big 4 (non-Big 4) accounting firms.²⁵ The remaining 843 (55 percent) are internally prepared. The proportions of externally and internally prepared returns are consistent from 2008 to 2009, and suggest that most tax return preparation is completed in-house. The results also reveal that firms internally preparing their tax returns are large, with mean (median) assets of \$24.8 (\$5.9) billion, compared to firms with

²⁰ The UTB data are also available from Compustat. We use LB&I data because they undergo several layers of review and are more complete and accurate than Compustat (see Lisowsky et al. 2013, Appendix B).

²¹ Specifically, we obtain 5,539 (5,342) firms when intersecting LB&I's FIN 48 data with Compustat data for 2008 (2009). The 2009 value is lower than 2008 due to the recession.

²² Access to Form 1120 data is more restricted than access to the UTB data because the former is confidential while the latter can be obtained from other sources. Therefore, for 2008 (2009), IRS non-disclosure agreements allowed us to only merge 805 (785) calendar year-end S&P 1500 firms, excluding REITS, at this point in our sample selection.

²³ The IRS confirmed that missing preparer information on the Form 1120 is consistent with internally prepared tax returns rather than the external tax preparer omitting its information for whatever reason. Therefore, the internal preparation of the tax return is determined by the absence of a paid preparer signature, as described in Section II.

²⁴ The drop from 1,590 to 1,533 firm-year observations occurs due to the merge with Audit Analytics. Conclusions are unaffected if we use a balanced panel of the 727 firms that exist during both 2008 and 2009 (i.e., using 1,454 firm-year observations). We also note that only 59 of the 727 firms changed tax preparer type; 20 switches were due to a firm switching auditors. Excluding the 59 or 20 firms does not affect our conclusions.

²⁵ Due to confidentiality agreements, we are unable to name the tax preparer, so we use the more generic terms "Firm A," "Firm B," and so forth to denote these parties (who may or may not also be the corporation's auditor). The Big 4 firms are denoted as Firms A, B, C, and D. All tax preparers in our sample are CPA firms; no law firms are present. We are also unable to disclose counts that are less than three; we denote these values as "ND" in the tables. Although it would be interesting to examine the time-series trends in tax preparer use, especially before and after the passage of the Sarbanes-Oxley Act (e.g., Maydew and Shackelford 2007), unfortunately, our data are limited to analyzing cross-sectional relations only.

TABLE 1
Descriptive Statistics on Firms by Tax Return Preparer Type and Year

Panel A: Distribution of Sample and Assets by Tax Return Preparer and Year

	2008				2009				Total By Preparer			
	n	% of Total	Mean Assets	Median Assets	n	% of Total	Mean Assets	Median Assets	n	% of Total	Mean Assets	Median Assets
Big 4												
Firm A	69	9%	8,366	1,754	59	8%	15,106	2,662	128	8%	11,473	2,346
Firm B	73	9%	8,462	2,018	63	9%	5,712	1,920	136	9%	7,188	1,988
Firm C	89	11%	10,663	1,417	90	12%	9,581	1,661	179	12%	10,119	1,585
Firm D	51	6%	5,811	1,439	51	7%	6,703	1,636	102	7%	6,257	1,506
Total Big 4	282	35%	8,654	1,670	263	36%	9,336	1,955	545	36%	8,983	1,834
Non-Big 4												
Firm E	7	1%	2,958	1,420	7	1%	2,544	631	14	1%	2,751	1,067
Firm F	16	2%	3,527	629	11	2%	4,031	833	27	2%	3,732	702
Other	57	7%	3,832	1,679	47	6%	8,808	1,857	104	7%	6,081	1,761
Total Non-Big 4	80	10%	3,695	1,138	65	9%	7,325	1,352	145	9%	5,322	1,146
Internal												
Tax Dept.	442	55%	24,158	5,544	401	55%	25,680	6,143	843	55%	24,882	5,884
Total	804	100%	16,684	3,215	729	100%	18,147	3,601	1,533	100%	17,379	3,380

Asset values are in \$Millions.

Panel B: Count of Sample Firms by Tax Return Preparer Type and Auditor

		Auditor Firm							Total	
		Big 4				Non-Big 4				
		A	B	C	D	E	F	Other		
Tax Preparer	Big 4	Firm A	71	17	25	10	ND	4	ND	128
		Firm B	21	54	27	19	ND	ND	10	136
		Firm C	19	17	103	32	4	ND	ND	179
		Firm D	10	11	16	56	ND	6	ND	102
	Non-Big 4	Firm E	0	0	5	0	7	ND	ND	14
		Firm F	5	3	7	7	ND	5	ND	27
		Other	14	23	24	18	6	3	16	104
		Internal	275	190	211	153	4	7	3	843
	Total		415	315	418	295	25	30	35	1,533

Bold numbers on the diagonal represent that the outside Tax Preparer is also the Auditor.

ND = Not disclosed due to small sample sizes.

(continued on next page)

externally prepared tax returns, either by Big 4 firms (mean [median] assets are \$8.9 [\$1.8] billion) or non-Big 4 firms (mean [median] assets are \$5.3 [\$1.1] billion). The descriptive statistics suggest that our sample firms internally preparing their tax returns are very well resourced, and likely sophisticated enough to not exhibit demand for outside tax preparers, even if it is a Big 4 firm.²⁶

²⁶ In untabulated tests, we examine whether our main results are altered after considering resource constraints. We drop *INTERNAL_PREP* observations that are larger (in assets) than the largest observation that uses either the auditor or a non-auditor-preparer. Inferences remain qualitatively identical. When we define resources as pretax income, there are no *INTERNAL_PREP* firms that are larger than the largest external preparer firm, further providing support that the availability of resources does not confound our inferences.

TABLE 1 (continued)

Panel C: Summary of Count of Sample Firms by Tax Return Preparer Type and Auditor

Summary	Totals
External Tax Preparer:	
Is the Auditor	312
Big 4 Preparer	284
Non-Big 4 Preparer	28
Is Not the Auditor	378
Big 4 Preparer	261
Non-Big 4 Preparer	117
Total External	690
Total Internal	843
Total Sample	1,533

Panel D: Distribution of Sample Firms by Tax Return Preparer and Industry

Preparer Type	SIC0	SIC1	SIC2	SIC3	SIC4	SIC5	SIC6	SIC7	SIC8	SIC9	Total	
Internal Preparer	ND	58	166	217	136	37	122	61	39	ND	836	
External Preparer is Auditor	ND	11	31	74	40	29	76	34	16	ND	311	
Firm A	ND	5	6	20	11	ND	18	4	5	ND	69	
Firm B	ND	ND	10	ND	ND	ND	6	15	4	ND	35	
Firm C	ND	ND	9	33	13	15	18	8	5	ND	101	
Firm D	ND	ND	3	11	10	6	18	4	ND	ND	52	
Non-Big4	ND	ND	3	ND	ND	4	16	3	ND	ND	26	
External Preparer is not Auditor	ND	25	48	104	38	30	68	50	14	ND	377	
Firm A	ND	ND	6	ND	7	6	6	10	5	ND	40	
Firm B	ND	ND	7	31	12	ND	14	9	ND	ND	73	
Firm C	ND	7	15	21	ND	10	11	9	ND	ND	73	
Firm D	ND	7	12	ND	ND	ND	9	7	ND	ND	35	
Non-Big4	ND	5	8	31	15	8	28	15	7	ND	117	
										ND Total	9	
Total	ND	94	245	395	214	96	266	145	69	ND	9	1,533

ND = Not disclosed due to small sample sizes.
 SIC 0 = Agriculture.
 SIC 1 = Construction.
 SIC 2 = Chemicals.
 SIC 3 = Manufacturing.
 SIC 4 = Transportation.
 SIC 5 = Retail.
 SIC 6 = Financial.
 SIC 7 = Business Services.
 SIC 8 = Health.
 SIC 9 = Diversified/Other.

