IRS Officials' Private Stock Holdings and Corporate Tax Outcomes

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Abstract: We investigate the information content of personal stock trades by IRS officials. We collect data on over five thousand IRS officials' personal financial transactions and document substantial trading activity in individual stocks by officials across IRS departments. We find that IRS officials' trades, predominantly their purchases, generate positive abnormal returns on average, consistent with officials' information being not yet fully impounded into stock price. Next, we examine whether stock trades by these officials are associated with the firm's future tax outcomes. For a given firm, we find IRS officials' purchases predict favorable tax outcomes in the following year: decreases in tax reserves and specifically lapses in the statute of limitations. We also find that IRS officials' sales predict large, unfavorable tax settlements. These findings suggest that IRS officials are able to trade on information involving taxes and that IRS officials' trades are associated with future tax outcomes for firms.

I. INTRODUCTION

We examine the information content of personal stock trades of high-ranking officials of the Internal Revenue Service ("IRS officials" hereafter). Recent anecdotes suggest that some government officials have engaged in a significant number of securities transactions that appear motivated by private information (Ballhaus et al. 2022). However, government officials from different agencies have varying levels of expertise and access to firm-specific information. The IRS is unique because all firms that operate in the U.S. are required to provide the agency with detailed financial information, and its mission is focused on information related to federal income tax. Indeed, a growing literature documents the importance of the IRS as a regulator in capital markets (El Ghoul et. al 2011; Gallemore and Jacob 2020; Hanlon et. al 2014; Hoopes et al. 2012; Yost and Shu 2022). Despite the importance of the IRS, little is known about the internal processes and disclosure policies of the IRS relating to the access, use, and production of material firm-specific information. Evaluating the information content of IRS official's trades is important as legislators and regulators manage the disclosure of firm-specific outcomes and policy changes, ethical guidelines, and the development of public trust.

We believe IRS officials likely possess material firm-specific information from at least three sources. First, IRS officials have access to corporate tax returns, which are not publicly disclosed but contain valuable information about firm's operations and organizational structure (Demere 2023). Second, IRS officials are privy to information on enforcement decisions of corporate taxpayers prior to their public disclosure. Third, IRS officials have advanced notice of internal policy adjustments and initiatives that may lead to changes in scrutiny for certain firms and industries. The enforcement and internal policy-related decisions are material to the firm and are announced to the public by either the IRS or through the firm's financial reporting on a specific

day in the future. To the extent IRS officials possess material firm-specific information, we expect their personal financial transactions to be associated with positive abnormal returns and future tax outcomes.

We construct a novel dataset of over five thousand IRS official's private stock holdings using newly public financial disclosure forms of senior officials in federal government obtained from the Wall Street Journal. We begin by analyzing trading patterns to provide preliminary evidence on when IRS officials trade. We find little evidence that the trades of IRS officials increase around earnings announcements, consistent with the notion that IRS officials do not trade any differently upon public disclosure of a firm's overall performance. In contrast, we find a six-fold increase in stock purchases (but not sales) surrounding the surprise election of Donald Trump in 2016 whose platform committed to significant corporate tax reform (Armstrong, Glaeser and Hoopes 2024; Gallemore, Jacob, Hollander and Zheng 2024), suggesting that IRS officials' actively trade and that their trades may be correlated with tax-related events.

Next, we assess the extent to which IRS stock transactions generate positive abnormal returns, suggesting the information possessed by IRS officials is value relevant to the market. We find that IRS stock trades, predominantly their purchases, generate long window abnormal returns of 2.0 – 3.5 percent in the subsequent 60 to 120 days after the trade.[1] We interpret these results as evidence that IRS officials possess value relevant information that the market has yet to fully impound into stock price.

Additionally, we consider the extent to which IRS officials' trading is associated with subsequent corporate tax outcomes. While market participants may be aware of overall changes

[1] The magnitude of our findings is comparable to prior literature on insider trading by other members of the government. For instance, Belmont (2022) finds up to a 9.9% one-year buy and hold return for transactions by Congressional representatives.

to a firm's profitability or operations, IRS officials are most likely to be aware of and make decisions regarding uncertain tax positions through their audit selection and investigation process. We find IRS officials' stock purchases are informative about subsequent decreases in firms' reserves for uncertain tax positions. Specifically, firms are 23% more likely to decrease UTBs in the year following a purchase by an IRS official. Likewise, firms are 15% more likely to benefit from a lapse in the statute of limitations after an IRS official's purchase. Additionally, we find that IRS officials' sales are positively associated with subsequent large, unfavorable tax settlements. We find that firms are 48% more likely to observe an unfavorable tax settlement in the year following an IRS official's sale. These findings are consistent with IRS officials possessing information regarding subsequent changes in tax uncertainty.

