

Audit Fees, Tax Complexity and Tax Fraud Premium

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Abstract:

This study investigates how tax haven engagement and tax fraud risk jointly affect audit and auditor-provided tax service (APTS) fees. Using U.S. public firms from 2003–2022, we show that both tax haven complexity and tax fraud risk independently increase audit and APTS fees. More importantly, auditors price these risks in a non-additive manner, charging additional fees when tax haven involvement coincides with elevated fraud risk. The interaction effect is robust across alternative measures and is strongest for tax service fees. Additional analyses reveal asymmetric fee adjustments, with increases in tax haven activity raising fees but subsequent reductions failing to reverse them. Our findings demonstrate that auditors jointly assess tax complexity and fraud risk rather than bundling them into broad measures of tax aggressiveness, contributing to audit pricing research and informing practitioners and regulators.

Keywords: audit fees, tax-services fees, tax haven, audit risk

JEL: H26, M42

1. Introduction

This paper examines whether audit service fees systematically reflect two distinct dimensions of tax-related risk: tax complexity risk and tax fraud risk. Tax complexity arises from firm activities that increase legal and organizational intricacy, such as multinational structure or tax haven use (Eulaiwi et al., 2021; Zwick, 2021; Temouri et al., 2022). Tax fraud risk, meanwhile, stems from an elevated likelihood of fraud or aggressive non-compliance, commonly proxied by tax sheltering or tax avoidance indicators (Donohoe and Knechel, 2014; McGuire, Omer, and Wang, 2012). Although it has been documented that both tax complexity and tax fraud risk individually increase auditor effort and audit fees (Hay, Knechel, and Wong, 2006; Raghuandan and Rama, 2006; Lisowsky, 2010; Hanlon, Krishnan, and Mills, 2012; Klassen, Lisowsky, and Mescall, 2016), there is limited empirical work explicitly testing for both the incremental and multiplicative effect of tax complexity risk and tax fraud risk on audit pricing. Within corporate tax planning, establishing entities in tax havens can legitimately reduce tax liability if firms comply fully with all reporting disclosure requirements. The mere existence of a tax haven entity, absent intent to deceive, may reflect tax complexity rather than aggressive tax evasion. With around 75% of the Fortune 500 companies have tax haven subsidiaries,¹ such arrangements often increase audit complexity due to intricate corporate arrangements, additional documentation, broader tax law considerations, and higher information-gathering costs, all of which can lead to higher audit fees and fees for tax-related services. Furthermore, the use of tax haven is recognized as a tax avoidance strategy that exposes firms to reputational risk (Desai, Hogan, and Wilkins, 2006a; Graham, Hanlon, Shevlin, and Shroff, 2014; Austin and Wilson, 2017; Pollard, Sherwood, and Klobus, 2018; Col and Patel, 2019; Zeng, 2019). Firms utilizing

¹ <https://www.statista.com/chart/11604/which-companies-have-the-most-tax-havens/>

these strategies need to balance potential reputational costs stemming from societal expectations and heightened scrutiny with financial objectives (Sikka, 2012; Col and Patel, 2019; and Zeng, 2019). Reputational concerns can further increase external audit fees due to added engagement risk (Eulaiwi et al., 2021).

Consistent with risk-based audit pricing theory (Simunic, 1980), audit and auditor-provided tax service (APTS) fees reflect auditors' assessments of expected effort and engagement risk. Within this framework, tax haven engagement increases organizational and reporting complexity, thereby raising audit effort even in the absence of detected misstatement, while tax fraud risk captures heightened misstatement, litigation, and regulatory exposure that commands an additional risk premium. This is because that participating in tax haven activities is not inherently equivalent to committing fraud or tax evasion, the audit risk premium associated with tax haven use should differ from that associated with outright tax fraud (Chan, Lin and Mo, 2010; Donohoe, McGill, and Outsaly, 2012). Aggressive tax planning and tax sheltering strategies often push the boundaries of legal interpretation and, in some cases, may involve deliberate misstatement or concealment, actions that cross into tax evasion (Hanlon and Heitzman, 2010; Sikka and Willmott, 2010). Such conduct elevates fraud risk, which in turn increases overall audit risk and leads to higher audit and APTS fees (Hogan and Noga, 2015; Minnis and Shroff, 2017). Notably, these high-risk practices can occur entirely within a single jurisdiction and do not necessarily involve tax havens (Hanlon and Slemrod, 2009; Lisowsky, 2010).

In this paper, we examine how two distinct dimensions of tax-related risk, tax planning complexity and tax fraud risk, affect audit fees and APTS fees through their separate main effects and through an interaction that captures their combined influence on audit pricing. We

use tax haven engagement as a proxy for tax planning complexity, and the likelihood of potential illegal tax sheltering as a proxy for tax fraud risk. Our approach aims to demonstrate that audit complexity and fraud risk can overlap, yet neither serves as a complete explanation for the other in determining audit fees and APTS fees. In addition, we examine whether fraud risk exacerbates the association between complexity and audit and APTS fees, testing for an interaction effect that may further intensify audit fee increases when both factors are present.

The tax haven engagement measure is based on firms' 10-K filings, using multiple jurisdictional lists from prior literature (Hines and Rice, 1994; Gravelle, 2009; Chen, Jiang, Wang, and Zhang, 2025), and focusing on "active" havens through a refined textual analysis method adapted from Law and Mills (2022). We use tax shelter likelihood scores proposed by Lisowsky (2010) and Wilson (2009) as proxies for tax fraud.

Consistent with the audit pricing framework of Simunic (1980) and subsequent audit fee literature, we model audit fees and APTS fees as functions of expected audit effort and engagement risk. Within this framework, we identify tax haven activities as a proxy for tax complexity risk and tax fraud risk as a distinct source of engagement risk. Our results show that both audit fees and APTS fees are positively associated with tax haven activity and tax fraud risk when included jointly in the fee determination model. Importantly, the effects of tax complexity risk and tax fraud risk do not subsume one another; rather, each captures a distinct dimension of information and agency risk and exhibits an incremental effect on the pricing of audit and APTS services. We next examine the joint effects of tax complexity and tax fraud risk on the pricing of audit and APTS services by estimating fee models that include both factors and their interaction. We find that the coefficients on tax complexity, tax fraud risk, and their interaction are all positive and statistically significant for both audit fees and APTS fees. These results suggest that

tax complexity and tax fraud risk each exert independent, incremental effects on audit pricing, and that auditors further incorporate their interaction, reflecting higher expected audit effort and engagement risk when complex tax structures coincide with elevated fraud risk. Our findings contribute to tax and auditing research in several ways. First, we demonstrate that the use of tax havens is positively associated with both audit fees and APTS fees for U.S. multinational firms. This supports the notion that tax haven operations introduce greater complexity and risk for auditors (Donohoe and Knechel, 2014; Chang, Kim, and Lee, 2024; Drake, Goldman, Lusch, and Schmidt, 2024).

Second, there remains substantial heterogeneity in how tax avoidance is defined and measured in prior literature spanning a continuum from legal planning to aggressive schemes across studies (Hanlon and Heitzman, 2010; Desai and Dharmapala, 2006; Guenther, Matsunaga, and Williams, 2017). Broad proxies such as effective tax rates and book-tax differences (Desai and Dharmapala, 2006; Hanlon, Krishnan, and Mills, 2012; Blaylock, Shevlin, and Wilson, 2012) often capture a blend of both legitimate tax planning and more aggressive, potentially unlawful practices. In contrast, our study makes a significant contribution by explicitly distinguishing between complexity-driven tax planning and those strategies that signal elevated risks of fraud or evasion, consistent with evidence that tax shelter participation models isolate aggressive behavior beyond effective tax rate or book-tax differences (Frank, Lynch, and Rego, 2009; Wilson, 2009; Dyreng, Hanlon, and Maydew, 2010; and Lisowsky, 2010). By disentangling these dimensions, we provide more nuanced insight into the spectrum of tax-avoidance behaviors and their associated risks, directly addressing long-standing measurement concerns in the literature (Hanlon and Heitzman, 2010; Guenther et al., 2017).

Third, our study makes a novel contribution by introducing and empirically examining the interplay between audit complexity and fraud risk in the determination of audit and tax service fees. To the best of our knowledge, we are the first to formally disentangle and jointly analyze these two dimensions by incorporating an interaction term that captures the compounding effect of tax complexity and fraud risk. Our results show that audit fees are positively associated with the combined risk factor, providing clear evidence that the costs incurred by clients are not simply additive across complexity and fraud risk, but are amplified when both are present. This finding offers a more nuanced understanding of how auditors' pricing engagements are characterized by overlapping sources of risk.

Our findings complement and extend DeFond, Qi, Si, and Zhang (2025), who examine the role of auditor tax expertise in constraining client tax aggressiveness in China and find that clients of tax expert auditors exhibit lower book-tax differences and higher effective tax rates, consistent with auditor expertise mitigating aggressive tax positions. Our study extends this line of research by shifting the focus from the mitigation of aggregate tax risk to the amplification of audit effort when multiple tax risk factors co-occur.

Our study is complementary to yet distinct from Filosa, Huang, Lei, and Stein (2025), who document that the positive association between tax avoidance and audit fees is attenuated in countries with stronger investor protection, emphasizing the role of institutional safeguards in mitigating tax-related audit risk. While consistent with their evidence that tax-related activities generally increase audit costs, our analysis shifts the focus from institutional-level moderators to firm-specific risk interactions.

From a practical perspective, our findings have direct implications for auditors' engagement planning, risk assessment, and fee-setting decisions. The evidence that tax haven

complexity and tax fraud risk exert independent and interactive effects on audit and APTS fees suggests that auditors do not view tax haven involvement as a uniform risk signal. Rather, auditors differentiate between complexity-driven tax planning and fraud-related tax risk, and explicitly price the compounded risk when both dimensions are present. This implies that audit engagement teams should evaluate tax haven structures not only in terms of scope and organizational complexity, but also in conjunction with indicators of aggressive or potentially non-compliant tax behavior when determining audit effort, staffing, and supervision levels.

Our results also inform auditors' pricing strategies for auditor-provided tax services. The amplification of APTS fees in the presence of both tax haven engagement and elevated fraud risk indicates that auditors internalize heightened regulatory scrutiny and reputational exposure when tax advisory services are provided to high-risk clients. This has implications for audit firms' internal risk management policies, particularly in balancing the benefits of cross-selling tax services against the increased engagement risk associated with complex and aggressive tax positions.

For client firms, our findings highlight the economic consequences of combining complex tax structures with aggressive tax strategies. While tax haven arrangements may generate tax savings, firms should anticipate higher and potentially persistent audit and tax service costs, especially when such structures coexist with elevated fraud risk. The documented asymmetry in fee adjustments, where increases in tax haven activity raise fees, but subsequent reductions do not fully reverse them, suggests that once firms are perceived as high-risk, auditors may continue to price them accordingly. This underscores the importance for managers and boards to consider not only tax benefits but also the longer-term professional service costs and reputational implications of their tax planning decisions. The remainder of the paper is organized

as follows. Section 2 discusses related literature and develops hypotheses. Section 3 discusses variable measurement and empirical models. Section 4 provides empirical results and additional sensitivity analyses for two hypotheses, respectively, and a discussion of these results. Finally, in Section 5, we provide conclusions.

2. Literature Review and Hypothesis Development

2.1 Tax Havens, Audit Complexity, and Audit and APTS Fees

Tax haven subsidiaries play a significant and multifaceted role in the international tax strategies of U.S. multinational corporations (MNCs), serving both as a means to reduce overall tax liability and as a core element of legitimate offshore planning. Empirical evidence consistently demonstrates that MNCs with tax haven subsidiaries achieve lower effective tax rates (ETRs), showing concrete tax savings among firms utilizing these structures (Seida and Wempe, 2004; Dharmapala and Hines, 2009; Law and Mills, 2022), which underscores the efficacy of such strategies. Tax haven arrangements remain generally lawful when structured in compliance with tax regulations and disclosure requirements, both international frameworks such as the OECD's Base Erosion and Profit Shifting (BEPS) initiative and domestic securities laws (Dharmapala, 2008; Law and Mills, 2022). In many instances, their use is not only legally permissible but also publicly disclosed, further illustrating the routine nature of these practices within regulatory boundaries (Dharmapala and Hines, 2009; Desai et al., 2006a).

The decision to establish and maintain subsidiaries in low-tax jurisdictions is rarely simplistic. Rather, it is the product of complex discretionary managerial choices, profit pressures, and the competitive dynamics of global markets (Grubert and Slemrod, 1998; Desai et al., 2006a; Markle and Shackelford, 2012). MNCs frequently employ hybrid tax structures and income-shifting techniques, ranging from royalty arrangements to transfer pricing adjustments, which

often necessitate expansive and multi-tiered subsidiary networks (Jones, Temouri, and Cobham, 2018). While this structural complexity may be a natural byproduct of strategic tax planning, it can pose challenges for both internal governance and the clarity of external financial reporting (Francois and Vicard, 2023).