Table 1, Panel B reports the count of internally and externally prepared tax returns by firm (note that each corporation in our sample is publicly traded and requires a financial statement audit). The diagonal values (in bold) highlight whether the corporation’s auditor is also its tax preparer. For example, of the 415 financial statements that Firm A audits during our sample period, 275 of those companies self-prepare their tax returns, 71 hire Firm A to also prepare the tax return (i.e., auditor-preparer), and the remaining 69 firms hire an external preparer that is not Firm A. From a different perspective, Firm A is the tax preparer to 128 client-years in our sample, meaning that they prepare tax returns for 57 non-audit client-years (128 minus 71), of which 17 are audited by Firm B, 25 by Firm C, 10 by Firm D, and 4 by Firm F.

In summary, Table 1, Panel C reports that 312 firm-year tax returns, or 20 percent of the sample, are prepared externally by the firm’s auditors (i.e., the sum of the bold diagonal values), of which 284 are Big 4 firms and 28 are non-Big 4. There are 378

firm-year tax returns, or 25 percent of the sample, prepared by external preparers that are not the auditor (i.e., the sum of the non-bolded, off-diagonal values, not including Internal), or 261 preparers that are Big 4 firms and 117 that are non-Big 4 firms. Finally, 843 firm-year tax returns, or 55 percent of the sample, are prepared internally, of which 829 (14) use Big 4 (non-Big 4) firms as their auditor. In Panel D, we also report the industry composition for the three preparer types. In each industry, the internally prepared return is the most common. In five (three) of the eight industries, the next most common preparer is the external non-auditor (external auditor). The results show that using one's auditor represents the *smallest* share of prepared tax returns, although the Big 4 firms dominate the sample as external tax preparers.

Table 2, Panel A reports descriptive statistics for our variables in the full sample. The mean (median) raw current-year UTB is \$11.6 (\$1.1) million, or 0.15 percent (0.04 percent) of total assets. The mean (median) total assets for our sample is \$17.4 (\$3.4) billion, which is consistent with our sample of large public firms. The sample is profitable (mean [median] pretax ROA of 4.7 percent [6.2 percent]), but with limited foreign operations (mean [median] foreign sales percent of 18.5 percent [0 percent]). A large share of the sample—45 percent—report net operating loss carryforwards, indicative of the economic downturn during the sample period. R&D activity, as is typically the case, is concentrated in a limited number of firms (mean [median] R&D of 2.4 percent [0 percent]). Debt levels show mean (median) values of 19.6 percent (17.3 percent) of assets, and the mean (median) market-to-book ratio is 2.2 (1.5). Audit fees represent a mean (median) 0.1 percent (0.7 percent) of assets, while the mean (median) raw beginning balance UTB is \$107 (\$16.5) million.²⁷

We find in Panel A of Table 2 that 81 percent of our sample reports positive tax fees paid to their auditors. Combined with our tax return data that only 20 percent of the sample hires their auditor for substantial tax preparation work, it appears that a vast majority of firms hire their auditor for a variety of tax services, but not compliance work of sufficient magnitude to require the auditor's signature. Tax fees yield a mean (median) of \$532,000 (\$117,000), or 8.4 percent (4.8 percent) of total fees paid to auditors.

Table 2, Panel B reports our variables by preparer group. The raw and logged current-year UTB are significantly higher for internal than either of the external (is or is not auditor) groups, while the scaled values for the internal and non-auditor-preparers are higher than the auditors (untabulated).²⁸ Panel C reports a significantly positive (negative) correlation between *Log_UTB_CY* and *INTERNAL_PREP* (*OTHER_PREP*). Note that the analysis in the correlation table is not directly inferential of H1 or H2 because they are univariate statistics that combine two preparer groups into the reference category. The high correlation between *Log_UTB_CY* and *Log_UTB_BB*, 0.76, is, in part, driven by size. If the two UTB measures are deflated by assets, then their correlation is 0.52 (untabulated).

V. RESULTS

Testing the Link between Tax Aggressiveness and Tax Preparer Types

Table 3 presents the main results of estimating Equation (1) using Tobit; Equation (2) using multinomial probit; and Equations (1) and (2) simultaneously using multinomial treatment effects. All estimates support H1 and H2. The Tobit estimates yield significant coefficients on *INTERNAL_PREP* of 0.28 and on *OTHER_PREP* of 0.34, significant at a 5 percent and 1 percent level, respectively (all p-values are two-tailed). An F-test that the two coefficients are the same is not rejected ($F = 0.28$; $p = 0.59$). Consistent with the behavior of their clients being correlated with the additional costs being borne by the auditors that sign the tax return, the coefficients suggest that tax returns prepared internally or by external non-auditor-preparers are associated with 28 percent and 34 percent higher current-year UTB positions, respectively, than tax returns prepared by an auditor-preparer.

In Table 3, in terms of control variables, tax fees as a share of total fees paid to the auditor (*TAX_FEES*) are positively associated with the current-year UTB.²⁹ If tax fees act as a proxy for tax planning (because preparer type controls for tax compliance), then the results imply that more tax planning from the auditor is linked to more aggressive positions, on average. Contrast this result with our main results that an auditor-preparer that performs compliance work is associated with less aggressive positions than when other preparers perform tax compliance. We explore this result further in a later section. Of the

²⁷ Relative to our sample of large, publicly traded firms, the Compustat population of U.S. firms for 2008–2009 with available data are, as expected, considerably smaller (mean [median] assets of \$3.1 billion [\$322 million]), less profitable (mean [median] ROA of –11.8 percent [0.34 percent]), with a lower ratio of foreign-to-total sales (mean [median] of 13.5 percent [0 percent]), more frequent NOLs (mean of 84 percent), lower leverage (mean [median] of 18.9 percent [7.7 percent]), higher R&D (mean [median] of 7.8 percent [0 percent]), lower market-to-book (mean [median] of 1.68 [1.17]), and lower current-year increase in UTB (mean [median] of \$1.79 [\$0] million, or 0.06 percent [0 percent] after scaling by total assets).

²⁸ Even though the auditors are not signing the returns of firms using non-auditor-preparers (*OTHER_PREP*) and internal tax departments (*INTERNAL_PREP*), they are still providing tax services to these two groups, as evidenced by their non-zero tax non-audit fees. However, when one scales the tax fees by total assets or total audit fees, the auditor-preparer (*AUD_PREP*) group has the highest mean values. We interpret these statistics with caution because tax fees are observable only if tax services are purchased from the auditor.

²⁹ All inferences regarding the preparer types remain identical when we exclude *TAX_FEES* from Equation (1).

TABLE 2
Descriptive Statistics for Regression Variables

Panel A: Summary Statistics

Variable	Full Sample			
	n	Median	Mean	Std. Dev.
Dependent Variable				
UTB_CY (\$M)	1,533	1.117	11.624	26.309
UTB_CY/Total Assets	1,533	0.0004	0.0015	0.0027
Log_UTB_CY	1,533	0.750	1.273	1.416
Control Variables				
Total Assets (\$M)	1,533	3,379,889	17,379,490	44,622,450
Log_ASSETS	1,533	8.126	8.217	1.725
PRETAX_ROA	1,533	0.062	0.047	0.143
%FOR_SALES	1,533	0.000	0.185	0.256
NOL	1,533	0.000	0.450	0.498
R&D	1,533	0.000	0.024	0.055
LEVERAGE	1,533	0.173	0.196	0.170
MTB	1,533	1.527	2.175	4.372
AUDIT_FEES	1,533	0.007	0.001	0.001
UTB_BB (\$M)	1,533	16.489	107.033	228.599
Log_UTB_BB	1,533	2.862	2.954	1.962
Tax Fee Data				
Tax Non-Audit Fees > 0 (0/1)	1,533	1.000	0.806	0.396
Tax Non-Audit Fees/Total Assets	1,533	0.0000	0.0001	0.0002
Tax Non-Audit Fees (\$M)	1,533	0.117	0.532	1.129
TAX_FEES (Tax Fees/Total Fees)	1,533	0.048	0.084	0.096
NON-TAX_FEES (Non-Audit Fees – Tax Fees)	1,533	0.050	0.082	0.098
Categories				
Preparer Type				
External Preparer	1,533	0.000	0.450	0.498
is Auditor (AUD_PREP)	1,533	0.000	0.204	0.403
is not Auditor (OTHER_PREP)	1,533	0.000	0.247	0.431
Internal Preparer (INTERNAL_PREP)	1,533	1.000	0.550	0.498

AUD_PREP is an indicator variable that takes on the value 1 if the tax return is signed by the company's audit firm; OTHER_PREP is an indicator variable that takes on the value 1 if the tax return is signed by an external preparer who is not the firm's auditor; and INTERNAL_PREP is an indicator variable that takes on the value 1 if the firm's tax return is not signed by any external preparer. AUD_PREP, OTHER_PREP, and INTERNAL_PREP are mutually exclusive and jointly exhaustive.