We also perform cross-sectional analyses of the information content of IRS trades using the official's role within the IRS, coinciding executive insider stock transactions, and a firm-year level measure of IRS audit probability. A possible limitation of our study is that IRS officials' trading may be correlated with their individual ethical compliance requirements; namely that IRS officials need to dispose of related stock holdings prior to performing an audit. To the extent this is true, we should only find that stock trades (particularly sales) of IRS officials more directly involved in audits (i.e., for those officials working in the Large Business and International (LB&I) division) are informative about subsequent tax outcomes. In contrast, we fail to find that being part of the LB&I division moderates the association between IRS officials' trades and subsequent tax outcomes.[2] This suggests that both IRS officials without direct audit oversight as well as those actively engaged in tax administration possess firm-specific information. Moreover, given that

[2] Also inconsistent with IRS trading being primarily driven by ethical guidelines, we find significantly positive abnormal returns following IRS purchases. There are no IRS regulations compelling officials to purchase stock.

non-LB&I official's trades predict tax outcomes, it is unlikely that compliance with ethical standards exclusively drives our results.

Next, we investigate the extent to which our findings are a result of information flow from the firm to the IRS versus information flow from the IRS to the firm (e.g., audit selection). We find some evidence that IRS trades coincide with higher corporate insider trading volume, suggesting that at least part of the abnormal returns earned by IRS officials are due to information produced by the IRS and communicated to firm insiders. We also find that IRS purchases predict subsequent decreases in UTB balances and lapses in statutes of limitations when such purchases coincide with corporate insiders. This result is consistent with IRS purchases not only being associated with information learned through examining tax returns, but also information produced through IRS decisions related to tax enforcement.

Lastly, we examine cross-sectional variation in the likelihood that IRS officials possess firm-specific, tax-related information. In particular, we examine whether audit probability moderates the relation between IRS stock sales and decreases in uncertain tax reserves. The results from this test suggest that IRS officials' stock sales are negatively related to subsequent decreases in UTB reserves among firms when IRS officials are more likely to have access to firm-specific information due to the audit process.

Prior research suggests that IRS scrutiny reduces tax avoidance and increases government revenue (Hoopes et al. 2012). IRS scrutiny also benefits investors on multiple dimensions, including curtailing opportunistic behaviors by management (Yost & Shu 2022), improving financial reporting quality (Hanlon et al. 2014), reducing cost of equity capital (El Ghoul et. al 2011) and enhancing lending for small and mid-sized businesses (Gallemore & Jacob 2020). Collectively, the findings from prior literature suggest that IRS monitoring plays a critical role in

improving the information environment in capital markets. We contribute to this growing literature by documenting that IRS officials privately participate in capital markets, and that their trades contain information regarding subsequent tax outcomes for firms.

We document that the IRS as a regulator (Hoopes et. al 2012) is not merely a consumer of information produced by the firm, but also a producer of information that is value relevant but yet to be fully priced by the market. Prior research suggests legislators benefit from trading on firm-specific information in some circumstances (Tahoun 2014; Karadas 2019) but that regulation that mandates timely disclosure of such trading prevents them from beating the market (Belmont et al. 2022). However, anecdotes of questionable trading activity among unelected government officials have only recently been documented in the popular press (Ballhaus et al. 2022). We add new evidence to this line of literature by empirically examining the trading activity of high-ranking officials from a specific agency (i.e., the IRS) with unique access to firm-specific tax information and with unique decision-making authority. Our findings suggest that IRS officials may have access to and likely produce meaningful private information and that this information is related to future tax outcomes. We emphasize that we do not, nor cannot – nor do we attempt to – determine if the IRS officials' trades in our sample violate ethical guidelines. We merely document that IRS officials' trades are informative and associated with subsequent tax outcomes, potentially suggesting that prompt disclosure of IRS officials' trading activity, similar to those in elected office or corporate insiders, may be beneficial to external stakeholders.

Additionally, we contribute to the literature that investigates the relation between government agencies and market activity, particularly the role of the IRS in capital markets. Armstrong, Glaeser, and Hoopes (2024) find evidence suggesting that firms' exposure to government agencies is associated with profitability. Related to tax, they find that IRS budget cuts

are associated with reduced exposure to the IRS and increased tax planning for previously regulated firms. We add to this literature by providing evidence suggesting that internal processes and (lack of) disclosure policies of regulators produce valuable information for external stakeholders, which could be especially relevant in an era where IRS audits are more strategically selected and have more severe consequences (Nessa et al. 2020; IRS 2024). These findings shed light on the relationship between taxpayers, the IRS, and advocates for additional oversight regarding the stock ownership of IRS officials as well as the timeliness of IRS disclosures to public capital markets (Lenter et al. 2003; Morris 2015; Everson 2008).