Importantly, some research documents a positive association between tax haven usage and improved tax accrual quality, particularly in environments governed by high-quality financial reporting standards (Walton, 2022). This evidence suggests that tax planning through havens, when subject to solid regulatory oversight, can still align with accounting best practices (Atwood and Lewellen, 2019; Walton, 2022). Furthermore, evidence shows that firms facing profitability pressures are often more inclined to adopt tax haven strategies, framing these decisions as rational responses to competitive market forces rather than inherently illicit behavior (Jones et al., 2018; Chen et al., 2025). From the accounting profession's perspective, developing expertise in legal and legitimate tax haven strategies reflects evolving professional standards and regulatory complexity, rather than evidence of misconduct (Stuebs and Whiteaker-Poe, 2018).

Nevertheless, the presence of tax haven subsidiaries introduces greater organizational complexity, particularly for firms working with "Big Four" accounting networks, leading to extensive, interconnected subsidiary structures and multi-layered ownership chains (Jones et al., 2018; Gul, Hsu, and Liu, 2018; Francois and Vicard, 2023). Such arrangements often obscure intra-group cash flows, reduce transparency, and may diminish financial reporting quality, thereby increasing information asymmetry (Desai, Foley, and Hines, 2006b; Durnev, Li, and Magnan, 2017; Chen, Hepfer, Quinn, and Wilson, 2018; Balakrishnan, Blouin, and Guay, 2019; O'Donovan, Wagner, and Zeume, 2019).

In general, complexity-induced compliance directly affects audit scope, testing, and documentation hours (Hay, Knechel, and Wong, 2006; Raghunandan and Rama, 2006; Hoitash, Hoitash, and Bedard, 2008). Specifically, intricate tax haven arrangements require auditors to devote more time and resources to verifying transactions, tracing cross-border asset movements, and ensuring compliance (Dyreng et al., 2010; Koester, Shevlin, and Wangerin, 2017). The audit risk associated with complex tax haven strategies is notably higher where such patterns reflect significant managerial discretion (Dyreng et al., 2010; Koester et al., 2017) or where firms benefit from strong political connections (Kim and Zhang, 2016), both of which can lower enforcement costs to audit clients. Consequently, these factors lead to higher professional fees charged by external auditing firms due to increased verification costs (Hanlon et al., 2012; Balakrishnan et al., 2019).

In summary, tax haven activities are typically motivated by sophisticated, context-specific strategic considerations and operate within a landscape of continually evolving regulatory oversight. These arrangements heighten organizational complexity and audit risk associated with corporate transparency, the quality of financial reporting, and the overall cost and intricacy of professional services.

2.2 Tax Fraud Risk and Audit and APTS Fees

Publicly traded firms that engage in aggressive tax practices face not only heightened compliance demands but also elevated tax fraud risk, which directly affects auditors' assessments of engagement risk and expected audit effort. Prior research shows that aggressive tax positions are closely linked to elevated risks of earnings manipulation, financial misstatements, managerial opportunism, and enforcement actions (Gallemore, Maydew, and

Thornock, 2014; Dyreng, Hoopes, and Wilde, 2016; O'Donovan et al., 2019; Dyreng, Hoopes, Langetieg, and Wilde, 2020; Nesbitt, Outslay, and Persson, 2023), all of which increase auditors' exposure to litigation and reputational loss. As a part of a rational risk-adjusted contracting process, auditors are expected to incorporate the extra risk factors into audit pricing. When clients exhibit indicators of potential fraud, auditors devote more resources to fraud risk assessment, internal control evaluation, and the verification of related accounts. These adjustments are reflected in higher audit fees, which compensate auditors for both additional effort and increased exposure to litigation and enforcement risk (DeFond and Zhang, 2014; Burke, Hoitash, and Hoitash, 2019; Donelson, Ege, & Leiby, 2019; Asante-Appiah and Lambert, 2023).

Similar to other forms of fraud risk, tax fraud risk directly influences auditors' risk assessment and engagement planning. Engagements characterized by heightened tax fraud risk necessitate expanded audit procedures, closer coordination between audit and tax specialists, enhanced internal control evaluation, and more extensive documentation to address potential inspection, litigation, and enforcement exposure. These incremental efforts and supervision requirements increase audit hours and partner involvement, resulting in higher audit fees. Moreover, auditors recognize that failures to detect tax-related fraud can have severe consequences for their own reputation and regulatory standing, further strengthening the incentive to price fraud risk explicitly into fees (Venkataraman, Weber, and Willenborg, 2008; Asthana and Kalelkar, 2013). When fraud risk becomes excessive, auditors may demand substantial fee premiums or exit the engagement altogether if compensation does not adequately offset perceived risk (Krishnan and Krishnan, 1997; Kim and Park, 2014; Ghosh and Tang, 2015).

Tax fraud risk also has direct implications for APTS fees. Although regulatory constraints imposed by the SEC and PCAOB limit the scope of permissible non-audit tax services,² prior literature documents that audit firms still adjust APTS pricing to reflect elevated engagement risk and complexity, particularly when tax issues intersect with financial reporting risk (Halperin and Lai, 2015).

Because tax haven–induced audit complexity and tax fraud risk capture distinct and not necessarily overlapping dimensions of audit risk, we develop our first set of hypotheses to examine their incremental effects on audit fees and APTS fees and state our hypotheses as follows:

H1a: Tax haven activities are positively associated with both audit fees and APTS fees.

H1b: Tax fraud risk is positively associated with both audit fees and APTS fees.

2.3 The Compound Effect of Complexity and Fraud Risk on Audit and APTS Fees

As stated earlier, audit fees rise with organizational complexity because complexity increases audit effort in predictable, workload-based ways (Hay et al., 2006; Raghunandan and Rama, 2006; Hoitash et al., 2008; Abernathy, Kubick, and Masli, 2023). In U.S. settings, auditors explicitly price engagement risk tied to tax and reporting complexity even when there is no specific fraud signal (Hay et al., 2006; Abernathy et al., 2023). Relatedly, research on tax aggressiveness planning shows that complexity itself degrades the information environment, reinforcing auditors' need for additional procedures and documentation (Balakrishnan et al., 2019).

² Auditors may provide basic tax services such as tax compliance, tax return preparation, and certain tax advisory services if these services are first explicitly approved by the client's audit committee. However, tax services that create or appear to create conflicts of interest are strictly prohibited. For instance, auditors are not allowed to accept contingent fees for tax services where payment depends on the outcome or results achieved from those services.

When fraud or misstatement risk is present, auditors typically demand an incremental risk premium over and above the complexity component to compensate for heightened litigation, regulatory, and business risk (Donohoe and Knechel 2014; Abernathy et al., 2023). Consistent with risk-based pricing layered on top of complexity-based fees, tax aggressiveness and uncertain tax positions are associated with higher audit fees and with broader manifestations of audit risk (Donohoe and Knechel 2014; Abernathy et al., 2023). In contrast, when tax enforcement is stronger, auditors' assessed risk declines (fewer tax-related key audit matters), underscoring how perceived misstatement risk feeds directly into audit planning and pricing (Filosa et al., 2025).

Crucially, when both complexity and fraud/misstatement risk are present, auditors' overall risk perceptions are magnified rather than priced as two independent, additive components (Bedard and Johnstone, 2004; Ashbaugh-Skaife, Collins, and Kinney, 2007). We posit that in tax planning contexts, "routine" tax haven involvement primarily manifests as a complexity risk, whereas indicators of tax evasion (or heightened likelihood thereof) represent a fraud-related risk; when both risks are present simultaneously, they trigger the most pronounced audit fee increases. Consistent with this compounding view, it has been documented that incremental fee and risk responses to tax risk over and above tax aggressiveness (Abernathy et al., 2023), while research on auditor-provided tax services shows that the risk profile depends on how planning and complexity interact, for example, knowledge spillovers can dampen volatility (risk) when both are engaged, but planning alone does not guarantee lower risk (Chyz, Gal-Or, Naiker, and Sharma 2021) because increased litigation and business risks has to be accounted for (Simunic, 1980; Bell, Landsman, and Shackelford, 2001; Heninger, 2001; Bedard and Johnstone, 2004).

Expected legal and reputational losses rise with both inherent risk and client complexity and are explicitly incorporated into fees, particularly in stricter liability or corruption-prone environments (Simunic, 1980; Choi, Kim, Liu, and Simunic, 2008; Venkataraman, Weber, and Willenborg, 2008; Jha et al., 2021).

If ordinary tax haven engagement can be viewed as complexity -related risk, and tax evasion as fraud risk, audit and APTS premiums will react to the compounding effect of tax haven engagements and tax fraud, potentially in addition to an additive response. Therefore, the second hypothesis that we want to test is as follows:

H2: Tax haven complexity and tax fraud risk jointly amplify audit fees and APTS fees, such that the pricing effect of each risk factor is greater when the other is elevated.

3. Research Design

We collect financial reporting data from Compustat, stock price data from CRSP, and information on audit fees, APTS fees, and audit opinions from Audit Analytics. Institutional holding data is obtained from the Thomson Reuters Institutional Holdings (13F) database, and tax haven information is extracted from firms' 10-K filings. The final sample consists of U.S. publicly traded firms with fiscal year-ends between December 31, 2003, and December 31, 2022.³

3.1. Measures of Tax Havens

We use both binary tax haven measures and unique haven jurisdiction counts for tax haven measures. Tax haven indicator dummy captures the extensive-margin effect of tax haven

³ Instead of using raw 10-K documents, we download the 'cleaned' 10-K files created by Loughran McDonald from the University of Notre Dame's Software Repository for Accounting and Finance. These cleaned files remove extraneous characters, resulting in substantial compression. We then use a Python script to identify tax haven jurisdictions within these filings.

engagement. That is, whether a firm is exposed to tax haven related complexity at all, making it well suited for testing baseline differences in audit and APTS fees between firms with and without any haven involvement. However, a binary indicator cannot distinguish between firms with limited haven exposure and those operating across multiple haven jurisdictions. To address this limitation, we also employ count-based measures of tax haven subsidiaries, which capture the intensive-margin effect of tax haven complexity by reflecting variation in the scope and depth of haven involvement. These measures allow us to assess whether audit and APTS fees increase with the extent of tax haven structures, conditional on having entered the haven margin.

We use multiple measures to proxy for tax haven engagement (*Haven*), with the list of tax haven jurisdictions following Chen et al. (2025). It is important to note that the mere presence of a subsidiary in a tax haven does not necessarily indicate active involvement in tax haven activities. To capture this distinction, we adopt the methodology of Law and Mills (2022) to construct measures of active tax haven engagement. For tax havens, a firm is classified as actively engaging in tax haven activity if at least one listed haven is identified and meets the criteria for being “active” based on the methodology outlined in Law and Mills (2022). Specifically, a haven is deemed “active” if a term related to offshore input or output activities appears within a 25-word window before or after the mention of the haven’s name. Under this approach, *Haven_{Hines}* represents the unique count of active haven subsidiaries located in jurisdictions identified by Hines and Rice (1994). The corresponding dummy variable is set to 1 if *Haven_{Hines}* is greater than zero, and 0 otherwise.

To ensure robustness, we also employ two alternative tax haven lists. *Haven_{STHA}* captures active haven subsidiaries located in jurisdictions identified in the proposed 2007 *Stop Tax Haven*

Abuse Act,⁴ with $HavenD_{STHA}$ set to 1 if $Haven_{STHA}$ is greater than zero, and 0 otherwise.

Additionally, $Haven_{Top8}$ includes active haven subsidiaries in the top eight jurisdictions ranked by the 2021 *Corporate Tax Haven Index* (Tax Justice Network),⁵ and $HavenD_{Top8}$ is set to 1 if $Haven_{Top8}$ is greater than zero, and 0 otherwise.

Table 1 reports the annual number of publicly traded U.S. firms with non-zero values for the three active tax haven measures, $Haven_{Hines}$, $Haven_{STHA}$, and $Haven_{top8}$. The firm counts remain relatively stable during the early part of the sample period but show a noticeable decline during the 2008-09 financial crisis period. Importantly, despite the significant changes introduced by the 2017 Tax Cuts and Jobs Act (TCJA) to reduce the incentives for U.S. multinational corporations to engage in global income shifting, there is no evident decrease in the number of firms utilizing tax havens in the post-2017 period.