See Appendix A for all other variable definitions.

(continued on next page)

TABLE 2 (continued)

Panel B: Summary Statistics by Tax Preparer Type

Variable	External Tax Preparer:															
	Is the Auditor: (AUD_PREP = 1)					Is Not the Auditor: (OTHER_PREP = 1)					Internal Tax Department: (INTERNAL_PREP = 1)					
	n	Median	Mean	Std. Dev.	n	Median	Mean	Std. Dev.	n	Median	Mean	Std. Dev.	n	Median	Mean	Std. Dev.
Dependent Variable																
UTB Current Year (\$M)	312	0.30	5.16	16.82	378	0.50	6.62	20.26	843	2.60	16.26	30.38	843	2.60	16.26	30.38
UTB CY/Total Assets	312	0.0002	0.0011	0.0023	378	0.0004	0.0017	0.0032	843	0.0006	0.0015	0.0026	843	0.0006	0.0015	0.0026
Log_UTB_CY	312	0.26	0.80	1.09	378	0.40	0.90	1.19	843	1.28	1.62	1.52	843	1.28	1.62	1.52
Control Variables																
Total Assets (\$M)	312	1,956	9,472	28,610	378	1,339	7,175	18,697	843	5,884	24,882	55,116	843	5,884	24,882	55,116
LOG_ASSETS	312	7.58	7.71	1.58	378	7.20	7.42	1.61	843	8.68	8.76	1.63	843	8.68	8.76	1.63
PRETAX_ROA	312	0.06	0.04	0.15	378	0.04	0.02	0.19	843	0.07	0.06	0.11	843	0.07	0.06	0.11
%FOR_SALES	312	0.00	0.12	0.21	378	0.00	0.15	0.24	843	0.04	0.23	0.27	843	0.04	0.23	0.27
NOL	312	0.00	0.45	0.50	378	0.00	0.49	0.50	843	0.00	0.43	0.50	843	0.00	0.43	0.50
R&D	312	0.00	0.02	0.06	378	0.00	0.04	0.07	843	0.00	0.02	0.04	843	0.00	0.02	0.04
AUDIT_FEES	312	0.0007	0.0013	0.0016	378	0.0012	0.0017	0.0016	843	0.0006	0.0009	0.0009	843	0.0006	0.0009	0.0009
UTB_BB (\$M)	312	5.72	48.74	150.22	378	6.56	45.51	133.30	843	38.98	156.19	270.95	843	38.98	156.19	270.95
Log_UTB_BB	312	1.90	2.10	1.75	378	2.02	2.22	1.70	843	3.69	3.60	1.91	843	3.69	3.60	1.91
LEVERAGE	312	0.13	0.17	0.17	378	0.11	0.16	0.18	843	0.21	0.22	0.16	843	0.21	0.22	0.16
MTB	312	1.54	2.69	4.41	378	1.43	2.04	2.28	843	1.57	2.05	5.02	843	1.57	2.05	5.02
Tax Fee Data																
Tax Non-Audit Fees > 0 (0/1)	312	1.00	0.97	0.18	378	1.00	0.59	0.49	843	1.00	0.84	0.36	843	1.00	0.84	0.36
Tax Non-Audit Fees/Total Assets	312	0.0001	0.0003	0.0003	378	0.0000	0.0001	0.0002	843	0.0000	0.0001	0.0002	843	0.0000	0.0001	0.0002
Tax Non-Audit Fees (\$M)	312	0.21	0.53	1.04	378	0.02	0.18	0.40	843	0.15	0.69	1.33	843	0.15	0.69	1.33
TAX_FEES (Tax Fees/Total Fees)	312	0.13	0.15	0.11	378	0.01	0.05	0.09	843	0.04	0.07	0.08	843	0.04	0.07	0.08
NON-TAX_FEES (Non-Audit Fees - Tax Fees)/ (Total Fees - Tax Fees)	312	0.05	0.09	0.11	378	0.03	0.07	0.09	843	0.06	0.09	0.09	843	0.06	0.09	0.09

(continued on next page)

TABLE 2 (continued)

Panel C: Correlation Table

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. <i>Log_UTB_CY</i>	-0.17													
2. <i>AUD_PREP</i>	-0.15	-0.29												
3. <i>OTHER_PREP</i>	0.27	-0.56	-0.63											
4. <i>INTERNAL_PREP</i>	0.54	-0.15	-0.26	0.35										
5. <i>Log_ASSETS</i>	0.15	-0.01	-0.13	0.12	0.11									
6. <i>PRETAX_ROA</i>	0.26	-0.13	-0.08	0.18	0.04	0.08								
7. <i>%FOR_SALES</i>	0.02	0.00	0.05	-0.04	-0.19	-0.06	0.25							
8. <i>NOL</i>	0.08	0.00	0.13	-0.12	-0.21	-0.13	0.15	0.11						
9. <i>R&D</i>	0.11	-0.08	-0.12	0.16	0.18	0.05	-0.02	0.07	-0.19					
10. <i>LEVERAGE</i>	0.06	0.06	-0.02	-0.03	-0.04	0.15	0.03	0.01	0.12	-0.03				
11. <i>MTB</i>	0.11	0.35	-0.19	-0.12	-0.03	0.10	0.16	0.11	0.07	-0.05	0.08			
12. <i>TAX_FEES</i>	0.08	0.04	-0.08	0.04	0.28	-0.01	-0.07	-0.07	-0.05	0.08	0.01	-0.0092		
13. <i>NON-TAX_FEES</i>	-0.25	0.04	0.22	-0.22	-0.70	-0.26	0.12	0.19	0.23	-0.20	0.02	-0.0093	-0.202	
14. <i>AUDIT_FEES</i>	0.76	-0.22	-0.21	0.36	0.64	0.10	0.30	0.05	0.03	0.17	0.03	0.0838	0.1379	-0.292

Panel C reports Pearson correlation coefficients. Correlations in excess of 0.04 in absolute value are generally statistically significant at a 10 percent level. See Appendix A for variable definitions.

TABLE 3

Multivariate Regression Results on the Link between Tax Aggressiveness and Internal and External Non-Auditor
(versus External Auditor) Tax Preparer