Finally, we contribute to the literature regarding tax uncertainty. An extensive literature investigates the determinants of uncertain tax positions (Dyreng, Hanlon, and Maydew 2019; Ciconte et al. 2023), however, little is known regarding the role IRS officials play in this information environment. Our findings show that information available to IRS officials through the firms and IRS decision making, is incrementally useful in predicting subsequent changes in tax uncertainty.

II. RELATED LITERATURE AND HYPOTHESIS DEVELOPMENT

2.1 Government Insiders, Corporate Insiders, and Private Information

Evidence on government trading on securities is sparse, primarily due to lack of easily accessible and public data. However, the underlying mechanisms through which government agents obtain and process information are similar to those of corporate insiders. Trading among executives represents a salient agency problem, whereby executives profit at the expense of shareholders due to private information (Jagolinzer 2009; Lee, Lemmon, Li, Sequeria 2014). Executives exploit the private information they possess to earn abnormal returns, with insider transactions resulting in abnormally high trading volumes and increased bid-ask spreads (Cornell

and Sirri 1992; Kacperczyk and Pagnotta 2019; Kim and Verrecchia 1997). Prior literature finds that executives engage in trading around several different types of transactions and events, including securitizations (Ryan et al. 2016), the receipt of a comment letter (Dechow et al. 2016), and downward earnings guidance (Billings and Buslepp 2016).

In addition to the literature investigating the determinants and consequences of corporate executive insider transactions, there is also a line of literature that investigates elected representatives' trading behavior (Ziobrowski et al. 2004; Belmont et al. 2022; Tahoun 2014; Brown et al. 2015). For trades between 1993 and 1998, Ziobrowski et al. (2004) find that a portfolio mimicking Senators' stock purchases outperforms the market, consistent with legislators possessing private information. In contrast, after the STOCK Act of 2012, which expanded Congressional disclosure requirements of stock transactions, Belmont et al. (2022) find no evidence of superior investment performance, either in aggregate or among Senators specifically accused of insider trading.

Tahoun (2014) tests a specific channel of Congressional information and examines the relationship between stock ownership by U.S. Congress members and firms that contribute to their election campaigns. The study finds that politicians own more stock in contributing firms compared to non-contributors and that firms with stronger ties through ownership and contributions receive more government contracts and reap substantial financial gains. Moreover, contributing firms suffer negative cumulative abnormal returns after legislators sell shares, suggesting elected officials trade on private information regarding government contracts. Overall, evidence from prior literature suggests that, unlike corporate executives, the performance of elected officials' private stock holdings may not outperform the market on average but does so when officials either have access to private information or when their regulatory or legislative

decisions relate to the performance of their portfolio companies. Extending these findings to our setting, we argue that regulators with the ability to make "policy-related" decisions, like IRS officials (OGE 2024), may have the ability to outperform the market if this information is not immediately available to the public.

2.2 IRS Enforcement

As the federal tax authority in the U.S., the IRS is the main regulatory body tasked with managing the efficient and equitable collection of taxes. Hoopes et al. (2012) find that the probability of an IRS audit is negatively associated with tax planning, suggesting executives are aware of the costs imposed by IRS scrutiny and curtail their use of tax avoidance strategies. IRS enforcement also impacts several other outcomes for firms including reduced managerial self-dealing (Yost & Shu 2022); enhancing financial reporting quality (Hanlon et al. 2014); and facilitating lending for small and medium-sized businesses (Gallemore & Jacob 2020).

IRS officials may possess important firm-specific information about corporate taxpayers for several reasons. First, the IRS's enforcement function requires the collection of information about the firm. Consistent with this, IRC Section 6103 generally prohibits any public disclosure of tax-related information by IRS employees. Second, filing and auditing a tax return is a lengthy process. The duration of time to file a tax return, be selected for audit, propose deficiencies, and ultimately conclude an audit, averages approximately five years and in some cases can last up to nine years (Gleason and Mills 2002; Ciconte et al. 2023). During this prolonged period, while firms obtain a substantial amount of information concerning the IRS's selection of tax positions and proposed deficiencies, they publicly disclose very little about the ongoing tax investigations, creating a setting with a potentially high amount of information asymmetry.