[Insert Table 1 here]

3.2. Audit Fees, Tax Havens, and Tax Fraud Premium (H1a and H1b)

H1 examines whether tax haven activity is associated with audit fees and APTS fees. To test this hypothesis, we estimate the following regression model:

$$\begin{aligned} Fees_{i,t} = & \beta_0 + \beta_1 Haven_{i,t} + \beta_2 Fraud\ Risk_{i,t} + \beta_3 Size_{i,t} + \beta_4 ROA_{i,t} + \beta_5 Leverage_{i,t} \\ & + \beta_6 NOL_{i,t} + \beta_7 \Delta NOL_{i,t} + \beta_8 FI_{i,t} + \beta_9 PPE_{i,t} + \beta_{10} Intangibles_{i,t} + \beta_{11} R\&D_{i,t} \\ & + \beta_{12} MTB_{i,t} + \beta_{13} iOWN_{i,t} + \beta_{14} Big4_{i,t} + \beta_{15} Tenure_{i,t} + \beta_{16} Abs(DA)_{i,t} \\ & + \beta_{17} Noncash_{i,t} + \beta_{18} Segment_{i,t} + \beta_{19} Restatement_{i,t} + \beta_{20} GC_{i,t} \\ & + Industry\ Fixed\ Effect + Year\ Fixed\ Effect + \varepsilon_{i,t}. \end{aligned} \quad (1)$$

The regression is estimated using the OLS method with industry and year fixed effects.

Estimation errors are clustered at the firm level to adjust for time-series dependence, following

⁴ <https://www.congress.gov/bill/110th-congress/house-bill/2136?s=1&r=81>

⁵ <https://cthi.taxjustice.net/en/>

Petersen (2009). According to H1a and H1b, we expect the coefficients of interest, β_1 and β_2 to be significantly positive.

The dependent variable, *Fees*, refers to total fees, audit fees and APTS fees, respectively. Total fees are proxied by *LnTotalFee*, defined as the natural logarithm of one plus audit fees and APTS fees (in millions). Audit fees are proxied by *LnAuditFee*, defined as the natural logarithm of one plus audit fees (in millions). APTS fees are proxied by *LnTaxFee*, defined as the natural logarithm of one plus APTS fees (in millions).

As previously discussed, we use several proxies for tax haven engagement (*Haven*), including three dummy variables – *HavenD_{Hines}*, *HavenD_{STHA}*, and *HavenD_{top8}*, which indicate the presence of at least one active tax haven subsidiary. We also use three count-based measures – *Haven_{Hines}*, *Haven_{STHA}*, and *Haven_{Top8}*, representing the unique number of active tax haven subsidiaries based on different tax haven lists.

We measure *Fraud Risk* using firms' likelihood of engaging in illegal tax sheltering activities. Following Lisowsky (2010), we first construct *Lisowsky Score*. To preserve valuable variations across the full distribution, we use the percentile rank of *Lisowsky Score* to measure the level of tax fraud risk (*LisowskyRk*). Similarly, we also construct *Wilson Score* (Wilson (2009) and use the percentile of the *Wilson Score* to measure the level of fraud risk (*WilsonRk*). The control variables are chosen to capture firm characteristics and economic incentives that jointly affect audit risk, tax haven related decisions, and tax fraud risk to mitigate omitted variable bias in the estimated associations. The selection is grounded in prior theoretical and empirical work on determinants of tax avoidance and audit outcomes.

Firm characteristics and tax incentives

The set of firm level controls is motivated by economic theories of tax avoidance and risk as well as the extensive archival literature documenting their joint roles in explaining both tax planning and auditor behavior (Frank, Lynch, and Rego, 2009; Dyreng, Hanlon, and Maydew, 2010; Lisowsky, 2010; Hanlon, Krishnan, and Mills, 2012; Hoi, Wu, and Zhang, 2013; McGuire, Omer, and Wang, 2012). Larger firms (*Size*) face greater public and regulatory scrutiny, enjoy economies of scale in tax planning, and are more likely to have multinational operations, all of which shape both tax haven use and auditors' risk assessments and pricing.

Size is the natural logarithm of equity market value, calculated by multiplying the fiscal year-end price of common stock (*PRCC_F*) by common shares outstanding (*CSHO*). More profitable firms typically exhibit greater transaction volume and operational complexity, which can increase audit scope and verification effort, leading to higher audit fees (Hay et al., 2006; Simunic, 1980). At the same time, profitability may mitigate certain business risk concerns by signaling financial stability and lower bankruptcy risk, potentially offsetting some fee increases. In contrast, higher leverage is generally associated with greater financial risk, stronger incentives for earnings management, and heightened litigation exposure, all of which prompt auditors to expand audit procedures and demand a risk premium (Bell et al., 2001; Hogan and Wilkins, 2008). Consequently, leverage is consistently found to be positively associated with audit fees, reflecting auditors' pricing of increased monitoring and assurance costs. Profitability (*ROA*) is measured by income before extraordinary items (*IB*) scaled by the beginning balance of total assets (*AT*). *Leverage* is total long-term debt (*DLTT*) scaled by the beginning balance of total assets (*AT*).

Net operating loss carryforwards and their changes (*NOL* and ΔNOL) proxy for tax shields that reduce current tax burdens and may substitute for aggressive tax haven structures,

while also signaling financial reporting risk that auditors must consider. *NOL* is net operating loss carryforward (TLCF) scaled by the beginning balance of total assets (AT). The change in net operating loss carryforward (ΔNOL) is the change in net operating loss carryforward (TLCF) scaled by the beginning balance of total assets (AT). Foreign income (*FI*) is a direct proxy for cross-border operations and exposure to international tax regimes, which is central to tax haven use and the complexity of the audit engagement. *FI* is foreign income (PIFO) scaled by beginning-of-year total assets. Tangible and intangible asset intensity (*PPE* and *Intangibles*) and *R&D* expenditures influence both tax planning opportunities (e.g., income shifting via intangibles, capitalization and cost recovery for *PPE* and *R&D*) and audit complexity due to valuation and impairment issues. We use *PPE*, *Intangibles*, and *R&D* to capture total net property, plant and equipment (PPENT), intangible assets (INTAN), and research and development expense (XRD), respectively, all scaled by the beginning-of-year total assets (AT). Market-to-book (*MTB*) is commonly included as a control variable in audit pricing models because it captures growth opportunities, valuation uncertainty, and information risk, all of which affect auditors' expected effort and engagement risk. *MTB* is the market value of equity (CEQ*PRCC_F) divided by the book value of common equity (CEQ).

Institutional ownership (*iOWN*) reflects monitoring intensity and governance quality that can constrain aggressive tax avoidance and financial reporting behavior, thereby affecting both tax haven decisions and auditors' assessments of client risk. Institutional ownership (*iOWN*) is the percentage of institutional holdings of common shares outstanding. Earnings quality, measured by the absolute value of discretionary accruals (*Abs(DA)*), follows Hoi et al. (2013) and Kothari et al. (2005) in capturing aggressive reporting and opacity that co-vary with both tax

avoidance and audit risk; controlling for this construct helps isolate the incremental effect of tax haven activities on audit outcomes.

Auditor experience and engagement complexity

Auditor-related controls are grounded in audit risk and audit production theory and prior empirical research (Deis and Giroux, 1996; Ebrahim, 2010; Dao, Raghunandan, and Rama, 2012; and Che, Hope, and Langli, 2020). *Big 4* status and auditor tenure (*Tenure*) proxy for auditor expertise and client-specific knowledge, which influence both the auditor's ability to detect complex tax strategies and the pricing of engagement risk. *Big4* is an indicator variable set to 1 if the audit firm is one of the Big 4 and 0 otherwise. *Tenure* is the logarithm of the number of years an auditor has been auditing the client firm. Noncash assets and the number of segments (*Segment*) are standard proxies for audit complexity, as inventories, receivables, and diversified operations generate greater valuation and estimation uncertainty that can interact with complex tax structures, including tax haven arrangements. . *Noncash* is the ratio of assets in inventory plus accounts receivable to total assets. *Segment* is the natural logarithm of one plus the number of business segments of a company.

Restatements and going-concern opinions (*GC*) capture ex post indicators of misreporting and financial distress, respectively, and are used in prior work to proxy for higher inherent and control risk, which directly affects audit effort and fees. Excluding clerical-error restatements, following Abernathy et al. (2023), ensures that the restatement indicator reflects substantive reporting problems rather than mechanical corrections, aligning the measure conceptually with the latent construct of financial reporting risk. *Restatement* is an indicator that equals 1 if the firm subsequently restates its financial report, and 0 otherwise. *GC* is a dummy variable that

equals 1 if the firm receives a going-concern audit opinion, and 0 otherwise. We exclude observations related to restatements resulting from clerical errors, following Abernathy et al. (2023). All variable sources and constructions are reported in Appendix 1.

3.3. The Interaction Effect of Tax Complexity Risk and Tax Fraud Risk (H2)

To test if audit fees and APTS fees for tax haven engagement intensify as tax fraud risk arises (H2), we estimate the following regression model:

$$\begin{aligned}
Fees_{i,t} = & \beta_0 + \beta_1 Haven_{i,t} + \beta_2 Fraud\ Risk_{i,t} + \beta_3 Haven_{i,t} \cdot Fraud\ Risk_{i,t} \\
& + \beta_4 Size_{i,t} + \beta_5 ROA_{i,t} + \beta_6 Leverage_{i,t} + \beta_7 NOL_{i,t} + \beta_8 \Delta NOL_{i,t} + \beta_9 FI_{i,t} \\
& + \beta_{10} PPE_{i,t} + \beta_{11} Intangibles_{i,t} + \beta_{12} R\&D_{i,t} + \beta_{13} MTB_{i,t} + \beta_{14} iOWN_{i,t} \\
& + \beta_{15} Big4_{i,t} + \beta_{16} Tenure_{i,t} + \beta_{17} Abs(DA)_{i,t} + \beta_{18} Noncash_{i,t} + \beta_{19} Segment_{i,t} \\
& + \beta_{20} Restatement_{i,t} + \beta_{21} GC_{i,t} + Industry\ Fixed\ Effect \\
& + Year\ Fixed\ Effect + \varepsilon_{i,t}.
\end{aligned} \tag{2}$$

Again, the regression is estimated using the OLS method with industry and year fixed effects. Estimation errors are clustered at the firm level to adjust for time-series dependence, following Petersen (2009).

While the coefficient β_1 captures workload pricing tied to organizational and regulatory complexity, the coefficient β_2 captures the risk premium for misstatement and fraud (Hay et al., 2006; Bedard and Johnstone, 2004; Hoitash et al., 2008; Wilson, 2009; Lisowsky, 2010). According to H2, we expect the coefficient of interest, β_3 , to be significantly positive to reflect the conjecture that complexity risk and audit risk are not merely additive as standalone considerations (Raghunandan and Rama, 2006; Hogan and Wilkins, 2008; Chan et al., 2020).

3.4. Data and Descriptive Statistics

Table 2 summarizes the sample selection process. We begin with 131,227 firm-year observations from Compustat North America for fiscal years ending between December 31,

2003, and December 31, 2022. We exclude firms classified under SIC codes 4000–4999 (transportation, communications, electric, gas, and sanitary services) and 6000–6999 (finance, insurance, and real estate). Firm-years with missing financial variables are then removed. Following the merger with Audit Analytics, we exclude firm-years lacking audit fee data. Additional exclusions include firm-years with fiscal year-end stock prices below \$1, a negative book value of equity, or total assets less than \$10 million. We also eliminate firm-years with negative or missing income tax expenses. These steps yield a final sample of 37,511 firm-year observations spanning the 2003–2022 period.

[Insert Table 2 here]

Panel A of Table 3 presents the summary statistics for the variables used in the analyses. The means (medians) of dependent variables, *LnTotalfee*, *LnAuditfee*, and *LnTaxfee* are 14.064 (14.047), 13.889 (13.889) and 8.051 (10.621), respectively, indicating normal distributions for these dependent variables. Moreover, the values of *LnTaxfee* are zero at the 10th and 25th percentiles, indicating that at least 25% of firms do not incur APTS fees from their auditors. This suggests that a substantial portion of the sample does not purchase APTS from their auditors, reflecting variation in firms’ use of external tax advisory support from their auditing firms.

The means (medians) for *Haven_{Hines}*, *Haven_{STHA}*, and *Haven_{Top8}* are 0.984 (0.000), 0.786 (0.000) and 0.6633 (0.000), respectively, indicating skewed distributions for these haven measures. Approximately 56% of firms in the sample are engaged in haven activities. Among the top 10% of firms for each haven measure, these firms have multiple havens across different jurisdictions. Additionally, not all firms in the sample engage their auditing firms for tax-related services.