Variable	Pred. Sign	Multinomial Treatment Effects Model					
		Tobit	Multinomial Probit		Stage 1		Stage 2
		<i>Log_UTB_CY</i> Coefficient (t-stat)	<i>INTERNAL_PREP</i> Coefficient (z-stat)	<i>OTHER_PREP</i> Coefficient (z-stat)	<i>INTERNAL_PREP</i> Coefficient (z-stat)	<i>OTHER_PREP</i> Coefficient (z-stat)	<i>Log_UTB_CY</i> Coefficient (z-stat)
<i>INTERNAL_PREP</i>	+	0.277** (2.35)					0.844*** (8.83)
<i>OTHER_PREP</i>	+	0.336*** (2.62)					0.589*** (4.28)
<i>TAX_FEES</i>		1.661*** (3.83)					1.045*** (3.17)
<i>Log_ASSETS</i>		0.816*** (19.74)	0.301*** (3.52)	-0.059 (-0.63)	0.227* (1.86)	-0.270* (-1.73)	0.612*** (17.55)
<i>PRETAX_ROA</i>		1.323*** (4.00)	0.320 (0.69)	-0.090 (-0.19)	0.559 (0.79)	-0.496 (-0.71)	0.827*** (3.67)
<i>%FOR_SALES</i>		0.341** (1.99)	0.932*** (2.73)	0.228 (0.63)	1.112** (2.19)	0.118 (0.20)	0.177 (1.21)
<i>NOL</i>		0.085 (0.98)	-0.281* (-1.74)	-0.028 (-0.17)	-0.464** (-1.97)	-0.022 (-0.09)	0.069 (0.99)
<i>R&D</i>		3.446*** (3.84)	-3.064* (-1.66)	1.937 (1.47)	-5.084 (-1.63)	3.013 (1.51)	2.665*** (4.12)
<i>AUDIT_FEES</i>		265.314*** (6.22)	57.189 (0.67)	122.813 (1.43)	20.099 (0.16)	116.390 (0.89)	196.337*** (6.06)
<i>Log_UTB_BB</i>			0.191*** (3.16)	0.093 (1.41)	0.556*** (6.47)	0.266** (2.29)	
<i>LEVERAGE</i>			0.517 (1.11)	0.101 (0.21)	0.381 (0.58)	-0.106 (-0.14)	
<i>MTB</i>			-0.325*** (-2.65)	-0.038*** (-2.65)	-0.032** (-2.04)	-0.043** (-2.10)	
<i>NON-TAX_FEES</i>			-1.056 (-1.64)	-1.266* (-1.77)	-1.630* (-1.76)	-1.977* (-1.84)	
Constant		-6.475*** (-9.46)	-1.227 (-1.08)	0.016 (0.01)	-0.985 (-0.56)	0.843 (0.43)	-4.779*** (-9.90)
$\lambda_{INTERNAL_PREP}$							0.393*** (3.55)
λ_{OTHER_PREP}							-0.848*** (-15.11)
Year Control	Yes		Yes	Yes	Yes	Yes	Yes
Industry Controls	Yes		Yes	Yes	Yes	Yes	Yes
Observations		1,533	1,533	1,533			1,533
Model F-Stat		49.77***					
Model Chi-square				217.80***			1,679.46***
Pseudo-R ²		17.4%					
Log Pseudo-Likelihood		2,164		-1,324			-3,491
Tests between Coefficients: <i>INTERNAL_PREP</i> versus <i>OTHER_PREP</i>		$\gamma_1 = \gamma_2$ F = 0.28 p = 0.59					$\gamma_1 = \gamma_2$ $\chi^2 = 2.45$ p = 0.12

** , *** Denote significance at the $p < 0.05$, and $p < 0.01$ levels (all two-tailed), respectively.

All models use robust standard errors clustered by firm. Continuous variables are winsorized at the 1st and 99th percentile levels. The multinomial treatment effects model uses 100 Halton sequence-based quasi-random draws per observation.

See Appendix A for variable definitions.

other controls, size, ROA, foreign sales, R&D, and audit intensity are positively related to aggressive tax positions, consistent with prior research.³⁰

Next, in Table 3, we estimate Equation (2) using a baseline multinomial probit model to analyze the choice of preparer separately from a potential simultaneous link to tax aggressiveness. To our knowledge, this analysis is the first to examine corporate tax preparer choice. In explaining the choice between the auditor and internally preparing the return (where the dependent variable is *INTERNAL_PREP*), the coefficient on *Log_UTB_BB* is significantly positive at a 1 percent level. The coefficients are negative on market-to-book (*MTB*), significant at a 1 percent level; *NOL* and *R&D*, significant at a 10 percent level; and on fees paid to the auditor for services other than audit and tax (*NON-TAX_FEES*), but only significant at the 12 percent level. The coefficients for *Log_ASSETS* and *%FOR_SALES* are significantly positive at a 1 percent level, but *LEVERAGE* is not related to preparer choice. The results suggest that more past tax aggressive, slower-growing, larger firms with foreign activities are more likely to prepare their tax returns internally rather than hire their auditor. There is also marginal evidence that firms with losses, engaged in R&D, and with a greater willingness to use their auditor for non-tax, non-audit services are more likely to select their auditor for tax return preparation rather than internally prepare their return.

In explaining the choice between the auditor and an external non-auditor to be the tax preparer (where the dependent variable is *OTHER_PREP*), in Table 3, the coefficient is negative on *MTB* at a 1 percent level of significance, and negative on *NON-TAX_FEES* at a 10 percent level of significance. These results suggest that slower-growing firms with a lower willingness to use their auditor for non-tax, non-audit services (McGuire et al. 2012) are more likely to select an external non-auditor than auditor to be the preparer. Finally, past tax aggressiveness, at best, weakly explains the choice of an external non-auditor compared to an auditor, as the coefficient on *Log_UTB_BB* is significant only at a 16 percent level.

Because of concerns over self-selection and simultaneity bias, as noted above, the final three columns in Table 3 report the simultaneous estimation of Equations (1) and (2). In first explaining the choice to use the internal tax department over the auditor for compliance work (where the dependent variable is *INTERNAL_PREP* under “Stage 1”), *Log_ASSETS*, *%FOR_SALES*, *NOL*, *Log_UTB_BB*, and *MTB* continue to yield inferences consistent with our baseline multinomial probit model, while *NON-TAX_FEES* becomes significant at the 8 percent level. In the equation for *OTHER_PREP* (also under “Stage 1”), *MTB* and *NON-TAX_FEES* continue to be negatively related to the choice of non-auditor-preparer, as in our baseline multinomial probit model, while *Log_ASSETS* (*Log_UTB_BB*) is now negatively (positively) significant at the 10 percent (5 percent) level.³¹

In testing H1 and H2 in Table 3, the key results in “Stage 2” that explain tax aggressiveness (where *Log_UTB_CY* is the dependent variable) support the findings of the Tobit model. The coefficients on *INTERNAL_PREP* and *OTHER_PREP* are 0.84 and 0.59, respectively (both significant at the 1 percent level); they do not differ statistically ($\chi^2 = 2.45$; $p = 0.12$). These estimates are larger than using Tobit, suggesting that the Tobit estimates are not overstated.

In terms of the control variables in Table 3, tax fees, size, pretax ROA, R&D, and audit intensity are positively related to tax aggressiveness (all significant at the 1 percent level), while foreign activity and NOLs are not related to tax aggressiveness. In accounting for potential self-selection bias, the correction term $\lambda_{INTERNAL_PREP}$ is positive and λ_{OTHER_PREP} is negative (both significant at a 1 percent level). Although these values are not technically inverse Mill’s ratios, since we are modeling three rather than two outcomes, the interpretation is similar—unobservable features that explain the use of internal tax departments (external non-auditors) are related to higher (lower) tax aggressiveness.³² Although self-selection issues appear to be present, it is interesting to note that the coefficients on the preparer types are stronger after the correction for self-selection (in the multinomial treatment effects model) than before their correction (using Tobit). Therefore, our inferences remain robust across the different empirical models.³³

³⁰ The coefficient on *AUDIT_FEES* is large due to the small magnitude of this deflated variable (mean of 0.001). It is also correlated with size (*Log_ASSETS*). Excluding *AUDIT_FEES* does not affect our inferences. To provide additional context on explanatory power, the Adj. R² equals 47 percent if we estimate Equation (1) using OLS.

³¹ In untabulated tests, we drop firms with losses due to concerns over the recession and obtain qualitatively identical results. We also include *MTB*, *LEVERAGE*, and *NON-TAX_FEES* in Equation (1) and confirm that their coefficients are insignificant, suggesting these are potential exclusionary variables in our system of equations. However, only *MTB* (and to a limited extent, *NON-TAX_FEES*) is significant in Equation (2) and insignificant in Equation (1), fitting the definition of a valid exclusionary variable (e.g., see Larcker and Rusticus 2010; Lennox, Francis, and Wang 2012).

³² One example of such an unobservable variable is the quality of a firm’s legal department, which may be related to internally preparing the return, as well as facilitate increased tax aggressiveness, perhaps due to coordination between the tax and legal departments for *INTERNAL_PREP* firms. It is also possible that the quality of a corporate legal department is related to hiring a non-auditor-preparer. Of course, given the unobservable nature of legal department quality, we must leave such an analysis for future research.

³³ We also specify our preparer variables to more directly mirror the tax fee literature that dichotomizes the use (or not) of the auditor as tax service provider. We reestimate the models combining *INTERNAL_PREP* and *OTHER_PREP* into a single indicator variable, *NONAUD_PREP*, that equals 1 if the tax return is not signed by the company’s auditor, and 0 if it is signed by the auditor. Inferences remain identical. Also, when we use *NONAUD_PREP* in the determinants model of Equation (2), we yield an area under the ROC curve of 0.70, which is significantly better than 0.50 that would indicate that the model identifies preparer type equal to that of chance.