Third, corporate tax returns contain information not typically disclosed by firms to market participants (McGill and Outslay 2004). While every firm must disclose a tax footnote in their financial statements, tax returns contain additional information which may never become public, such as the disaggregation of uncertain tax positions, the composition of book-tax differences, precise information on corporate business structures, relevant information on the jurisdictions in which a firm operates, and transfer pricing policies between jurisdictions (Sawyers, Baumer, and Chumney 2016). Consistent with the existence of material information asymmetry, multiple stakeholders advocate for the public disclosure of tax return information (Lenter et al. 2003; Morris 2015; Everson 2008). Also, consistent with tax return information being informative to investors, Demere (2023) exploits a unique institutional setting where lenders in the syndicated loan market obtain tax returns from borrowers and ultimately impound the information into the pricing of stocks.

Finally, the IRS interacts with firms across multiple dimensions. For instance, the IRS regularly scrutinizes firms' publicly filed financial statements (Bozanic et al. 2017). Given the opaque and extended process of auditing tax returns as well as the extensive nature of information contained in tax filings, we argue that IRS officials possess firm-specific information which has either yet to be disclosed or will never be disclosed to external stakeholders. Moreover, given existing evidence that insiders make trades informed by firm-specific information (Lakonishok and Lee 2001) and, in some cases, elected legislators craft their portfolios consistent with their possession of firm-specific information (Ziobrowski et al. 2004; Tahoun 2014), we argue that IRS officials' stockholdings likely reflect information yet to be made public.

While IRS officials may consider their firms-specific information when executing stock transactions, such a hypothesis does not necessarily require the generation of abnormal returns.

Indeed, if external parties obtain the relevant tax information through alternative mechanisms (e.g. such as in Demere (2023) or through voluntary disclosure), IRS officials are unlikely to beat the market.

However, we argue that the trades of IRS officials are likely to be associated with positive, abnormal returns because of the complexity of the tax-related information environment, and the significant role of IRS decisions in determining changes in future tax uncertainty. Prior literature documents the opacity of the tax information environment. Recent evidence suggests the complexity of tax regulation is associated with increased market uncertainty and information asymmetry, corporate insider trading profitability (Campbell et. al 2024). First, forecasting tax-based earnings information is more difficult for analysts relative to other accounting information (Kim et al., 2020). Moreover, tax-related information disclosed in financial statements is often mispriced, including the tax expense itself (Thomas and Zhang 2011) and book-tax differences (Chi et al. 2014). The difficulty in forecasting tax-related information and the mispricing of tax-related information suggests a plausible setting where trading by IRS officials may be informative. Second, the filing and audit process of tax returns is both lengthy and opaque (Gleason and Mills 2002; Ciconte et al. 2023). The complete set of information provided in the tax return is rarely, if ever, fully disclosed to external stakeholders (Sawyers, Baumer, and Chumney 2016).

While U.S. law prohibits federal officials from holding stock that may indicate potential conflicts of interest, these rules have "several exemptions that allow officials to hold stock that conflicts with their agency's work" and in practice, "agencies sometimes simply waive the rules" (Ballhaus et al. 2022). While the IRS requires the disclosure of officials' stock positions, such

disclosures are not generally made public and face little scrutiny (Ballhaus et al. 2022).[3] Therefore, we offer our first hypothesis as follows:

H1: IRS trades generate positive abnormal returns.

Next, we consider the extent to which IRS officials' trading behavior predicts subsequent changes in tax uncertainty. Among elements of public financial statements, changes in tax uncertainty are directly related to firm interactions with the IRS and provides a unique setting to study the information content of personal trades by IRS officials. Corporate tax uncertainty arises from at least three sources: firms' tax avoidance[4], tax enforcement decisions, and changing or temporary tax legislation. IRS officials receive information from tax returns and detailed descriptions of tax reserves from Schedule UTP that provide context to a given firm's tax avoidance. Additionally, IRS decision-making partly determines tax enforcement decisions for a given firm, both driven by the underlying aggressiveness of a firm's tax position and through broader IRS rulemaking that may benefit or adversely impact how a firm's uncertain tax positions convert to tax payments. Therefore, we argue that IRS officials' trades may contain information about subsequent changes in tax uncertainty.

Similar to elected officials being privy to future changes in government contracting (Tahoun 2014) and insiders possessing information about subsequent transactions (Ryan et al. 2016; Dechow et al. 2016; Billings and Buslepp 2016), we expect the trades of IRS officials to be

[3] The Wall Street Journal notes "investing by federal agency officials has drawn far less public attention than that of lawmakers" primarily because these disclosure documents are "only available upon written request to each agency" and that even when federal officials are found to have violated rules, "they often receive light punishment if any" (Ballhaus et al. 2022).