[Insert Table 3 here]

Panel B of Table 3 reports the mean value of variables for two sub-samples: firms with at least one active tax haven and firms with no active tax haven. Results from the two-sample *t*-test indicate statistically significant differences across the two groups. These findings suggest that firms engaging in tax haven activities differ systematically from those that do not. Specifically, firms with tax havens incur significantly higher average audit fees and APTS fees ($LnTotalfee = 14.470$, $LnAuditfee = 14.287$, $LnTaxfee = 9.087$) compared to firms with no tax haven engagements ($LnTotalfee = 13.605$, $LnAuditfee = 13.437$, $LnTaxfee = 6.877$). These patterns likely reflect the increased complexity of tax planning strategies and heightened complexity requirements associated with tax haven use. In addition, these firms are also larger on average ($Size = 7.223$ vs. 6.092), consistent with the notion that larger firms are more likely to engage in international tax planning. Institutional ownership is also higher among tax haven firms ($iOWN = 0.685$ vs. 0.582), potentially reflecting institutional investment mandates that require institutional investors to allocate their portfolio in large firms. It may also suggest that sophisticated investors are more willing to invest in firms with tax haven engagement, as it can be perceived to be beneficial to shareholders.⁶

A greater proportion of tax haven firms are audited by Big 4 auditors ($Big4 = 0.820$ vs. 0.582), likely reflecting the demand for specialized tax expertise, which is more likely available among top-tier audit firms. These firms also exhibit higher business segment diversification ($Segment = 0.561$ vs. 0.441) and a higher likelihood of financial restatements ($Restatement = 0.130$ vs. 0.107), potentially indicating greater operational complexity and elevated risk

⁶ According to Koester et al., (2017, p. 3285), “every dollar of taxes paid is a dollar that cannot be reinvested within the firm.”

exposure. A small percentage of haven firms receive a going concern opinion ($GC = 1.9\%$), largely due to our sample restriction to firms with positive pre-tax income. Compared to non-haven firms ($GC = 2.5\%$), haven firms are slightly less likely to receive such opinions, suggesting they are perceived to be in a stronger financial condition.

Table 4 reports the correlation matrices of variables. The three dependent variables, *LnTotalfee*, *LnAuditfee*, and *LnTaxfee*, are highly correlated. Tax haven measures, *HavenHines*, and tax fraud measures, *Lisowsky Scire* and *Wilson Score*, are all positively correlated to audit fees and APTS fees. Moreover, the strong positive correlation between *Lisowsky Scire* and *Wilson Score* (Pearson = 0.727; Spearman = 0.630) demonstrates that these two tax fraud measures are highly aligned. Furthermore, audit fees and APTS fees exhibit strong positive correlations with firm size and leverage, reflecting that larger and more leveraged firms demand greater audit effort.

[Insert Table 4 here]

4. Empirical Findings

4.1. Audit Fees, Tax Havens, and Tax Fraud Premium (H1a and H1b)

Table 5 reports regression results examining the association between audit and auditor-provided tax service (APTS) fees and two distinct dimensions of tax-related risk: tax haven-induced complexity (H1a) and tax fraud risk (H1b). Panel A reports results using a binary indicator for tax haven engagement, capturing the extensive margin of tax haven complexity, while Panel B replaces the indicator with the number of unique tax haven jurisdictions to capture the intensive margin of complexity. Across both panels, the results are highly consistent and provide strong support for our hypotheses. Specifically, across all specifications, the models

exhibit strong explanatory power, with Adj. R^2 values ranging from approximately 22.44% to 77.91%, consistent with prior audit fee studies (Hay et al. 2006; DeFond and Zhang 2014). Consistent with H1a, tax haven engagement is positively and significantly associated with audit fees and APTS fees. In Panel A, the coefficient on *HavenD_{Hines}* is positive and statistically significant across all fee measures. For example, the coefficient of 0.186 ($t=13.74$) in Column (1) implies that firms with at least one active tax haven subsidiary incur approximately 18.6% higher total professional fees, holding other factors constant. This effect is economically meaningful and aligns with the view that tax haven structures increase organizational and reporting complexity, thereby expanding audit scope, coordination requirements, and documentation effort (Hanlon et al. 2012; Balakrishnan et al. 2019). The magnitude of the haven coefficient remains stable across specifications and fee types, including audit fees and APTS fees, suggesting that auditors price tax haven complexity consistently across assurance and tax-related engagements. This finding is consistent with Donohoe and Knechel (2014), who show that tax-related complexity and uncertainty increase auditors' expected effort and engagement risk even in the absence of detected misstatement.

[Insert Table 5 here]

Turning to tax fraud risk, both *LisowskyRk* and *WilsonRk* exhibit strong positive associations with audit and APTS fees, supporting H1b. For instance, the coefficient on *LisowskyRk* in Column (3) is 4.547 ($t=9.41$), indicating that firms in higher percentiles of tax shelter likelihood incur substantially higher APTS fees. Given that the fraud risk measures are percentile-ranked, this result suggests a steep fee gradient as firms move toward the upper tail of tax fraud risk.

These findings are consistent with prior evidence that aggressive tax positions and tax shelter participation elevate perceived misstatement risk, litigation exposure, and regulatory scrutiny, prompting auditors to expand substantive testing and fraud-related procedures (Wilson 2009; Lisowsky 2010; Donelson et al. 2019). Importantly, the statistical significance and magnitude of the fraud risk coefficients persist even after controlling for tax haven complexity, indicating that tax fraud risk represents a distinct and incremental determinant of audit pricing.

The estimated coefficients on the control variables are largely consistent with established audit pricing theory and prior empirical findings, lending further credibility to the results. Firm size (*Size*) is positively and highly significant across all models, with coefficients ranging from 0.231 to 0.687 (t-statistics exceeding 6.00), reflecting greater absolute audit effort for larger, more complex firms (Hay et al. 2006). Profitability (*ROA*) is negatively associated with audit fees, consistent with the notion that more profitable firms exhibit lower business risk and stronger financial health, thereby reducing auditors' expected litigation exposure (Bell et al. 2001; Hogan and Wilkins 2008). In contrast, *Leverage* is positively related to fees, reflecting heightened creditor scrutiny, greater incentives for earnings management, and increased bankruptcy risk. Market-to-book (*MTB*) carries a negative coefficient in most specifications, suggesting that high-growth firms may face lower perceived default risk or benefit from stronger market discipline, a pattern documented in prior audit fee research (Choi et al. 2008; DeFond and Zhang 2014).

Auditor-related variables behave as expected. *Big 4* auditors charge a significant fee premium, consistent with brand reputation, expertise, and higher expected litigation exposure. *Restatements* and going-concern opinions (*GC*) are generally associated with higher fees, reflecting ex post indicators of misreporting and financial distress that increase inherent and

control risk (Bedard and Johnstone 2004; Abernathy et al. 2023). Overall, the control variable results align closely with prior literature, suggesting that the models are well specified and that the documented fee effects associated with tax haven complexity and tax fraud risk are not driven by omitted firm or auditor-level characteristics.

The results reported on Panel B are very consistent with those on Panel A. Overall, the results in Table 5 provide strong evidence that tax haven complexity and tax fraud risk each exert economically meaningful and statistically significant effects on audit and APTS fees, even after controlling for a comprehensive set of firm and auditor level characteristics. Moreover, the robustness of the findings across alternative measures of tax haven activity underscores the central role of tax-related complexity and fraud risk in auditors' pricing decisions, consistent with risk-based audit production theory and prior empirical evidence.

4.2. Complementary Analyses

Addressing Endogeneity: Two-Stage Least Squares (2SLS) Estimation

To mitigate potential endogeneity concerns, we employ an instrumental-variables approach using two-stage least squares (2SLS) estimation to more directly address potential endogeneity in firms' tax haven use. Admittedly, no empirical design can fully eliminate endogeneity concerns in this setting, we present the 2SLS results as complementary evidence that strengthens the causal interpretation of our findings, rather than as a definitive solution. Specifically, we construct instruments based on industry-average tax haven engagement measures, which capture peer-level tax planning environments while plausibly remaining exogenous to firm-specific audit pricing shocks. This approach follows a well-established tradition in the financial economics and accounting literature that uses industry averages as

instruments to exploit cross-sectional variation while mitigating firm-level endogeneity concerns (e.g., Lev and Sougiannis, 1996; Murphy, 2000; Hanlon, Rajgopal, and Shevlin, 2003).

Our first instrument, $HavenINDD_{Hines}$, is the industry-average likelihood that a firm uses a tax haven, computed annually as the mean of our main variable $HavenD_{Hines}$ within each two-digit SIC industry. The second instrument, $HavenIND_{Hines}$, is constructed similarly using the alternative, count-based haven measure $Haven_{Hines}$.

$$HavenD_{Hines}(Haven_{Hines}) = \beta_0 + \beta_1 HavenINDD_{Hines}(HavenIND_{Hines}) + Controls + \varepsilon_{it} \quad (3a)$$

In the second stage, we estimate our main regression model by using estimated values from the first stage as key independent variables:

$$Fees = \beta_0 + \beta_1 \widehat{HavenD}_{Hines}(\widehat{Haven}_{Hines}) + Controls + \varepsilon_{it}. \quad (3b)$$

Following prior literature, we assess instrument relevance and strength using heteroskedasticity-robust weak-instrument diagnostics. Specifically, we report the Kleibergen–Paap rk LM statistic to test for under-identification and the Kleibergen–Paap rk Wald F statistic to evaluate instrument strength in the presence of heteroskedasticity (Kleibergen and Paap 2006).⁷ KP rk LM denotes the Kleibergen–Paap rk LM statistic for underidentification. KP rk Wald F denotes the Kleibergen–Paap rk Wald F statistic for weak-instrument diagnostics. Stock–Yogo (2005) critical values are used as reference points. The results are reported in Table 6.

Table 6 Panel A report the first stage estimation of instrumental variables. The Kleibergen–Paap rk Wald F statistics (524.3 and 281.8) far exceed the rule-of-thumb threshold of 10, indicating very strong instruments. The Kleibergen–Paap LM statistics (350.8 and 206) further reject the null of under-identification, confirming that the instruments are relevant. Tabel

⁷ Because our models allow for heteroskedasticity, we rely on the Kleibergen–Paap statistics rather than the Cragg–Donald (1993) statistic, which assumes homoskedastic errors.

6 Panel B report the regression results after substituting *Haven* risks with the instrumental variables $\widehat{HavenD}_{Hines}$ and $\widehat{Haven}_{Hines}$ related to all three fee specifications are statistically significant. In addition, the Pearson correlation between $\widehat{HavenD}_{Hines}$ and $\widehat{Haven}_{Hines}$ is 0.29, between $\widehat{HavenD}_{Hines}$ and $\widehat{HavenIND}_{Hines}$ is 0.26, both significant at 0.01 level.

[Insert Table 6 here]

Granger Causality Tests

Our research design assumes that tax complexity risk, proxied by tax haven engagement, affects audit and tax service efforts, as reflected in audit fees and APTS fees, rather than the reverse. Nevertheless, to assess whether audit and tax service efforts systematically precede changes in tax haven engagement, thereby indicating potential reverse-causality concerns, we conduct Granger causality tests (Granger, 1969) to examine the lead–lag relationships between audit fees, APTS fees, and tax haven engagement. Following Cheng and Subramanyam (2008) and Chen, Lobo, and Zhang (2017), we estimate both one-period-lag and two-period-lag models, specified as follows:

$$Fees_{i,t} = \gamma_1 Fees_{i,t-1} + \delta_1 HavenD_{i,t-1} + Control\ Variables_{i,t} + \varepsilon_{i,t} \quad (4a)$$

$$Fees_{i,t} = \gamma_1 Fees_{i,t-1} + \gamma_2 Fees_{i,t-2} + \delta_1 HavenD_{i,t-1} + \delta_2 HavenD_{i,t-2} + Control\ Variables_{i,t} + \eta_{i,t} \quad (4b)$$

Similar to equation (1), we have three measures, namely *LnTotalFee*, *LnAuditFee*, and *LnTaxFee* to measure audit and APTS fees (*Fees*), and for the tax haven engagement dummy variable, we use $\widehat{HavenD}_{Hines}$.⁸ The Granger causality test results are reported in Table 7.

⁸ Using alternative tax haven measures – including the dummy variables $\widehat{HavenD}_{STHA}$ and $\widehat{HavenD}_{top8}$, as well as the count measures $\widehat{Haven}_{Hines}$, $\widehat{Haven}_{STHA}$, and $\widehat{Haven}_{top8}$, the Granger causality tests produce consistent results. For brevity, these repeated results are not tabulated.

[Insert Table 7 here]

As shown in Table 7, we use F-tests to assess whether lagged tax haven activities are significantly associated with the audit and APTS fees (*Fees*), even after accounting for the lagged audit and APTS fees. The F-values indicate that the coefficients on one-year lagged *HavenD_{Hines}* are all significantly different from zero (p-value < 1%). The F-values also show that the summation of the coefficients on one-year and two-year lagged *HavenD_{Hines}* is significantly different from zero (p-value < 1%). The results from both the one-year lag and two-year lag specifications reject the null and confirm the Granger causality.