Overall, our results are the first in a corporate setting to provide empirical evidence on the determinants of tax preparer type, and that tax preparer type is linked to current-period tax aggressiveness. Importantly, we find that an audit relationship with the tax return client is associated with lower tax aggressiveness.

Sensitivity Tests

Our core results can be summarized as tax returns prepared by internal tax departments and external non-auditors report greater current-period UTBs than auditor-prepared returns. Our institutional setting, hypotheses development, and prior research (Lisowsky et al. 2013) suggest that this result stems from aggressive underlying tax positions being claimed by these corporations. However, a significant challenge can arise in interpreting the results if an auditor-preparer is better able to calibrate uncertainties in the tax positions and is more willing to allow a firm to report a smaller FIN 48 tax reserve, even if the underlying tax return position is identical to that prepared by any non-auditor type. In this case, our findings might relate more to the *financial reporting* of tax aggressiveness across the three groups than to tax aggressiveness itself.

To distinguish whether our empirical findings are consistent with firms' tax aggressiveness or financial reporting management, we reestimate our analysis of auditors versus any non-auditor-preparer (*NONAUD_PREP*)³⁴ using several alternative measures that replace the current-period UTB as the dependent variable in Equation (1). First, we specify an indicator variable equal to 1 if the firm uses a reportable tax shelter transaction, as obtained from IRS Form 8886. Reportable transactions indicate aggressive tax positions (Lisowsky 2010), and the advantage of using them in our setting is that they have no financial reporting confounds relative to other common measures of tax avoidance based on financial income inputs (Lisowsky et al. 2013). Along similar lines, our second variable is the logged number of firm subsidiaries located in tax haven jurisdictions, as disclosed in the 10-K Exhibit 21 (Dyreg and Lindsey 2009; Lisowsky 2010).

As a contrasting dependent variable, we use performance-matched discretionary accruals (Kothari, Leone, and Wasley 2005) to capture financial reporting aggressiveness in a falsification test.³⁵ We use the absolute value because in the FIN 48 context, it is unclear whether (signed) positive or negative accruals are indicative of greater financial aggressiveness; increases in the UTB can indicate cookie jar reserves for future earnings rises, while decreases can indicate current-period earnings boosts (Gupta, Laux, and Lynch 2011). If auditor-prepared tax returns lead to consistent financial reporting benefits, then we expect financial reporting aggressive firms to exploit this benefit in non-tax accrual estimates. Thus, if the absolute value of discretionary accruals differs by preparer type, then it would be consistent with *financial reporting* aggressiveness affecting the UTB accrual.

As reported in Table 4, estimating simultaneous maximum likelihood regressions with the two alternative tax aggressiveness dependent measures reveals results consistent with our main tests. When either the tax shelter indicator (*REPORTABLE*) or the logged number of tax haven subsidiaries (*Log_NHAVEN*) is used, the coefficient on *NONAUD_PREP* is positive and significant at the 1 percent level.³⁶ The results support our interpretation that tax returns prepared by someone other than the company's auditor contain more aggressive *tax* positions.

Table 4 also reports the alternative possibility relating to financial reporting aggressiveness. If firms use their auditor to achieve financial reporting benefits through manipulations of the UTB, then the same firms are likely to be more aggressive for financial reporting elsewhere, resulting in a negative coefficient on *NONAUD_PREP* when we use the financial aggressiveness proxy of $|PMDACC|$. The coefficient on *NONAUD_PREP* in this regression is not significantly different from 0. This test fails to provide evidence that the choice of tax preparer is correlated with financial aggressiveness.³⁷ In all, the results provide consistent evidence that tax returns prepared by any non-auditor-preparer type contains more aggressive *tax* positions—and not simply greater UTB accruals for financial reporting—than auditor-prepared tax returns.

In additional tests, as an alternative dependent variable, we use the cash effective tax rate (ETR), or cash taxes paid scaled by pretax income less special items (Dyreg, Hanlon, and Maydew 2008). We find that the coefficients on *INTERNAL_PREP* and *OTHER_PREP* are insignificantly different from 0 (untabulated), suggesting that tax preparer type does not explain general tax avoidance. Thus, although using an auditor-preparer is negatively related with tax aggressiveness, as we find in our main

³⁴ To streamline this analysis, we use the combined measure of *NONAUD_PREP* as defined in footnote 33. Results using the separate preparer measures *INTERNAL_PREP* and *OTHER_PREP* are qualitatively identical.

³⁵ We also use pretax performance-matched discretionary accruals (Frank, Lynch, and Rego 2009), yielding identical inferences.

³⁶ Using logit (for *REPORTABLE*), Poisson or negative binomial (each for *Log_NHAVEN* and the raw *NHAVEN*), and ordinary least squares (OLS) (for $|PMDACC|$) yield identical inferences, even though they ignore simultaneity or self-selection bias. Inferences from *REPORTABLE*, *Log_NHAVEN* (and raw *NHAVEN*), and $|PMDACC|$ also remain identical when we separately compare the auditor-preparer to *INTERNAL_PREP* and *OTHER_PREP*. We report only the simultaneous regression results here to provide comparability and consistency across this set of tests and with our main results.

³⁷ Results are qualitatively identical when we instead use signed *PMDACC* as the dependent variable. We also include $|PMDACC|$ (and *PMDACC*, all pretax or after-tax) in successive estimations as possible determinants in the tax preparer choice models of Equation (2); these variables are consistently insignificant, suggesting that financial reporting incentives do not influence tax preparer choice, on average. We also repeat the above tests on the subsample of 690 firms that use an external preparer only (i.e., do not internally prepare). Results on *OTHER_PREP* remain qualitatively identical.

TABLE 4

Multivariate Regression Results on the Link between Other Measures of Tax Aggressiveness and Any Non-Auditor (versus Auditor) Tax Preparer

Variable	Pred. Sign	MLE Treatment Effects Model		MLE Treatment Effects Model		MLE Treatment Effects Model	
		Stage 1	Stage 2	Stage 1	Stage 2	Stage 1	Stage 2
		Dependent Variable					
		<i>NONAUD_</i> <i>PREP</i> Coefficient (z-stat)	<i>REPORTABLE</i> Coefficient (z-stat)	<i>NONAUD_</i> <i>PREP</i> Coefficient (z-stat)	<i>Log_NHAVEN</i> Coefficient (z-stat)	<i>NONAUD_</i> <i>PREP</i> Coefficient (z-stat)	<i> PMDACC </i> Coefficient (z-stat)
<i>NONAUD_PREP</i>	+		0.183*** (4.33)		1.186*** (12.35)		0.047 (0.43)
<i>TAX_FEES</i>			-0.005 (-0.05)		1.059*** (4.62)		0.336* (1.66)
<i>LOG_ASSETS</i>		0.137** (2.34)	0.070*** (7.19)	0.108* (1.89)	0.153*** (6.06)	0.143** (2.41)	0.025*** (2.24)
<i>PRETAX_ROA</i>		0.021 (0.06)	0.097* (1.85)	-0.320 (-1.00)	0.312* (1.75)	0.011 (0.03)	0.133 (1.13)
<i>%FOR_SALES</i>		0.450* (1.85)	-0.047 (-1.21)	0.308 (1.41)	0.946*** (7.23)	0.487** (2.05)	0.163*** (2.34)
<i>NOL</i>		-0.132 (-1.20)	-0.005 (-0.24)	-0.141 (-1.36)	0.110** (2.00)	-0.134 (-1.20)	0.045 (1.52)
<i>R&D</i>		-0.306 (-0.32)	-0.135 (-1.16)	-0.877 (-0.98)	0.471 (0.91)	-0.264 (-0.27)	0.200 (0.59)
<i>AUDIT_FEES</i>		96.296 (1.60)	26.415*** (3.60)	82.105 (1.39)	59.115** (2.15)	97.069 (1.60)	31.650 (1.61)
<i>Log_UTB_BB</i>		0.142*** (3.40)		0.192*** (5.17)		0.112*** (2.59)	
<i>LEVERAGE</i>		0.180 (0.58)		-0.226 (-0.80)		0.258 (0.80)	
<i>MTB</i>		-0.023*** (-2.57)		-0.010** (-1.97)		-0.024*** (-2.63)	
<i>NON-TAX_FEES</i>		-0.907** (-2.07)		-0.393 (-1.03)		-0.871* (-1.92)	
Constant		-0.359 (-0.45)	-0.330* (-1.70)	-0.151 (-0.23)	-1.650*** (-5.65)	-0.250 (-0.32)	0.244* (1.82)
λ <i>NONAUD_PREP</i>			-0.116*** (-5.79)		-0.586*** (-8.47)		-0.048* (-1.72)
Year Control		Yes	Yes	Yes	Yes	Yes	Yes
Industry Controls		Yes	Yes	Yes	Yes	Yes	Yes
Observations			1,533		1,533		1,533
Model Chi-square			99.41***		716.07***		155.62***
Log Pseudo-Likelihood			-974		-2,210		-2,002