[4] For example, Dyreng et al. (2019) find aggressive tax avoidance predicts uncertain tax reserves, and to a greater extent when firms utilize tax havens and frequently file for patents. Similarly, Towery (2017) find the most common items reported on Schedule UTP include business deductions, international transfer pricing, and the research and experimentation credit. Combined, these results suggest that tax aggressiveness as well as certain types of transactions are associated with more tax uncertainty.

associated with subsequent changes in tax uncertainty. Therefore, we state our second hypothesis as follows:

> *H2: IRS purchases (sales) are positively (negatively) associated with a firm's subsequent favorable tax uncertainty outcomes.*

Next, we perform cross-sectional analyses to examine the direction of information flows between IRS officials and the firm. We examine how the information content of IRS trades with regards to tax uncertainty differs for: (1) IRS officials that work in the LB&I division, (2) firms where corporate insiders also trade around the same date as IRS officials and (3) firms that are incrementally more exposed to IRS audits.

First, we consider the division for which an IRS official works. Specifically, LB&I officials are directly involved in the audit process of firms with assets greater than or equal to $10 million.[5] One limitation of our data is the possibility that LB&I officials may sell their holdings based on their individual involvement in a firm's audit. Thus, if our findings are concentrated in LB&I officials, they may be partially attributable to officials directly involved in audits liquidating their positions to comply with ethical guidelines (Ballhaus et al. 2022). However, if trades of IRS officials in other divisions (e.g. Small Business/Self-Employed) predict subsequent changes in uncertainty, it is less likely that compliance with ethical guidelines drives our results.

Second, there is a possibility that IRS officials are trading on information that is generated within the IRS (e.g., decisions to pursue audits aggressively) instead of observing information already possessed by corporate insiders. If this is the case, we expect to observe abnormal corporate insider trading volume from the firms' management around the same time as IRS officials because they may learn about the IRS' strategy. Given that IRS officials do not appear to

[5] 97% of firms in our sample have assets greater than $10 million. Thus, LB&I is the primary division tasked with auditing our sample.

trade much around significant financial reporting dates (e.g., earnings announcements (see Figure 2)), observing coinciding corporate insider trading volume around IRS trades would suggest that IRS officials produce information which informs their trades. Additionally, if enforcement decisions motivate stock transactions of IRS officials, we should observe that the information content of IRS trades concentrate more in firms for which both IRS officials and corporate insiders trade.

Third, we consider the probability of IRS audit. If IRS officials learn about a firm's tax uncertainty prior to insiders and external stakeholders, then the possibility of IRS officials possessing private information should be stronger for firms that are more likely to be exposed to IRS audits.

III. RESEARCH DESIGN AND SAMPLE SELECTION

3.1 Measuring IRS Trades

We obtain the data for identifying IRS officials' stock transactions from Office of Government Ethics (OGE) Form 278e Disclosures filed by IRS officials above a certain rank.[6] We received these data from the Wall Street Journal which filed Freedom of Information Act requests to obtain disclosure forms from government officials for transactions taking place in the calendar years of 2016 through 2020. The disclosure forms include the first and last name, job title, details of other sources of income, financial details of spouses (if any) and critically, transactions in real property or securities in excess of $1,000 that include the name of the firm and occasionally also the ticker of the corresponding stock; whether it was a purchase or sale; the date of the transaction;

[6] OGE mandates the filing of financial disclosure forms for individuals in "covered positions" which include officers and employees who have a rate of basic pay equal to or greater than 120% of the minimum rate of basic pay for GS-15 of the General Schedule or if the position includes a "policy-making role" and specifically excludes those below the GS-13 level. The job titles we observe in our sample range from "Senior Advisor" to "Chief Commissioner of the Internal Revenue Service." The specific requirement thresholds are detailed further in 5 U.S.C. § 13103; 5 C.F.R. § 2634.202.

and a broad dollar amount range of the transaction. We extract transactions from these forms using a combination of text extraction tools, textual pattern recognition algorithms (i.e., "regular expressions"), and natural language processing tools for identifying varied use of firm names and transaction types. Next, we use initial screening algorithms to provide tentative matches with Compustat tickers ("TIC") and company names ("CONM") and then subsequently manually match 5,249 transactions to CRSP for PERMNO and price data.[7] We extract the transaction dates and the position (i.e., sale or purchase) directly from the disclosure documents to enable us to perform the abnormal returns analyses. From these forms, we collect full names and titles of the IRS officials as well as other employment, spouse's financial holdings and other financial relationships.[8] For the firm-year level analysis detailed in Section 3.3, we code $IRS\ Purchase_{(t,\ t+1)}$ *(*$IRS\ Sale_{(t,\ t+1)}$*)* equal to one if there was at least one purchase (sale) of a firm's stock by an IRS official in the 365 days preceding the date of the annual report (i.e., Compustat's DATADATE), and zero otherwise.[9]

3.2 Abnormal Returns Around IRS Trades

We use the transaction-level data along with CRSP price data to compute size-decile adjusted buy-and-hold returns and Fama-French three-factor returns (Fama and French 1992) for all trades (purchases and sales separately) executed by IRS officials over 30, 60, 90 and 120-day windows.[10] We follow Belmont et al. (2022) and estimate buy and hold abnormal returns over

[7] For observations without a ticker listed next to a firm name, we use iterative large language model prediction tools (i.e., OpenAI's API and the model "GPT 4") to perform preliminary matches of firm names to the Compustat database firm names and subsequently verify all matches manually.