4.3. Interaction Effects of Tax Haven Engagement and Tax Fraud Risk on Audit and APTS Fees (H2)

We next examine whether tax fraud risk amplifies the effect of tax haven engagement on audit and auditor-provided tax service (APTS) fees. The regression models include tax haven engagement, tax fraud risk, and their interaction. Consistent with our conceptual framework, a significantly positive interaction term indicates that tax complexity risk and tax fraud risk are not merely additive, but jointly priced by auditors (Raghunandan and Rama, 2006; Hogan and Wilkins, 2008; Chan et al., 2020). Table 8 reports the results using a tax haven dummy in Panel A and a count-based measure in Panel B.

In Panel A, where tax haven engagement is measured using the dummy variable *HavenD_{Hines}*, the interaction terms *HavenD_{Hines} * LisowskyRk* (Columns 1–3) and *HavenD_{Hines} * WilsonRk* (Columns 4–6) are positive and statistically significant across audit fees, APTS fees,

and total fees. The interaction coefficients are also highly significant, indicating that auditors charge disproportionately higher fees when tax haven involvement coincides with elevated tax fraud risk. Importantly, the main effects of tax haven engagement and fraud risk are not fully subsumed by the interaction term. Although the coefficient on *HavenD_{Hines}* becomes negative in the tax fee specification, the combined effect including the interaction and fraud risk terms remains positive, consistent with a compounded risk premium.

Panel B presents results using the count-based measure *Haven_{Hines}* and yields qualitatively similar findings. The interaction terms between haven intensity and both fraud risk measures are positive and statistically significant, confirming that greater exposure to tax haven structures further amplifies the fee-increasing effect of tax fraud risk. Taken together, these results indicate that auditors systematically increase audit and APTS fees when clients face heightened fraud risk in a tax haven context, reflecting increased audit effort, scrutiny, and compliance-related complexity.

[Insert Table 8 here]

Furthermore, we also used alternative tax haven measures, *Haven_{STHA}* and *Haven_{top8}*, for H2 tests and the results are tabulated in Table 9. Haven dummy results are reported in Panel A, and haven count results are reported in Panel B. Again, the results are very consistent with those reported in Table 9.

[Insert Table 9 here]

Based on Tables 8 and 9, we conclude that tax haven engagements amplify the sensitivity of audit and APTS fees to tax fraud risk, which is likely driven by auditors' need to mitigate their own exposure to risk and ensure thorough oversight.

4.4. Alternative Analyses

Increase and Decrease of Tax Haven Engagement

Recognizing that APTS fees are associated with the amount of complexity and complexity requirements, we carried out additional tests to see if firms' tax haven engagement increases or decreases affect the proportion of APTS fees. We use two proportional measures: *TaxPerc Total* is APTS fees as a percentage of total auditor professional service fees; *Tax_Audit Ratio* is the ratio of APTS fees to audit fees presented as a percentage. The results are reported in Table 10.

[Insert Table 10 here]

Table 10 shows that increases in the number of tax havens are associated with significantly higher *TaxPerc Total* and *Tax_Audit Ratio*. This indicates that auditors respond to greater tax haven use by providing more tax-related services, reflecting the additional complexity these activities create.

In contrast, decreases in tax haven disclosures do not produce a meaningful effect on *TaxPerc Total* and *Tax_Audit Ratio*. The coefficients for haven decreases are small and statistically insignificant across all specifications, suggesting an asymmetric pattern: while new or expanded tax haven use raises tax service fees, reductions in haven activity do not lead to

corresponding decreases. This implies that once firms engage in tax haven structures, auditors continue to treat them as a source of complexity and risk even if activity later declines.

APTS fees and Haven Engagement

As noted earlier, high-risk tax evasion practices can occur entirely within a single jurisdiction and do not necessarily involve tax havens (Hanlon and Slemrod, 2009; Lisowsky, 2010). In addition, not all auditors provide APTS services to their audit clients. To better understand whether adding tax services during an auditor's tenure alters the relationship between tax haven activities and APTS fees. The results are reported in Table 11.

[Insert Table 11 here]

Table 11 shows that firms with tax haven operations generally incur a higher proportional of APTS fees, as indicated by the positive and highly significant coefficients on *HavenD_{Hines}*. Importantly, the interaction terms *HavenD_{Hines}*Tax_Service_Dummy* reveal that when tax services are added (*Tax_Service_Dummy*), the fee impact of tax haven engagement becomes even stronger, suggesting that the provision of tax services amplifies the fee premium associated with tax haven activities.

Moreover, the standalone effect of adding tax services is itself positive and significant, indicating that audit fees increase when auditors expand their role to include tax services, even independent of tax haven considerations. Overall, these results imply that the combination of tax haven complexity and the provision of tax services creates heightened auditor dependence and risk pricing, leading to a greater fee burden for client firms.

5. Conclusion

This study examines how tax haven engagement and tax fraud risk jointly shape audit fees and auditor-provided tax service (APTS) fees. Using a large sample of U.S. publicly traded firms over the period 2003–2022, we provide evidence that auditors systematically incorporate both the complexity arising from tax haven structures and the risk associated with aggressive or potentially non-compliant tax behavior into their pricing decisions.

We show that firms engaging in tax haven activities incur significantly higher audit and APTS fees, indicating that tax haven structures introduce substantial organizational and reporting complexity that increases audit effort even in the absence of explicit fraud signals. We also document that elevated tax fraud risk is independently associated with higher audit and APTS fees, reflecting auditors' responses to heightened misstatement risk, litigation exposure, and reputational concerns. Importantly, when tax haven engagement and tax fraud risk co-occur, auditors charge disproportionately higher fees, suggesting that these risks interact to magnify engagement risk rather than being priced additively.

Additional analyses reveal important asymmetries in fee dynamics. Increases in tax haven engagement are associated with higher proportions of APTS fees, whereas subsequent reductions in haven activity do not lead to corresponding fee decreases. This persistence suggests that once firms are identified as complex or high-risk clients, auditors may retain elevated risk assessments over time. Furthermore, when auditors expand their role to include tax services, the fee impact of tax haven engagement becomes even stronger, indicating that the provision of tax services intensifies auditors' pricing of tax-related risk.

These findings have important implications for audit practitioners. The evidence suggests that auditors should evaluate tax haven structures not in isolation, but in conjunction with

broader indicators of tax fraud risk when planning engagements, allocating personnel, and determining supervision intensity. Audit firms may need to apply heightened professional skepticism, involve tax specialists earlier in the engagement, and enhance documentation when clients combine complex tax structures with aggressive tax positions. From a pricing perspective, the results underscore the importance of incorporating compounding sources of risk into engagement-level fee decisions rather than relying on linear or additive risk assessments.

From a policy and regulatory perspective, our results suggest that auditors' fee responses provide an informative, market-based signal of tax-related complexity and risk. Regulators and standard setters concerned with audit quality and tax transparency may view heightened audit and APTS fees as indirect indicators of elevated tax and reporting risk, complementing enforcement and disclosure-based oversight mechanisms. Moreover, regulatory initiatives that affect tax disclosure requirements, enforcement intensity, or permissible non-audit services may influence auditors' risk assessments and pricing behavior in ways that warrant careful consideration.

Despite these contributions, our study is subject to several limitations. First, while we employ multiple measures of tax haven engagement and tax fraud risk, these proxies may not fully capture the full spectrum of firms' tax planning activities or intent. Second, our analysis focuses on U.S. publicly traded firms, and the results may not generalize to private firms or to institutional settings with different legal, enforcement, or audit liability regimes. Third, although we conduct extensive robustness diagnostics, including two-stage least square tests and Granger causality tests and entropy, our findings remain subject to the usual limitations of observational data to fully address endogeneity concerns.

These limitations open several avenues for future research. Future studies could examine whether the interaction between tax complexity and fraud risk varies across institutional environments, such as countries with differing tax enforcement or investor protection regimes. Researchers may also explore how auditor specialization, audit partner characteristics, or regulatory inspections influence the pricing of compounded tax risk. Finally, further work could investigate whether heightened audit and APTS fees translate into improved tax compliance or financial reporting quality, thereby shedding light on the broader economic consequences of auditors' risk-based pricing decisions.

Overall, this study provides new evidence on how auditors price tax-related complexity and fraud risk in an increasingly global and scrutinized tax environment. By highlighting the distinct and interacting roles of tax haven engagement and tax fraud risk, our findings deepen our understanding of audit pricing and offer insights relevant to researchers, practitioners, and policymakers alike.

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Appendix 1: Variable Definitions

Variables	Explanation	Measurement	Source
<u>Haven Measures</u>			
<i>Haven_{Hines}</i>	The number of active havens from the list of all jurisdictions identified in Hines and Rice (1994). The list is based on both low tax rates and factors such as bank or commercial secrecy and the absence of exchange controls.	Active haven is identified by the approach of Law and Mills (2022).	EDGAR 10-Ks
<i>HavenD_{Hines}</i>	An active tax haven dummy that is set to 1 if <i>Haven_{Hines}</i> is greater than zero, and 0 otherwise.		EDGAR 10-Ks
<i>Haven_{STHA}</i>	The number of active tax havens from the list of all jurisdictions identified in the failed Stop Tax Haven Abuse Act of 2007, which includes secrecy jurisdictions that have been previously and publicly identified by the Internal Revenue Service in Federal court proceedings.		EDGAR 10-Ks
<i>HavenD_{STHA}</i>	An active tax haven dummy that is set to 1 if <i>Haven_{STHA}</i> is greater than zero, and 0 otherwise.		EDGAR 10-Ks
<i>Haven_{top8}</i>	The number of active top 8 jurisdictions based on the 2021 ranking of the Corporate Tax Haven Index (CTHI). CTHI value is based on 20 indicators to measure the scope for corporate tax abuse that the jurisdiction's financial and tax systems allow. The ranking is published every year on the Tax Justice Network website.		EDGAR 10-Ks
<i>HavenD_{top8}</i>	An active tax haven dummy that is set to 1 if <i>Haven_{top8}</i> is greater than zero, and 0 otherwise.		EDGAR 10-Ks
<u>Dependent Variables</u>			
<i>LnTotalfee</i>	A firm's total service fees, including both audit fees and APTS fees.	Natural logarithm of (1 + total fees)	Audit Analytics

<i>LnAuditFee</i>	A firm's audit fees.	Natural logarithm of (1 + audit fees)	Audit Analytics
<i>LnTaxFee</i>	A firm external APTS fees.	Natural logarithm of (1 + external auditor-provided tax service fees)	Audit Analytics
<u>Moderating Variables</u>			
<i>Lisowsky Score</i>	The risk score of tax sheltering based on the logistic model reported in Table 4 Column 4 in Lisowsky (2010): $Lisowsky\ Score = -7.059 + 0.032*BTD + 0.924*DA - 0.697*LEV + 1.397*AT + 2.473*ROA + 3.569*FOREIGN\ INCOME - 3.023*R\&D + 0.790*HAVEN + 0.015*LAG_ETR + 1.048*EQEARN - 0.687*MEZZFIN + 3.186*BIG4 + 1.063*LITI + 0.14*NOL$.	HAVEN is 1 if an active haven is identified in 10-K, 0 otherwise. LAG_ETR is a one-year lag effective tax rate. EQEARN is 1 if the equity in earnings (loss) from the income statement is present and does not equal 0, and 0 otherwise. MEZZFIN is convertible debt and preferred stock scaled by total assets. BIG 4 is 1 if the client firm is audited by Big 4 auditors, 0 otherwise. LITI is 1 if pretax or after-tax litigation/insurance settlement is negative, indicating a payout, and 0 otherwise. NOL is 1 if tax loss carryforward >0, and 0 otherwise. The other variables are defined the same as Wilson (2009).	
<i>LisowskyRk</i>	An adjusted and rescaled measure of tax sheltering risk based on <i>Lisowsky Score</i> .	The percentile rank of <i>Lisowsky Score</i> scaled by 100, which captures the level of aggressiveness in tax sheltering.	
<i>Wilson Score</i>	The risk score of tax sheltering based on the logistic model reported in Table 5 Column 3 in Wilson (2009): $Wilson\ Score = -4.86 + 5.20*BTD + 4.08*DA - 0.41*LEV + 0.76*AT + 3.51*ROA + 1.72*FOREIGN\ INCOME + 2.43*R\&D$.	BTD is a book-tax difference measure as defined by Kim et al. (2011), DA is discretionary accruals from the performance-adjusted modified cross-sectional Jones Model, LEV is firm leverage, AT is the natural logarithm of total assets, ROA is the return on assets, FOREIGN INCOME is a dummy of 1 for firm-years that report foreign income, and 0 otherwise, and R&D is research and development expense ratio.	