*, **, *** Denote significance at the $p < 0.10$, $p < 0.05$, and $p < 0.01$ levels (all two-tailed), respectively.

All models use robust standard errors clustered by firm. Continuous variables are winsorized at the 1st and 99th percentile levels. *REPORTABLE* = 1 if the firm reports a reportable transaction on IRS Form 8886, and 0 otherwise. *Log_NHAVEN* = $\text{Log}(1 + \text{number of subsidiaries in a tax haven jurisdiction})$ according to SEC 10-K Exhibit 21, and 0 otherwise. *|PMDACC|* = absolute value of performance-matched discretionary accruals, from Kothari et al. (2005). The treatment effects models use Maximum Likelihood Estimation.

See Appendix A for variable definitions.

tests, it may not be indicative of higher taxes paid overall. There are at least two explanations for these empirical findings. First, cash ETR is a noisy *ex post* measure of general tax avoidance and not a direct measure of tax savings specifically from tax aggressiveness. For example, firms that are not eligible to claim various tax credits or deductions may be compared to firms that can claim them. A measure of tax payments after both government-intended and aggressive tax positions are undertaken could, in fact, have a negative, positive, or no correlation with tax aggressiveness. Second, prior research finds no significant link

between UTB and broad proxies of tax avoidance (Lisowsky et al. 2013; Chow, Klassen, and Liu 2014), suggesting that in broader studies, the measures capture different underlying constructs.

Nevertheless, despite our results in Table 4, this result raises the question of whether the reported UTB is consistent with tax savings via aggressive tax positions, or whether the results reflect differing financial reporting of the same tax positions; i.e., all else equal, auditor-preparers systematically allow their clients to report lower tax reserves. To help address this concern, we asked tax preparers within major accounting firms about their approach to conducting tax compliance work for audit versus non-audit clients. The preparers indicated that when analyzing and recommending tax positions, they were well aware of the audit implications for their audit clients and expressed apprehension over generating aggressive tax positions on which their audit colleagues would be required to attest. This concern is consistent with the additional costs being imposed on auditor-preparers influencing tax aggressiveness decisions. Also, Gleason and Mills (2011) show that when auditors provide tax services, firms' tax reserves more precisely estimate future tax outcomes in the form of IRS settlements. Yet, they show that firms with auditor-provided tax services accrue a *larger* reserve, on average, than firms not engaging their auditor for tax services. Their result is inconsistent with financial reporting effects explaining our results.

VI. ADDITIONAL ANALYSES

Linking Auditor Tax Fees to Tax Aggressiveness by Preparer Type

Since the Sarbanes-Oxley Act of 2002, firms are required to disclose the audit and non-audit fees paid to their auditor. However, they are not required to disclose which tax services the auditor provides, or other costs such as fees paid to non-auditors or internal staff. Because of these limited disclosures, researchers frequently consider only whether the auditor receives a fee for tax services in general (e.g., Lassila et al. 2010; McGuire et al. 2012).

In Equation (1), we included *TAX_FEES*, or the ratio of tax fees to total fees paid to the auditor, to explain the tax reserve. The coefficients on *TAX_FEES* were significantly positive in all the main tests, consistent with prior literature that tax aggressiveness is increasing in tax fees paid to the firm's auditor (e.g., Cook and Omer 2012). In our first additional analysis, we further explore the relation between tax fees and tax aggressiveness across tax preparer type.

We estimate three Tobit regressions explaining the current-year UTB positions: the first with *TAX_FEES*, but without preparer types; the second adding preparer types (*INTERNAL_PREP* and *OTHER_PREP*); and the third adding interactions of *TAX_FEES* with the two preparer types.³⁸ In the first regression in Table 5, the coefficient on *TAX_FEES* is 1.18, significant at the 1 percent level. Thus, in the absence of preparer type, higher tax fees are positively related to a client's tax aggressiveness. The second regression includes the two preparer types. The *TAX_FEES* coefficient is higher at 1.66, significant at the 1 percent level. These results suggest that in the presence of preparer types, which proxy for tax compliance (and remain significant), tax fees continue to be informative of tax aggressiveness. Therefore, tax fees and preparer types are complements, not substitutes, where tax fees capture some unique element of the company's tax work, possibly tax planning (Cook et al. 2008). Coupled with the sensitivity analysis in Table 4, these results in Table 5 are also not explained by financial reporting aggressiveness.

In the third regression in Table 5, we include interaction terms to examine the differential effect of tax fees on tax aggressiveness across preparer types. The main effect of *TAX_FEES* has a coefficient of 2.94, significant at the 1 percent level. This result relates to the base group of firms whose tax returns are prepared by the auditor. As expected, when the auditor is the tax preparer, the tax fee data are strongly informative of the tax aggressiveness of a company. Note, too, that the coefficient estimates of *TAX_FEES* increase across columns, suggesting that the more information is accounted for by tax compliance across the other tax preparer types, the more auditor tax fees tell us about tax planning conducted by the auditor.

The interaction of *TAX_FEES* and *INTERNAL_PREP* in Table 5 yields a coefficient of -2.04 , significant at the 5 percent level. Thus, the tax fees paid to auditors for tax work in companies that use their internal staff to prepare the overall tax return are less strongly related to the tax aggressiveness of the firm, relative to companies that use their auditors to prepare their tax returns. The net coefficient of 0.90 on *TAX_FEES* for internally prepared tax return companies is not statistically significant ($p = 0.15$). Thus, there is only weak evidence that tax fees are informative of tax aggressiveness in companies that internally prepare their tax returns.

The interaction of *TAX_FEES* and *OTHER_PREP* in Table 5 has a coefficient of -1.29 , insignificant at conventional levels. We cannot conclude that the influence of tax fees for firms with auditor-prepared returns is different from firms with other, externally prepared returns. A test of the net coefficient for this subsample, 1.65, is statistically different from 0 ($p = 0.04$). Thus, when an external firm signs the tax return, even if that firm is not the auditor, the tax fees disclosed are informative of (i.e., positively related to) the tax aggressiveness of a company.

³⁸ We rely on Tobit because interactions in simultaneous multinomial models are ill-defined.