[8] We refrain from including the identities of IRS officials for the sake of privacy and because these factors do not affect the analyses in the paper.

[9] Only for the firm-year level analysis, where the dependent variables are measured as year-over-year changes in tax uncertainty, we exclude observations for which IRS officials both bought and sold stock within the same year (112 firm-years) for which the predicted relationship between IRS trades and subsequent tax uncertainty outcomes at the end of the fiscal year is not well defined. We include these observations in the abnormal returns tests.

[10] While the disclosure documents contain bands of dollar amount ranges corresponding to each transaction, we do not include dollar volumes in our calculation because of issues related to the cleanliness of data and formatting within the PDF documents.

various time periods, separately for purchases and sales. First, we calculate buy and hold abnormal returns (BHARs) by compounding daily returns on the stock and subtracting compounded daily returns against a size-decile matched portfolio. The size-decile matched portfolio matches firms by ten deciles of NYSE/AMEX/NASDAQ market cap using the firms' market cap one year before the event. Second, we calculate abnormal returns relative to the Fama-French three factor model. We calculate factor loadings from 200 days to 22 days before our event windows of +1 to 120 days. Consistent with H1, we expect positive abnormal returns for IRS stock transactions, suggesting that IRS officials' trades contain information that the market has yet to fully price.

3.3 IRS Trades and Tax Uncertainty

Next, we examine the mechanism through which IRS officials may be able to generate abnormal returns using publicly observable proxies for tax outcomes. We estimate the relationship between IRS officials' stock transactions and subsequent tax outcomes for the firm using the following model:

$$Tax\ Uncertainty_{t+1} = \beta_0 + \beta_1\ IRS\ Sale_{(t,\,t+1)} + \beta_2\ IRS\ Purchase_{(t,\,t+1)} + \beta_c\ Controls + \gamma_y + \nu_f + \epsilon \quad (1)$$

We measure tax uncertainty in four ways. First, we follow Towery (2017) in measuring firm-level changes in tax uncertainty. We first compute *UTB* as the current year additions in UTB reserves scaled by total assets. We then compute $ChgUTB_{(t,\,t+1)}$ as the annual within-firm change in *UTB*. Then, for ease of interpretation, we create an indicator variable, $UTB\ Decrease_{t+1}$, equal to one if $ChgUTB_{(t,\,t+1)}$ is negative, and zero otherwise.[11] Second, we compute $Lapse\ in\ Statutes_{t+1}$ as an indicator variable equal to one for positive non-missing values of lapses in statute of limitations for tax reserves, and zero otherwise. Third, we compute $Any\ Settlement_{t+1}$ as an indicator variable equal to one for positive non-missing values of settlements with tax authorities, and zero

[11] While our preferred specifications are linear probability models, we also replicate our main results using the continuous variable *ChgUTB* in lieu of an indicator and find consistent results.

otherwise. Fourth, we follow Finley (2019) in computing large, unfavorable settlements ($UNFAV_{t+1}$) by estimating the residual from Equation (1) in Finley (2019), and compute *Unfav Settlement*$_{t+1}$ as an indicator variable equal to one for above-median variables of $UNFAV_{t+1}$.[12]

We include firm (ν_f) and year (γ_y) fixed effects in Equation (1) to control for time-invariant firm-level factors and period-specific factors, respectively.[13] We cluster standard errors by firm. We follow Towery (2017) by including controls for the determinants of changes in tax uncertainty.[14] We define all variables in Appendix A.