<i>WilsonRk</i>	An adjusted and rescaled measure of tax sheltering risk based on <i>Wilson Score</i> .	The percentile rank of <i>Wilson Score</i> scaled by 100, capturing the level of aggressiveness in tax sheltering.	
<u>Firm Level Controls</u>			
<i>Size</i>	Client firm size	The natural logarithm of equity market value – fiscal year end price (PRCC_F) multiplied by common share outstanding (CSHO).	Compustat
<i>ROA</i>	Profitability	Income before extraordinary items (IB) scaled by beginning balance total assets (AT)	Compustat
<i>Leverage</i>	Leverage	Long-term debt (DLTT) scaled by the beginning balance of total assets (AT).	Compustat
<i>NOL</i>	Net operating loss carryforward	Net operating loss carryforward (TLCF) scaled by the beginning balance of total assets (AT). The measure is set as 0 if TLCF is missing.	Compustat
<i>ΔNOL</i>	Change of net operating loss carryforward	Change of net operating loss carryforward (TLCF) scaled by the beginning balance of total assets (AT)	Compustat
<i>FI</i>	Foreign income (PIFO)	Foreign income (PIFO) scaled by the beginning balance of total assets (AT), PIFO is set to be 0 if missing.	Compustat
<i>PPE</i>	Property, plant, and equipment	Total net property, plant and equipment (PPENT) scaled by the beginning balance of total assets (AT)	Compustat
<i>Intangible</i>	Intangible assets	Intangible assets (INTAN) scaled by beginning balance total assets (AT)	Compustat
<i>R&D</i>	Research and development expense	Research and development expense (XRD) scaled by beginning total assets (AT), XRD is set to be 0 if missing.	Compustat

<i>MTB</i>	Ratio of the market value of equity to the book value of equity	The market value of common equity (PRCC_F*CSHO) divided by the book value of common equity (CEQ)	Compustat
<i>iOWN</i>	Institutional ownership	The percentage of institutional holdings of common shares outstanding	Compustat
<i>Big4</i>	Audit quality	An indicator variable is set to 1 if the audit corporation is one of the Big 4 and 0 otherwise.	Audit Analytics
<i>Tenure</i>	A measure of an auditor's experience	The logarithm of the number of years an auditor has been auditing the client firm.	Audit Analytics
<i>Abs(DA)</i>	Audit/Earnings quality	Absolute value of the discretionary accruals estimated using the Kothari et al. (2005) performance-adjusted accruals model: $Accruals_{i,t} = \beta_0(1/Assets_{i,t-1}) + \beta_1\Delta Sales_{i,t} + \beta_2PPE_{i,t} + \beta_3ROA_{i,t} + \varepsilon_{i,t}$ where total accruals (<i>Accruals</i>) is income before extraordinary item (IB) minus cash flow from operating activities (OABCF). The accrual model is estimated cross-sectionally each year within 2-digit SIC groups. <i>DA</i> is the estimated error.	Compustat
<i>Noncash</i>	Non-cash current asset	Ratio of assets in inventory (INVT) plus accounts receivable (RECT) to total assets (AT).	Compustat
<i>Segment</i>	Number of business segments	The natural logarithm of (the number of business segments).	Compustat
<i>Restatement</i>	Indicator of financial restatement	An indicator that equals 1 if a client firm's financial statement is restated, 0 otherwise. Clerical errors are excluded from the restatements.	Audit Analytics
<i>GC</i>	Indicator of going-concern audit opinion	An indicator variable that equals 1 if the firm receives a going-concern audit opinion, 0 otherwise.	Audit Analytics

Table 1

Panel A: Counts of Firms with Active Havens

Year	<i>Haven_{Hines}</i>	<i>Haven_{STHA}</i>	<i>Haven_{Top8}</i>
2004	1,017	922	881
2005	1,019	917	897
2006	1,061	953	933
2007	1,046	945	893
2008	932	835	768
2009	780	702	666
2010	881	805	764
2011	938	843	811
2012	971	877	825
2013	943	854	805
2014	973	893	813
2015	939	863	782
2016	902	831	741
2017	886	802	710
2018	870	771	663
2019	922	818	690
2020	883	779	656
2021	1,135	998	828
2022	1,109	988	851
Total	18,207	16,396	14,977

Panel B: Corporations with Tax Havens by Industry (2022)

Industry	SIC codes	<i>Haven_{Hines}</i>	<i>Haven_{STHA}</i>	<i>Haven_{Top8}</i>
Agriculture, Forestry, and Fishing	0100-0999	1	1	1
Mining	1000-1499	37	29	22
Construction	1500-1799	9	8	4
Manufacturing	2000-2700	63	57	53
	2800-2899*	284	250	178
	2900-3499	52	48	49
	3500-3599	69	62	63
	3600-3699**	100	96	82
	3700-3999***	160	151	148
Transportation and Communications	4000-4899	34	30	28
Wholesale Trade	5000-5199	34	30	28
Retail Trade	5200-5999	45	35	32
Services	7000-8999	217	187	159
Other	9900-9999	4	4	4
Total		1,109	988	851

Note: We use the latest industry classification codes as the ending sample year for 2020.

* 2800-2899: Chemicals and Allied Products

** 3600-3699: Electronic and Other Electrical Equipment and Components, Except Computer Equipment

*** 3700-3999: Transportation Equipment, Instruments, and Miscellaneous

Table 2 Sample Selection

Selection Process	Number of Observations Eliminated	Total Observations
COMPUSTAT North America firm-year observations (excluding SIC 4900-4999, and 6000-6999) with fiscal years ending between 2004 and 2022.		131,227
Excluding:		
- Firm-years with missing financial information	(25,734)	
- Firm-years with missing auditors and audit fee information	(29,161)	
- Firm-years with missing PERMNO (for matching with institutional ownership data)	(26,016)	
- Firm-years with a fiscal year-end stock price of less than 1 dollar, a negative book value of equity, or a total assets value of less than 10 million	(5,194)	
- Firm-years with negative income tax expenses	(7,611)	
Total Number of Observations Remaining		37,511

Table 3 Summary Statistics (2004-2022, N = 37,511)

Panel A: Full Sample

	Mean	S.D.	10%	25%	50%	75%	90%
<i>LnTotalfee</i>	14.064	1.222	12.456	13.230	14.047	14.858	15.657
<i>LnAuditfee</i>	13.889	1.211	12.262	13.073	13.899	14.679	15.446
<i>LnTaxfee</i>	8.051	5.574	0.000	0.000	10.621	12.283	13.521
<i>Haven_{Hines}</i>	0.984	1.371	0.000	0.000	0.000	2.000	3.000
<i>Haven_{STHA}</i>	0.786	1.150	0.000	0.000	0.000	1.000	2.000
<i>Haven_{Top8}</i>	0.663	0.997	0.000	0.000	0.000	1.000	2.000
<i>LisowskyScore</i>	4.838	4.492	-1.402	1.504	5.275	8.198	10.428
<i>WilsonScore</i>	-0.004	2.257	-2.462	-1.032	0.161	1.275	2.376
<i>Size</i>	6.693	1.994	4.109	5.285	6.639	7.999	9.337
<i>ROA</i>	-0.041	0.333	-0.342	-0.034	0.044	0.092	0.152
<i>Leverage</i>	0.196	0.223	0.000	0.001	0.134	0.309	0.490
<i>NOL</i>	0.634	1.776	0.000	0.000	0.024	0.306	1.825
<i>ΔNOL</i>	0.106	0.458	-0.035	-0.001	0.000	0.022	0.325
<i>FI</i>	0.014	0.043	-0.001	0.000	0.000	0.019	0.062
<i>PPE</i>	0.246	0.252	0.029	0.069	0.157	0.332	0.617
<i>Intangibles</i>	0.231	0.280	0.000	0.012	0.131	0.362	0.599
<i>R&D</i>	0.084	0.175	0.000	0.000	0.011	0.092	0.250
<i>MTB</i>	4.384	6.982	1.005	1.540	2.545	4.443	8.356
<i>iOWN</i>	0.636	0.306	0.132	0.401	0.728	0.894	0.980
<i>Big4</i>	0.752	0.432	0.000	1.000	1.000	1.000	1.000
<i>Tenure</i>	1.731	0.796	0.693	1.099	1.792	2.303	2.773
<i>Abs(DA)</i>	0.101	0.120	0.012	0.031	0.067	0.126	0.215
<i>Noncash</i>	0.238	0.182	0.026	0.091	0.206	0.345	0.498
<i>Segment</i>	0.505	0.648	0.000	0.000	0.000	1.099	1.386
<i>Restatement</i>	0.119	0.324	0.000	0.000	0.000	0.000	1.000
<i>GC</i>	0.022	0.146	0.000	0.000	0.000	0.000	0.000

Note: All variables, except for dummies, are winsorized at the top and bottom 1% of their cross-sectional distribution (two-tailed). Variable definitions are summarized in Appendix 1.

Panel B: Firms Partitioned on with or without Tax Havens (Mean of Subsample Variables)

	Number of Tax Havens > 0 (Group 1: N = 19,928)	Number of Tax Havens = 0 (Group 2: N = 17,583)	Pr > t (t-Test: Group 1 = Group 2)
<i>LnTotalfee</i>	14.470	13.605	<.0001
<i>LnAuditfee</i>	14.287	13.437	<.0001
<i>LnTaxfee</i>	9.087	6.877	<.0001
<i>LisowskyScore</i>	5.963	3.562	<.0001
<i>WilsonScore</i>	0.367	-0.424	<.0001
<i>Size</i>	7.223	6.092	<.0001
<i>ROA</i>	-0.026	-0.059	<.0001
<i>Leverage</i>	0.200	0.191	0.0001
<i>NOL</i>	0.554	0.725	<.0001
<i>ΔNOL</i>	0.092	0.121	<.0001
<i>FI</i>	0.023	0.003	<.0001
<i>PPE</i>	0.211	0.286	<.0001
<i>Intangibles</i>	0.252	0.207	<.0001
<i>R&D</i>	0.086	0.081	0.0053
<i>MTB</i>	4.669	4.061	<.0001
<i>iOWN</i>	0.685	0.582	<.0001
<i>Big4</i>	0.820	0.675	<.0001
<i>Tenure</i>	1.829	1.621	<.0001
<i>Abs(DA)</i>	0.099	0.104	<.0001
<i>Noncash</i>	0.243	0.232	<.0001
<i>Segment</i>	0.561	0.441	<.0001
<i>Restatement</i>	0.130	0.107	<.0001
<i>GC</i>	0.019	0.025	<.0001

Note: All variables, except for dummies, are winsorized at the top and bottom 1% of their cross-sectional distribution (two-tailed). Variable definitions are summarized in Appendix 1. A firm-year is classified in Group 1 if any of the three dummy variables, *HavenD_{Hines}*, *HavenD_{STHA}*, or *HavenD_{Top8}* is not zero.