TABLE 5

The Link between Tax Aggressiveness and Auditor Tax Fees by Internal and External Non-Auditor (versus External Auditor) Tax Preparer Type

Variable	Pred. Sign	Dependent Variable: <i>Log_UTB_CY</i>		
		Tobit Coefficient (t-stat)	Tobit Coefficient (t-stat)	Tobit Coefficient (t-stat)
<i>INTERNAL_PREP</i>	+		0.277** (2.35)	0.531*** (2.97)
<i>OTHER_PREP</i>	+		0.336*** (2.62)	0.538*** (2.86)
<i>TAX_FEES</i>	+	1.181*** (2.95)	1.661*** (3.83)	2.940*** (3.89)
<i>TAX_FEES</i> × <i>INTERNAL_PREP</i>	?			-2.044** (-2.16)
<i>TAX_FEES</i> × <i>OTHER_PREP</i>	?			-1.293 (-1.19)
<i>Log_ASSETS</i>		0.827*** (20.72)	0.816*** (19.74)	0.819*** (19.84)
<i>PRETAX_ROA</i>		1.324*** (3.91)	1.323*** (4.00)	1.318*** (3.98)
<i>%FOR_SALES</i>		0.376** (2.20)	0.341** (1.99)	0.355** (2.07)
<i>NOL</i>		0.086 (0.98)	0.085 (0.98)	0.092 (1.06)
<i>R&D</i>		3.450*** (3.76)	3.446*** (3.84)	3.434*** (3.89)
<i>AUDIT_FEES</i>		270.724*** (6.19)	265.314*** (6.22)	267.715*** (6.30)
Constant		-6.293*** (-9.30)	-6.475*** (-9.46)	-6.677*** (-9.73)
Year Control		Yes	Yes	Yes
Industry Controls		Yes	Yes	Yes
Observations		1,533	1,533	1,533
Model F-Stat		55.79***	49.77***	44.66***
Pseudo-R ²		17.2%	17.4%	17.5%
Log Pseudo-Likelihood		-2,169	-2,164	-2,162
Tests between Coefficients:				
<i>INTERNAL_PREP</i> versus <i>OTHER_PREP</i>			F = 0.28 p = 0.59	F = 0.01 p = 0.95
<i>TAX_FEES</i> + <i>TAX_FEES</i> × <i>INTERNAL_PREP</i> = 0				F = 2.11 p = 0.15
<i>TAX_FEES</i> + <i>TAX_FEES</i> × <i>OTHER_PREP</i> = 0				F = 4.26 p = 0.04

, * Denote significance at the $p < 0.05$ and $p < 0.01$ levels (all two-tailed), respectively.

All models use robust standard errors clustered by firm. Continuous variables are winsorized at the 1st and 99th percentile levels. See Appendix A for variable definitions.

There are at least two explanations for these results. Identifying firms in which the auditor does substantial compliance work causes the tax fees paid to the auditor to be a better proxy for tax investment, potentially both in tax compliance and tax planning, and tax investment is positively related to tax aggressiveness. Alternatively, using the auditor for tax return preparation may *limit* the firm's aggressive tax positions (from the tax preparer coefficients), while using the auditor for work *other than* compliance may lead to *greater* tax aggressiveness (taking the tax fees to be a proxy for tax planning in the presence of the tax preparer variables). We leave it to future research to explore these alternative interpretations.

Big 4 Accounting Firm Analysis

In our second additional analysis, we explore whether the audit relationship with a tax return client varies within and between auditor- and non-auditor-preparer types when the preparer is a Big 4 or non-Big 4 accounting firm. We investigate this split to mirror and extend extant research that suggests Big N firms represent high audit quality (e.g., [Lennox and Pittman 2010](#)) by taking a *tax return preparer* perspective. In particular, we reestimate Equation (1) to include five preparer groups: prepared by a Big 4 firm that is not the auditor (*OTHER_PREP_BIG4*); prepared by a non-Big 4 firm that is not the auditor (*OTHER_PREP_NONBIG4*); prepared by a Big 4 firm that is also the auditor (*AUD_PREP_BIG4*); prepared by a non-Big 4 firm that is also the auditor (*AUD_PREP_NONBIG4*); and *INTERNAL_PREP*. To facilitate our analysis, we re-specify our models to use *INTERNAL_PREP* as the reference category.

Results are reported in Table 6. In the first column, we ignore the Big 4 distinction and confirm that the coefficient on *AUD_PREP*, or -0.28 , exactly mirrors the coefficient on *INTERNAL_PREP* in Table 3 when *AUD_PREP* was the base case (0.28; both $p < 0.05$); *OTHER_PREP* remains no different from *INTERNAL_PREP*. In the second column of Table 6, we split *OTHER_PREP* and *AUD_PREP* into the Big 4 and non-Big 4 preparer groups.

Several results emerge. First, we find significant differences in Table 6 when we compare Big 4 to non-Big 4 non-auditor-preparers ($F = 4.55$; $p = 0.03$); the Big 4 non-auditor-preparers have clients reporting more tax aggressive positions. However, neither group is significantly different in tax aggressiveness from *INTERNAL_PREP*. These results confirm, in general, our main results that it is the cost imposed on the auditor that is affecting clients' behavior, because both Big 4 and non-Big 4 preparers cannot be distinguished from internal tax departments when not performing the audit. Second, our tests fail to reveal a significant difference between Big 4 and non-Big 4 auditor preparers, or between non-Big 4 auditor-preparers and non-Big 4 non-auditor-preparers. However, as shown in Table 1, Panel B, sample sizes are small for the non-Big 4 groups, limiting our inferences for tests involving non-Big 4 preparers.

Finally, and perhaps most interestingly, when we compare Big 4 non-auditor-preparers to Big 4 auditor preparers in Table 6, we find that clients of Big 4 auditor preparers are the only group that is significantly less aggressive than *INTERNAL_PREP*. Importantly, this result establishes that *for the same quality tax preparer*, tax aggressiveness is lower when there is an audit relationship than when there is not. In other words, the same professionals conducting tax return preparation seem to approach tax aggressiveness differently if they also serve that tax client as an auditor. This result further corroborates our discussion with practitioners that additional costs related to the dual provisioning of audit and tax are linked to lower tax aggressiveness.

VII. CONCLUSION

Our study examines whether the tax preparer type—the auditor, external non-auditor, or internal tax department—is related to the aggressiveness of positions claimed on a firm's tax return. Our tests are motivated by a lack of evidence on the role of tax intermediaries on the tax compliance decisions of corporations. The Scholes-Wolfson framework emphasizes considering all costs in the integration of tax decisions to a firm's organizational goals. We focus on the dual role of an auditor-tax preparer as one important difference relative to other tax preparer types.

Using confidential IRS data on who signs a corporation's tax return, we report three key findings. First, we find a significantly positive relation between current-year FIN 48 tax reserves and preparing the tax return internally or using an external non-auditor tax preparer, compared to using an auditor preparer. Similarly, less past tax aggressiveness is associated with the auditor preparing the tax return. Employing a variety of tests that use tax shelter, tax haven, and financial accrual proxies, we interpret our results as indicating that non-auditor-preparer types are linked to greater tax (but not financial) reporting aggressiveness. Second, we find that auditor-provided tax services are related to tax aggressiveness even after considering tax compliance work via tax return preparer type. This result supports and extends prior research using tax fees as a proxy for tax planning. Third, clients of Big 4 tax preparers are linked to lower levels of tax aggressiveness when their preparer is also the auditor, compared to when their preparer is not the auditor, suggesting that the audit relationship imposes costs on tax aggressiveness in tax return clients, at least for those firms using Big 4 preparers.

Our study makes a significant contribution to the literature by being the first to document the identity, distribution, and attributes of tax return preparers for a large sample of U.S. firms, and by finding a strong link to aggressive tax positions. In addition, we find that signing the tax return likely imposes greater costs to tax aggressiveness on auditors, relative to other preparer types, which, in turn, means differing tax reporting behavior in clients that use their auditors for tax return preparation. Documenting this link should interest regulators, tax service providers, corporate executives, and researchers by providing additional insights when evaluating settings of corporate tax compliance, especially in the presence of an audit.