Following H2, for our specifications with *UTB Decrease*$_{t+1}$ and *Lapse in Statutes*$_{t+1}$ as the dependent variable, we expect a significantly positive coefficient on *IRS Purchase*$_{(t,t+1)}$, suggesting that IRS officials strategically purchase firms that are more likely to decrease their UTB tax reserves, and more likely to reduce reserves due to lapses in statute of limitations (i.e., conversely, we expect a significantly negative coefficient on *IRS Sale*$_{(t,t+1)}$). Next, for our specifications with *Any Settlement*$_{t+1}$, we do not expect a significant coefficient between *IRS Sale*$_{(t,t+1)}$ or *IRS Purchase*$_{(t,t+1)}$ given the ambiguity in the favorability of the settlements between the IRS and the firm.[15] Finally, for our specifications with *Unfav Settlement*$_{t+1}$, we expect a significantly negative coefficient on *IRS Purchase*$_{(t,t+1)}$ and a significantly positive coefficient on *IRS Sale*$_{(t,t+1)}$, suggesting that IRS officials strategically purchase firms that are less likely to recognize an unfavorable

[12] Specifically, Finley (2019) measures unfavorable settlements as the residual from a regression of accrued interest and penalties (TXTUBXINTIS) on current year additions to UTBs (TXTUBPOSINC-TXTUBPOSDEC), open UTBs at the start of the period (TXTUBBEGIN – (TXTUBPOSPDEC + TXTUBSETTLE + TXTUBSOFLIMIT)), and lapses in UTBs (TXTUBSOLIMIT) along with industry and year fixed effects. All variables are scaled by lagged total assets.

[13] We note that our fixed effects absorb 34.9% and 35.5% of the variation in our variables of interest, *IRS_Purchase* and *IRS_Sale*, and is therefore unlikely to exacerbate measurement errors (Jennings, Kim, Lee and Taylor 2024).

[14] We obtain all control variables from the Compustat Annual Fundamentals file. We detail variable definitions in Appendix A. We winsorize all continuous variables at one and ninety-nine percent.

[15] For example, a given settlement amount may be good news or bad news for the firm depending on the underlying aggressiveness of the particular position, which is not observable.

settlement with the IRS, and sell firms that are more likely to recognize an unfavorable settlement with the IRS.

3.4 Sample Selection

We identify 126 IRS officials who engaged in at least one transaction involving a publicly traded company between 2016 and 2020. At the transaction-level, we identify 5,249 transactions across 3,633 transactions in individual stocks and 1,616 transactions in index or sector-wide funds. Among the transactions involving individual stocks, IRS officials traded in 661 unique firms and 812 firm-years. This implies that on average, IRS officials trade a security 5.5 times over five years. We also note that the vast majority (86.1%) of these positions are held for longer than a month and most holdings (78.3%) are held longer than three months, suggesting that the median trade consisted of a longer time horizon strategy. We present the distribution of 5,249 transactions and firm-years across IRS divisions and job titles in Table 2. While we cannot ascertain a given IRS official's government wage level (GS level) or seniority, we are able to identify divisions through the official's full job title for most of the observations, which include Office of Chief Counsel, Large Business and International (LB&I), Criminal Investigation, Small Business and Self-Employed, Tax Exempt and Government Entities, and others. We present the most commonly occurring job titles among IRS officials in our sample.[16] In the second panel of Table 2, we present the distribution of transactions across job title types, including Area Counsel, Chief, Associate Chief, Deputy Associate Chief, Director, Senior Advisor and others.

We detail the sample selection procedure in Table 1. For the firm-year sample, we first restrict the sample for the years in which we have data on IRS trades, i.e., from 2016 to 2020, and

[16] We refrain from listing full job titles or names for the sake of privacy and because these factors do not affect the analyses in the paper.

then exclude firm-years for which there is missing data to construct our necessary variables. As a result, we obtain a firm-year sample with 15,564 observations.

3.5 IRS Trading Patterns

Next, we examine IRS trading around two different types of events to provide preliminary evidence on the type of information possessed by IRS officials. First, we describe IRS trading patterns around public release of firm-specific information. In Figure 1, we plot IRS officials' trading volume around earnings announcement windows. We find no significant patterns around earnings releases, providing suggestive evidence that IRS trading is not merely motivated by the public revelation of performance information. Second, we describe IRS trading patterns around a notable tax-related event in our sample period. In Figure 2, we plot the distribution of IRS trades centered around the surprise election of Donald Trump in 2016, who promised significant changes in corporate taxes (Armstrong, Glaeser and Hoopes 2024; Gallemore, Jacob, Hollander and Zheng 2024). We find that IRS purchase activity increased approximately 500% in the month of the election relative to prior months, but IRS selling activity did not increase substantially. This pattern suggests that IRS officials may be motivated to trade on tax-related information. Together, these two figures support the idea that the IRS officials' trades may be motivated by tax-related events and that the trading sample does not simply contain periodic investments unrelated to corporate tax outcomes.