Table 4 Correlation Matrices of Key Variables (2004-2022, N = 37,511)

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]
[1]LnTotalfee		.985	.592	.448	.836	.632	.794	.189	.408	-.077	-.100	.408	.086	.392	-.103	.114	.506	.555	.372	-.144	.045	.285	.057	-.138
[2]LnAuditfee	.986		.516	.440	.823	.625	.785	.171	.404	.060	.094	.403	.084	.376	.095	.109	.504	.543	.379	.144	.041	.280	.034	.133
[3]LnTaxfee	.453	.386		.246	.528	.387	.475	.194	.196	.122	.093	.323	.032	.251	.046	.086	.265	.367	.247	.081	.072	.193	.105	.103
[4]HavenHines	.41	.407	.302		.330	.270	.341	.076	.072	.027	.024	.359	.076	.144	.159	.083	.158	.181	.165	.012	.051	.104	.030	.025
[5]LisowskyScore	.833	.821	.406	.362		.630	.840	.395	.388	.275	.189	.412	.225	.331	.326	.046	.525	.644	.437	.237	.076	.303	.096	.195
[6]WilsonScore	.544	.538	.253	.250	.727		.747	.407	.214	.119	.055	.359	.156	.182	.136	.121	.397	.383	.307	.132	.002	.196	.051	.113
[7]Size	.807	.798	.364	.384	.832	.636		.361	.315	.157	.104	.370	.132	.295	.091	.387	.572	.501	.381	.085	.083	.192	.045	.179
[8]ROA	.22	.211	.159	.078	.459	.264	.255		.010	.462	.377	.350	.193	.140	.316	.135	.213	.093	.190	.078	.308	.160	.110	.204
[9]Leverage	.296	.290	.096	.047	.271	.123	.229	.012		.014	.033	.083	.310	.320	.262	.063	.225	.175	.161	.131	.056	.172	.023	.054
[10]NOL	-.223	.213	.152	.068	.417	.066	.235	.656	.039		.358	.137	.199	.086	.400	.098	.111	.066	.079	.195	.271	.164	.137	.150
[11]ΔNOL	-.138	.133	.103	.050	.291	.255	.124	.651	.006	.644		.154	.076	.111	.220	.068	.106	.023	.125	.132	.201	.127	.043	.126
[12]FI	.287	.281	.189	.285	.332	.286	.308	.268	.002	.156	.135		.019	.201	.007	.089	.210	.169	.216	.048	.190	.172	.049	.099
[13]PPE	-.008	.006	.036	.116	.150	.106	.069	.099	.303	.121	.061	.011		.176	.398	.089	.041	.041	.070	.163	.017	.112	.037	.058
[14]Intangibles	.275	.257	.124	.100	.217	.116	.213	.078	.359	.089	.038	.042	.210		.102	.029	.234	.120	.140	.101	.025	.247	.032	.074
[15]R&D	-.19	.181	.118	.029	.425	.085	.143	.746	.113	.624	.567	.160	.210	.136		.280	.096	.007	.105	.337	.236	.198	.054	.121
[16]MTB	.07	.070	.030	.041	.015	.002	.214	.106	.183	.136	.109	.024	.057	.028	.164		.128	.127	.042	.233	.158	.113	.005	.019
[17]iOWN	.521	.524	.222	.157	.567	.374	.568	.245	.173	.236	.148	.152	.004	.151	.149	.047		.418	.307	.105	.009	.107	.025	.162
[18]Big4	.55	.542	.318	.180	.657	.332	.494	.107	.134	.127	.055	.102	.003	.072	.019	.055	.454		.310	.071	.072	.087	.102	.106
[19]Tenure	.366	.373	.202	.172	.418	.244	.374	.194	.095	.115	.143	.157	.016	.058	.149	.039	.313	.319		.102	.069	.151	.155	.076
[20]Abs(DA)	-.168	.169	.094	.038	.308	.095	.118	.513	.035	.459	.411	.058	.061	.059	.542	.155	.170	.099	.144		.167	.132	.047	.106
[21]Noncash	-.032	.033	.031	.003	.032	.005	.148	.282	.127	.222	.198	.094	.181	.153	.305	.107	.038	.096	.029	.170		.195	.091	.112
[22]Segment	.298	.291	.152	.124	.304	.176	.196	.192	.103	.191	.147	.118	.028	.155	.249	.099	.118	.090	.144	.145	.141		.053	.075
[23]Restatement	.054	.033	.105	.029	.098	.051	.041	.099	.033	.093	.067	.041	.009	.005	.080	.051	.044	.102	.129	.060	.082	.053		.040
[24]GC	-.135	.130	.091	.030	.227	.171	.180	.287	.043	.269	.184	.095	.030	.026	.192	.049	.182	.106	.075	.160	.091	.074	.040	

Note: The upper triangle of the matrix reports Spearman correlation coefficients, while the lower triangle reports Pearson correlation coefficients. All continuous variables have been winsorized at the top and bottom 1% of their cross-sectional distributions. Variable definitions are provided in Appendix 1. Correlation coefficients are presented in bold if statistically significant at the 1% level (two-tailed).

Table 5 Auditors' Professional Fees and Their Association with Tax Complexity Risk (H1a) and Tax Complexity Risk (H1b) (2004-2022, N = 37,511)

Panel A: Tax Haven Measure: Dummy Variable

		(1) <i>LnTotalFee</i>	(2) <i>LnAuditFee</i>	(3) <i>LnTaxFee</i>	(4) <i>LnTotalFee</i>	(5) <i>LnAuditFee</i>	(6) <i>LnTaxFee</i>
<i>HavenD_{Hines}</i>	H1a	0.186*** (13.74)	0.187*** (13.53)	0.525*** (4.68)	0.232*** (16.50)	0.231*** (16.13)	0.640*** (5.71)
<i>LisowskyRk</i>	H1b	1.879*** (31.31)	1.781*** (29.45)	4.547*** (9.41)			
<i>WilsonRk</i>	H1b				0.462*** (13.16)	0.436*** (12.43)	0.876*** (3.49)
<i>Size</i>		0.236*** (27.83)	0.231*** (26.98)	0.376*** (6.40)	0.354*** (47.47)	0.343*** (45.72)	0.687*** (14.34)
<i>ROA</i>		-0.377*** (-13.00)	-0.373*** (-12.30)	-0.444** (-2.26)	-0.544*** (-14.78)	-0.530*** (-14.10)	-0.776*** (-3.53)
<i>Leverage</i>		0.551*** (17.42)	0.531*** (16.43)	0.845*** (3.24)	0.731*** (21.43)	0.701*** (20.33)	1.272*** (4.86)
<i>NOL</i>		0.013*** (3.42)	0.016*** (3.96)	-0.040 (-1.07)	0.012*** (2.82)	0.015*** (3.46)	-0.041 (-1.08)
<i>ΔNOL</i>		-0.065*** (-5.66)	-0.069*** (-5.75)	-0.056 (-0.60)	-0.195*** (-11.21)	-0.191*** (-10.86)	-0.302*** (-2.65)
<i>FI</i>		0.061 (0.35)	0.088 (0.51)	3.549*** (2.92)	0.639*** (3.55)	0.636*** (3.57)	5.074*** (4.15)
<i>PPE</i>		-0.362*** (-9.34)	-0.354*** (-8.96)	-1.341*** (-4.36)	-0.319*** (-7.97)	-0.313*** (-7.70)	-1.218*** (-3.95)
<i>Intangibles</i>		0.046* (1.74)	-0.020 (-0.74)	0.429** (2.07)	0.072*** (2.60)	0.004 (0.14)	0.496** (2.38)
<i>R&D</i>		-0.033 (-0.58)	-0.020 (-0.35)	-0.145 (-0.32)	-0.703*** (-11.83)	-0.655*** (-10.90)	-1.719*** (-3.76)
<i>MTB</i>		-0.008*** (-8.65)	-0.008*** (-9.03)	0.006 (1.03)	-0.014*** (-13.28)	-0.014*** (-13.44)	-0.011* (-1.71)
<i>iOWN</i>		0.043 (1.42)	0.088*** (2.79)	-0.740*** (-3.22)	0.049 (1.62)	0.094*** (2.97)	-0.726*** (-3.17)
<i>Big4</i>		0.204*** (9.34)	0.224*** (9.87)	0.884*** (4.57)	0.582*** (30.45)	0.582*** (29.28)	1.800*** (10.48)
<i>Tenure</i>		-0.020**	-0.020**	0.534***	-0.001	-0.002	0.582***

	(-2.52)	(-2.49)	(7.47)	(-0.13)	(-0.25)	(8.09)
<i>Abs(DA)</i>	-0.237***	-0.313***	0.272	-0.280***	-0.354***	0.163
	(-5.44)	(-7.04)	(0.76)	(-6.10)	(-7.61)	(0.45)
<i>Noncash</i>	0.418***	0.433***	0.364	0.570***	0.576***	0.764*
	(7.44)	(7.58)	(0.84)	(9.78)	(9.77)	(1.76)
<i>Segment</i>	0.115***	0.115***	0.142	0.153***	0.151***	0.239**
	(8.95)	(8.97)	(1.47)	(11.45)	(11.38)	(2.46)
<i>Restatement</i>	0.076***	0.068***	0.014	0.141***	0.129***	0.176
	(4.63)	(3.94)	(0.12)	(8.36)	(7.34)	(1.45)
<i>GC</i>	0.117***	0.115***	-0.126	0.155***	0.152***	-0.014
	0.236***	0.231***	0.376***	(4.57)	(4.32)	(-0.06)
Industry and Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	79.17%	77.91%	22.44%	79.17%	77.91%	22.44%

Note: Variable definitions are summarized in Appendix 1. All continuous variables are winsorized at the top and bottom 1% of their cross-sectional distribution. The control set is the same as that in Table 5. *, **, *** denote statistical significance at 10%, 5%, and 1% levels, respectively (two-tailed). *t*-statistics presented in parentheses are estimated based on standard errors clustered by firm.

Panel B: Tax Haven Measure: Unique Haven Counts

		(1)	(2)	(3)	(4)	(5)	(6)
		<i>LnTotalFee</i>	<i>LnAuditFee</i>	<i>LnTaxFee</i>	<i>LnTotalFee</i>	<i>LnAuditFee</i>	<i>LnTaxFee</i>
<i>HavenHines</i>	H1a	0.100*** (17.58)	0.097*** (16.66)	0.287*** (7.11)	0.121*** (20.86)	0.116*** (19.83)	0.337*** (8.38)
<i>LisowskyRk</i>	H1b	1.803*** (29.98)	1.711*** (28.13)	4.323*** (8.92)			
<i>WilsonRk</i>	H1b				0.445*** (13.02)	0.421*** (12.24)	0.829*** (3.31)
<i>Size</i>		0.225*** (27.38)	0.221*** (26.49)	0.347*** (5.87)	0.335*** (46.31)	0.325*** (44.48)	0.635*** (12.97)
<i>ROA</i>		-0.356*** (-12.44)	-0.353*** (-11.78)	-0.382* (-1.95)	-0.512*** (-14.23)	-0.501*** (-13.56)	-0.686*** (-3.14)
<i>Leverage</i>		0.545*** (17.52)	0.524*** (16.49)	0.826*** (3.17)	0.714*** (21.37)	0.685*** (20.23)	1.226*** (4.68)
<i>NOL</i>		0.012*** (3.20)	0.015*** (3.74)	-0.043 (-1.16)	0.011*** (2.60)	0.014*** (3.24)	-0.044 (-1.18)
<i>ΔNOL</i>		-0.062*** (-5.44)	-0.066*** (-5.55)	-0.045 (-0.49)	-0.186*** (-10.95)	-0.183*** (-10.60)	-0.276** (-2.43)
<i>FI</i>		-0.109 (-0.66)	-0.069 (-0.42)	3.056** (2.53)	0.410** (2.38)	0.424** (2.49)	4.424*** (3.65)
<i>PPE</i>		-0.330*** (-8.60)	-0.324*** (-8.28)	-1.248*** (-4.06)	-0.285*** (-7.17)	-0.281*** (-6.96)	-1.120*** (-3.63)
<i>Intangibles</i>		0.050* (1.92)	-0.017 (-0.64)	0.440** (2.13)	0.074*** (2.78)	0.006 (0.23)	0.504** (2.42)
<i>R&D</i>		-0.012 (-0.22)	0.001 (0.01)	-0.088 (-0.19)	-0.647*** (-11.10)	-0.602*** (-10.16)	-1.561*** (-3.43)
<i>MTB</i>		-0.007*** (-8.38)	-0.008*** (-8.80)	0.007 (1.22)	-0.013*** (-12.93)	-0.014*** (-13.13)	-0.008 (-1.34)
<i>iOWN</i>		0.083*** (2.78)	0.126*** (4.08)	-0.627*** (-2.73)	0.097*** (3.23)	0.139*** (4.49)	-0.593*** (-2.60)
<i>Big4</i>		0.226*** (10.40)	0.244*** (10.78)	0.948*** (4.90)	0.590*** (31.30)	0.590*** (29.98)	1.823*** (10.65)
<i>Tenure</i>		-0.024*** (-3.00)	-0.023*** (-2.94)	0.524*** (7.33)	-0.006 (-0.77)	-0.007 (-0.86)	0.567*** (7.90)
<i>Abs(DA)</i>		-0.228***	-0.304***	0.297	-0.268***	-0.343***	0.199

	(-5.29)	(-6.91)	(0.83)	(-5.91)	(-7.45)	(0.56)
<i>Noncash</i>	0.423***	0.437***	0.377	0.568***	0.575***	0.758*
	(7.62)	(7.74)	(0.87)	(9.89)	(9.87)	(1.75)
<i>Segment</i>	0.115***	0.115***	0.142	0.151***	0.149***	0.233**
	(9.14)	(9.13)	(1.47)	(11.57)	(11.48)	(2.41)
<i>Restatement</i>	0.081***	0.073***	0.030	0.144***	0.133***	0.185
	(5.00)	(4.28)	(0.24)	(8.65)	(7.60)	(1.53)
<i>GC</i>	0.106***	0.106***	-0.157	0.141***	0.139***	-0.054
	(3.33)	(3.18)	(-0.69)	(4.20)	(4.00)	(-0.24)
Industry and Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	79.62%	78.29%	22.62%	77.91%	76.72%	22.11%

Table 6: Two-Stage Least Square Analysis
Panel A: First Stage – Tax Haven Instrument Estimations

	(1)	(2)
	$HavenD_{Hines}$	$Haven_{Hines}$
$HavenINDD_{Hines}$	0.983*** (22.90)	
$HavenIND_{Hines}$		0.967*** (16.79)
Control Variables	Yes	Yes
Adj. R ²	18.97%	26.12%
Kleibergen-Paap rk Wald F statistic	524.3	281.8
Kleibergen-Paap rk LM statistic	350.8	206

Panel B: Second Stage - *Haven*

	(1)	(2)	(3)	(4)	(5)	(6)
	$LnTotalFee$	$LnAuditFee$	$LnTaxFee$	$LnTotalFee$	$LnAuditFee$	$LnTaxFee$
Instrument Variable:	$Haven\ INDD_{Hines}$			$Haven\ IND_{Hines}$		
$\widehat{HavenD}_{Hines}$	0.360*** (5.31)	0.339*** (5.03)	2.925*** (5.49)			
$\widehat{Haven}_{Hines}$				0.143*** (5.11)	0.138*** (4.93)	1.059*** (4.78)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	75.88%	74.79%	17.96%	75.75%	74.66%	18.03%

Note: In the first stage, we construct two instrumental variables. $HavenINDD_{Hines}$ captures the industry-level propensity to use tax havens and is computed annually as the mean of our primary tax-haven variable, variable $HavenD_{Hines}$, within each two-digit SIC industry. $HavenIND_{Hines}$ is constructed similarly using the alternative count-based, $Haven_{Hines}$. $HavenD_{Hines}(Haven_{Hines}) = \beta_0 + \beta_1 HavenINDD_{Hines}(HavenIND_{Hines}) + Controls + \varepsilon_{it}$. In the second stage, we replace original tax-haven variables with its fitted value from the first state and estimate the regression corresponding to our main specification: $Fees = \beta_0 + \beta_1 \widehat{HavenD}_{Hines}(\widehat{Haven}_{Hines}) + Controls + \varepsilon_{it}$.