We conclude with four caveats. First, our results using a sample of large, publicly traded corporations over two years may not extend to smaller corporations or to other time periods; data access limitations prevent us from evaluating these possibilities. Future research is needed to study whether the relation between preparer type and tax aggressiveness varies by sample (e.g., small versus large, public versus private) or period (e.g., to test the predictions of [Maydew and Shackelford \[2007\]](#)

TABLE 6
The Link between Tax Aggressiveness and Big 4 and Non-Big 4 Auditor and Non-Auditor (versus Internal) Tax Preparer Type

Variable	Dependent Variable: <i>Log_UTB_CY</i>	
	Tobit Coefficient (t-stat)	Tobit Coefficient (t-stat)
<i>OTHER_PREP</i>	0.059 (0.53)	
<i>OTHER_PREP_BIG4</i>		0.164 (1.36)
<i>OTHER_PREP_NONBIG4</i>		-0.222 (-1.29)
<i>AUD_PREP</i>	-0.277** (-2.35)	
<i>AUD_PREP_BIG4</i>		-0.286** (-2.39)
<i>AUD_PREP_NONBIG4</i>		-0.310 (-0.90)
<i>TAX_FEES</i>	1.661*** (3.83)	1.731*** (4.02)
<i>Log_ASSETS</i>	0.816*** (19.74)	0.812*** (19.66)
<i>PRETAX_ROA</i>	1.323*** (4.00)	1.284*** (3.89)
<i>%FOR_SALES</i>	0.341** (1.99)	0.344** (2.02)
<i>NOL</i>	0.085 (0.98)	0.076 (0.88)
<i>R&D</i>	3.446*** (3.84)	3.430*** (3.78)
<i>AUDIT_FEES</i>	265.314*** (6.22)	267.486*** (6.18)
Constant	-6.199*** (-8.96)	-6.178*** (-9.01)
Year Control	Yes	Yes
Industry Controls	Yes	Yes
Observations	1,533	1,533
Model F-Stat	49.77***	45.58***
Pseudo-R ²	17.4%	17.5%
Log Pseudo-Likelihood	-2,164	-2,161
Tests between Coefficients:		
<i>OTHER_PREP</i> versus <i>AUD_PREP</i>	F = 6.85 p < 0.01	
<i>OTHER_PREP_BIG4</i> versus <i>OTHER_PREP_NONBIG4</i>		F = 4.55 p = 0.03
<i>AUD_PREP_BIG4</i> versus <i>AUD_PREP_NONBIG4</i>		F = 0.01 p = 0.95
<i>OTHER_PREP_BIG4</i> versus <i>AUD_PREP_BIG4</i>		F = 10.11 p < 0.01
<i>OTHER_PREP_NONBIG4</i> versus <i>AUD_PREP_NONBIG4</i>		F = 0.06 p = 0.81

(continued on next page)

TABLE 6 (continued)

** , *** Denote significance at the $p < 0.05$ and $p < 0.01$ levels (all two-tailed), respectively.

All models use robust standard errors clustered by firm. Continuous variables are winsorized at the 1st and 99th percentile levels. See Appendix A for variable definitions not shown below.

Variable Definitions:

AUD_PREP = 1 if external auditor is the tax preparer, and 0 otherwise;

OTHER_PREP_BIG4 = 1 if *OTHER_PREP* = 1 and the tax preparer is a Big 4 firm, and 0 otherwise;

OTHER_PREP_NONBIG4 = 1 if *OTHER_PREP* = 1 and the tax preparer is a non-Big 4 firm, and 0 otherwise;

AUD_PREP_BIG4 = 1 if *AUD_PREP* = 1 and the tax preparer is a Big 4 firm, and 0 otherwise; and

AUD_PREP_NONBIG4 = 1 if *AUD_PREP* = 1 and the tax preparer is a non-Big 4 firm, and 0 otherwise.

around the passage of SOX). Second, we cannot conclusively rule out the possibility that for firms using auditor-preparers, more detailed knowledge of tax return positions alters the financial reporting of UTBs, despite that our results hold for other measures of tax aggressiveness and not financial reporting aggressiveness. Third, we cannot attribute causality between tax preparer type and tax aggressiveness. In addition to using a conventional Tobit model in our analysis, we employ a treatment effects model to incorporate the tax preparer self-selection and that tax aggressiveness and preparer choice may be jointly determined. Finally, using the signature on the tax return to identify the tax preparer ignores that firms can use more than one tax service provider, even for compliance work. Nevertheless, by exploring the identity of the party primarily responsible for preparing a firm's tax return, our findings provide an important first step in establishing that tax preparers are linked to corporate tax outcomes, and that more research is needed to sharpen these inferences.

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APPENDIX A

Variable Definitions

Variable	Definition
Dependent Variable	
<i>Log_UTB_CY</i>	= natural log of $(1 + UTB_CY)$, where <i>UTB_CY</i> = increase in UTB due to current-year positions (in \$Millions) of the FIN 48 unrecognized tax benefit. Source: IRS-LB&I.
Tax Preparer Measures	
<i>INTERNAL_PREP</i>	= indicator variable equal to 1 if the firm's Form 1120 tax return is not signed by an external preparer, and 0 otherwise. Source: IRS-LB&I.
<i>OTHER_PREP</i>	= indicator variable equal to 1 if the firm's Form 1120 tax return is signed by an external preparer that is not the firm's external auditor, and 0 otherwise. Source: IRS-LB&I, Audit Analytics.
Control Variables	
<i>TAX_FEES</i>	= ratio of fees paid to the auditor for tax services to fees paid to the auditor for all services. Source: Audit Analytics.
<i>LOG_ASSETS</i>	= natural log of Total Assets (AT). Source: Compustat.
<i>PRETAX_ROA</i>	= ratio of Pretax Income (PI) to Total Assets (AT). Source: Compustat.
<i>%FOR_SALES</i>	= ratio of foreign sales (SALE, in Compustat Geographic Segment database) to Total Sales (SALE, in Compustat database); set to 0 if numerator is missing.
<i>NOL</i>	= indicator variable equal to 1 if Tax Loss Carry Forward (TLCF) is non-zero, and 0 otherwise. Source: Compustat.
<i>R&D</i>	= ratio of R&D Expense (XRD) to Total Assets (AT). Source: Compustat.
<i>AUDIT_FEES</i>	= ratio of total audit fees paid to the auditor to total assets (AT). Source: Audit Analytics and Compustat.
<i>Log_UTB_BB</i>	= natural log of $(1 + UTB_BB)$, where <i>UTB_BB</i> = beginning period balance (in \$Millions) of the FIN 48 unrecognized tax benefit. Source: IRS-LB&I.
<i>LEVERAGE</i>	= ratio of Long-Term Debt (DLTT) to Total Assets (AT). Source: Compustat.
<i>MTB</i>	= ratio of market value of equity (PRCC_F \times CSHO) to book value of equity (CEQ). Source: Compustat.
<i>NON-TAX_FEES</i>	= ratio of fees paid to the auditor for services other than tax or audit to fees paid to the auditor for services other than tax. Source: Audit Analytics.

APPENDIX B

This Appendix describes the multinomial treatment effects model as developed by [Deb and Trivedi \(2006\)](#). In brief, the firm has an indirect utility, EV^* , associated with the j th choice of preparer:

$$EV_{ij}^* = \mathbf{z}'_i \alpha_j + \delta_{j1} l_{i1} + \delta_{j2} l_{i2} + \eta_{ij}$$

EV_{i0}^* is assumed to be 0 for the base choice, $j=0$, and z_i are exogenous covariates with parameters α . EV^* includes latent factors l_{ik} , which incorporate unobserved characteristics common to firm i 's preparer choice and the outcome, y_i (observed tax aggressiveness). η is an i.i.d. error term. If d_{ij} are binary variables representing the observed choice of preparer of firm i , then $\mathbf{d}_i = [d_{i1}, d_{i2}]$, with the probability of the choice represented as:

$$\Pr(\mathbf{d}_i | \mathbf{z}_i, \mathbf{l}_i) = \mathbf{g}(\mathbf{z}'_i \alpha_1 + \delta_{11} l_{i1} + \delta_{12} l_{i2}, \mathbf{z}'_i \alpha_2 + \delta_{21} l_{i1} + \delta_{22} l_{i2}),$$

where \mathbf{g} is a multinomial probability function. Finally, the outcome equation for firm i , formulated in linear form, is:

$$y_i = \mathbf{x}'_i \beta + \gamma_1 d_{i1} + \gamma_2 d_{i2} + \lambda_1 l_{i1} + \lambda_2 l_{i2} + \varepsilon_i$$

This model is estimated using maximum simulated likelihood estimation.

To implement this model in our setting, we identify the choices as 0 if the preparer is the auditor (the base alternative), $\mathbf{d}_i = [1, 0]$ if the firm does not use an external preparer (i.e., $INTERNAL_PREP = 1$), and $\mathbf{d}_i = [0, 1]$ if the preparer is an external preparer other than the auditor (i.e., $OTHER_PREP = 1$).