Variable definitions are summarized in Appendix 1. All continuous variables are winsorized at the top and bottom 1% of their cross-sectional distribution. *, **, *** denote statistical significance at 10%, 5%, and 1% levels, respectively (two-tailed). *t*-statistics presented in parentheses are estimated based on standard errors clustered by firm.

Table 7 Granger Causality Analysis – Supplementary Analysis to Confirm Lead-Lag Association

Dependent Variables	Models	δ_1	$\delta_1 + \delta_2$	F-value	p-value
<i>LnTotalFee</i>	<i>3a (F-test: $\delta_1=0$)</i>	0.0444		125.00	<0.0001
	<i>3b (F-test: $\delta_1+\delta_2=0$)</i>		0.0430	107.10	<0.0001
<i>LnAuditFee</i>	<i>3a (F-test: $\delta_1=0$)</i>	0.0421		116.40	<0.0001
	<i>3b (F-test: $\delta_1+\delta_2=0$)</i>		0.0423	107.10	<0.0001
<i>LnTaxFee</i>	<i>3a (F-test: $\delta_1=0$)</i>	0.1730		17.51	<0.0001
	<i>3b (F-test: $\delta_1+\delta_2=0$)</i>		0.1730	16.29	0.0001

Note: Variable definitions are summarized in Appendix 1. All continuous variables are winsorized at the top and bottom 1% of their cross-sectional distribution. *, **, *** denote statistical significance at 10%, 5%, and 1% levels, respectively (two-tailed). *t*-statistics presented in parentheses are estimated based on standard errors clustered by firm.

Table 8 The Interaction Effect of Tax Haven Engagement and Tax Fraud on Audit and APTS Fees (2004-2022, N = 37,511)

Panel A: Tax Haven Measure: Dummy Variable

		(1) <i>LnTotalFee</i>	(2) <i>LnAuditFee</i>	(3) <i>LnTaxFee</i>	(4) <i>LnTotalFee</i>	(5) <i>LnAuditFee</i>	(6) <i>LnTaxFee</i>
<i>HavenD_{Hines}</i>	H1a	0.033 (1.33)	0.061** (2.35)	-0.857*** (-4.25)	0.102*** (4.39)	0.113*** (4.74)	-0.265 (-1.42)
<i>LisowskyRk</i>	H1b	1.690*** (25.14)	1.623*** (23.74)	2.829*** (5.26)			
<i>WilsonRk</i>	H1b				0.336*** (8.03)	0.322*** (7.63)	0.001 (0.00)
<i>HavenD_{Hines}*LisowskyRk</i>	H2	0.321*** (6.50)	0.266*** (5.27)	2.906*** (8.04)			
<i>HavenD_{Hines}*WilsonRk</i>	H2				0.273*** (6.03)	0.248*** (5.39)	1.889*** (5.97)
Control Variables		Yes	Yes	Yes	Yes	Yes	Yes
Industry and Year Dummies		Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²		79.29%	77.99%	22.92%	77.39%	76.26%	22.08%

Note: Variable definitions are summarized in Appendix 1. All continuous variables are winsorized at the top and bottom 1% of their cross-sectional distribution. The control set is the same as that in Table 5. *, **, *** denote statistical significance at 10%, 5%, and 1% levels, respectively (two-tailed). *t*-statistics presented in parentheses are estimated based on standard errors clustered by firm.

Panel B: Tax Haven Measure: Unique Haven Counts

		(1)	(2)	(3)	(1)	(2)	(3)
		<i>LnTotalFee</i>	<i>LnAuditFee</i>	<i>LnTaxFee</i>	<i>LnTotalFee</i>	<i>LnAuditFee</i>	<i>LnTaxFee</i>
<i>Haven_{Hines}</i>	H1a	0.042*** (3.71)	0.049*** (4.15)	-0.171* (-1.80)	0.075*** (7.00)	0.076*** (6.87)	0.065 (0.74)
<i>LisowskyRk</i>	H1b	1.719*** (27.35)	1.643*** (25.69)	3.671*** (7.24)			
<i>WilsonRk</i>	H1b				0.388*** (10.37)	0.370*** (9.79)	0.488* (1.79)
<i>Haven_{Hines}*LisowskyRk</i>	H2	0.088*** (5.20)	0.071*** (4.07)	0.687*** (5.44)			
<i>Haven_{Hines}*WilsonRk</i>	H2				0.072*** (4.48)	0.063*** (3.85)	0.427*** (3.63)
Control Variables		Yes	Yes	Yes	Yes	Yes	Yes
Industry and Year Dummies		Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²		79.69%	78.34%	22.82%	77.96%	76.76%	22.19%

Note: Variable definitions are summarized in Appendix 1. All continuous variables are winsorized at the top and bottom 1% of their cross-sectional distribution. The control set is the same as that in Table 5. *, **, *** denote statistical significance at 10%, 5%, and 1% levels, respectively (two-tailed). *t*-statistics presented in parentheses are estimated based on standard errors clustered by firm.

Table 9 The Interaction Effect of Tax Haven Engagement and Tax Fraud on Audit and APTS fees – Alternative Tax Haven Measures (2004-2022, N = 37,511)

Panel A: Tax Haven Measure: Dummy Variable

		(1) <i>LnTotalFee</i>	(2) <i>LnAuditFee</i>	(3) <i>LnTaxFee</i>	(4) <i>LnTotalFee</i>	(5) <i>LnAuditFee</i>	(6) <i>LnTaxFee</i>
<i>HavenD_{STHA}</i>	H1a	0.030 (1.20)	0.050* (1.95)	-0.675*** (-3.29)			
<i>HavenD_{top8}</i>	H1a				0.031 (1.22)	0.049* (1.87)	-0.581*** (-2.79)
<i>LisowskyRk</i>	H1b	1.734*** (26.41)	1.655*** (24.74)	3.248*** (6.15)	1.717*** (26.66)	1.640*** (25.10)	3.438*** (6.59)
<i>HavenD_{STHA}*LisowskyRk</i>	H2	0.293*** (6.14)	0.255*** (5.20)	2.468*** (6.97)			
<i>HavenD_{top8}*LisowskyRk</i>	H2				0.327*** (6.78)	0.287*** (5.83)	2.218*** (6.27)
Control Variables		Yes	Yes	Yes	Yes	Yes	Yes
Industry and Year Dummies		Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²		79.21%	77.92%	22.79%	77.39%	76.26%	22.08%

Note: Variable definitions are summarized in Appendix 1. All continuous variables are winsorized at the top and bottom 1% of their cross-sectional distribution. The control set is the same as that in Table 5. *, **, *** denote statistical significance at 10%, 5%, and 1% levels, respectively (two-tailed). *t*-statistics presented in parentheses are estimated based on standard errors clustered by firm.

Panel B: Tax Haven Measure: Unique Haven Counts

		(1) <i>LnTotalFee</i>	(2) <i>LnAuditFee</i>	(3) <i>LnTaxFee</i>	(4) <i>LnTotalFee</i>	(5) <i>LnAuditFee</i>	(6) <i>LnTaxFee</i>
<i>Haven_{STHA}</i>	H1a	0.047*** (3.47)	0.057*** (4.03)	-0.269** (-2.39)			
<i>Haven_{top8}</i>	H1a				0.058*** (3.76)	0.069*** (4.28)	-0.211 (-1.59)
<i>LisowskyRk</i>	H1b	1.739*** (27.93)	1.657*** (26.17)	3.775*** (7.48)	1.727*** (27.71)	1.650*** (26.05)	3.749*** (7.40)
<i>Haven_{STHA}*LisowskyRk</i>	H2	0.096*** (4.83)	0.078*** (3.79)	0.831*** (5.66)			
<i>Haven_{top8}*LisowskyRk</i>	H2				0.117*** (5.04)	0.095*** (3.97)	0.882*** (4.96)
Control Variables		Yes	Yes	Yes	Yes	Yes	Yes
Industry and Year Dummies		Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²		79.58%	78.27%	22.73%	79.67%	78.32%	22.75%

Note: Variable definitions are summarized in Appendix 1. All continuous variables are winsorized at the top and bottom 1% of their cross-sectional distribution. The control set is the same as that in Table 5. *, **, *** denote statistical significance at 10%, 5%, and 1% levels, respectively (two-tailed). *t*-statistics presented in parentheses are estimated based on standard errors clustered by firm.

Table 10 Additional Analysis: The Impact of Increasing and Decreasing of Tax Havens Counts in 10-K Disclosures on the Weight of APTS Fees (2004-2022, N = 37,511)

	(1) <i>Tax_Perc</i> <i>Total</i>	(2) <i>Tax_Audit</i> <i>Ratio</i>	(3) <i>Tax_Perc</i> <i>Total</i>	(4) <i>Tax_Audit</i> <i>Ratio</i>	(5) <i>Tax_Perc</i> <i>Total</i>	(6) <i>Tax_Audit</i> <i>Ratio</i>
<i>HavenIncrease</i>	0.004** (2.02)	0.008** (2.39)			0.004** (2.07)	0.008** (2.38)
<i>HavenDecrease</i>			0.001 (0.64)	0.001 (0.17)	0.002 (0.84)	0.002 (0.41)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Ind. & Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	37,511	37,511	37,511	37,511	37,511	37,511
Adj. R ²	0.0833	0.0809	0.0832	0.0808	0.0833	0.0809

Note: Variable definitions are summarized in Appendix 1. All continuous variables are winsorized at the top and bottom 1% of their cross-sectional distribution. The control set is the same as that in Table 5. *, **, *** denote statistical significance at 10%, 5%, and 1% levels, respectively (two-tailed). *t*-statistics presented in parentheses are estimated based on standard errors clustered by firm.

Table 11 Additional Analysis: The Impact of Adding Tax Services on the Proportion of APTS fees (2004-2022, N = 37,511)

	(1) <i>Tax_Perc Total</i>	(2) <i>Tax_Audit Ratio</i>
<i>HavenD_{Hines}</i>	0.165*** (6.76)	0.088*** (7.80)
<i>HavenD_{Hines}*Tax_Service_Dummy</i>	0.100*** (2.80)	
<i>Haven_{Hines}*Tax_Service_Dummy</i>		0.032** (2.17)
<i>Tax_Service_Dummy</i>	0.055** (2.05)	0.069*** (2.73)
Control Variables	Yes	Yes
Ind. & Year Dummies	Yes	Yes
N	15,211	15,211
Adj. R ²	0.7422	0.7458

Note: The subsample includes only the firm-years if a firm started an auditor's contract without using its tax service, but added tax service during the same auditor's tenure. *Tax_Service_Dummy* equals 1 since the year when the tax service is added, 0 otherwise. Other variable definitions are summarized in Appendix 1. All continuous variables are winsorized at the top and bottom 1% of their cross-sectional distribution. The control set is the same as that in Table 5. *, **, *** denote statistical significance at 10%, 5%, and 1% levels, respectively (two-tailed). *t*-statistics presented in parentheses are estimated based on standard errors clustered by firm.