3.6 Descriptive Statistics

In Table 3, we present summary statistics for the sample at the firm-year level. The mean value of $IRS\ Sale_{(t,t+1)}$ is 0.029, indicating that for IRS officials sell securities in 2.9% of firm-years in our sample securities. Similarly, IRS officials purchase in the preceding year 3.5% of firm-years in our sample securities. The mean value of $UTB\ Decrease_{t+1}$ is 0.316, indicating that 31.6% of

firm-years in our sample experience a decrease in UTB reserves. The mean value of *Lapse in Statutes*$_{t+1}$ is 0.328 indicating that 32.8% of firm-years in our sample record a lapse in statutes of limitations. The mean value of *Any Settlement*$_{t+1}$ is 0.199 indicating that 19.9% of firm-years in our sample record a settlement with a tax authority. The mean value of *Unfav Settlement*$_{t+1}$ is 0.144 indicating that 14.4% of firm-years in our sample have an unfavorable settlement based on a measure of unfavorable settlements from Equation (1) in Finley (2019).

We also provide descriptive statistics for our three cross-sectional variables. Approximately 0.7% of observations have an IRS transaction from the LB&I division. The mean value of *Insider*$_{(t,t+1)}$ is 0.019, suggesting that for 1.9% of firm-years in our sample there is at least one insider open-market purchase or sale that coincides with an IRS transaction, or roughly 36% of the firm-years which were identified as an *IRS Sale*$_{(t,t+1)}$ or an *IRS Purchase*$_{(t,t+1)}$. The mean value of *IRS Audit*$_{(t,t+1)}$ is 0.102, suggesting that 10.2% of firm-years in our sample are under IRS audit. This is roughly half of the firms identified in the Yost and Shu (2022) sample, consistent with budget cuts at the IRS in more recent years, lowering audit rates over time.

IV. MAIN RESULTS

4.1 IRS Trades' Abnormal Returns

In Table 4, we tabulate the buy-and-hold returns of IRS transactions using both a size-decile adjusted market portfolio and Fama-French 3 Factor as the benchmark. We present returns for IRS officials' purchases in Panel A and IRS officials' sales in Panel B. In Panel A, we note that IRS purchases generate significant abnormal returns over the subsequent 120 days. In particular, IRS purchases earn 2.8% (1.6%) in excess of its size-decile (Fama-French 3 Factor) benchmarks over a 60-day window ($p < 0.01$). This return increases to 6.0% (3.5%) in excess of size-decile (Fama-French 3 Factor) benchmarks over a 120-day window ($p < 0.01$). In Panel B,

we note our results soften slightly. On average, we find returns in excess of size-decile benchmarks of between 3.3% and 9.2% ($p < 0.01$). [17] However, when benchmarking against Fama-French 3 Factor returns, we only find moderately significant returns in the 90 and 120 windows ($p < 0.10$). Consistent with H1, our results suggest that IRS trades, in particular IRS purchases, have information content about subsequent positive returns. Moreover, it is unlikely that the information content arises from IRS officials' compliance with ethical guidelines. Compliance with ethical guidelines would imply IRS officials *sell* stock prior to an audit. In contrast, our results concentrate in IRS purchases, suggesting ethical compliance is not the only factor for information content. Our results also suggest the information possessed by IRS officials has yet to be full priced by the market.

4.2 IRS Trades and Tax Uncertainty

To examine our second hypothesis, we estimate Equation (1) and present results in Table 5. Consistent with H2, we find that IRS transactions predict subsequent changes in tax uncertainty. In Columns (1) and (2), we find a positive and significant association between decreases in UTBs ($p < 0.05$) and lapses in statutes of limitations ($p < 0.01$) in the year following an IRS purchase. Economically, this implies a firm is 22.5% more likely to decrease UTBs and 15.2% more likely to recognize a lapse in statutes of limitations in the year following an IRS purchase relative to the sample mean.[18] We fail to find a significant difference in the likelihood of a decrease in UTBs or a lapse in statutes of limitations in the year following an IRS sale.

[17] The magnitude of our findings is comparable to prior literature, i.e., Belmont (2022) finds up to a 9.9% one-year BHAR for Congressional representative transactions. Given that our sample window includes abnormal market activity associated with the COVID-19 pandemic, we recompute our abnormal returns after removing trades from the first six months of 2020 and find consistent results.

[18] The calculation for economic magnitude is respectively 0.071/0.316 = 0.225 or 22.4% and 0.050/0.328= 0.153 or 15.2%.

Next, in Column (3), we fail to find a significant difference in the likelihood of recognizing any settlements on average in the year following an IRS purchase or sale, as expected. Finally, in Column (4), we find that a firm is significantly more likely to recognize a large, unfavorable settlement ($p < 0.01$) in the year following an IRS sale. Economically, an IRS sale is associated with a 48.2% higher likelihood of reporting a large, unfavorable settlement with a tax authority relative to the sample mean.[19] Overall, these results are consistent IRS trades containing firm-specific information involving tax-related information regarding tax uncertainty.

V. CROSS-SECTIONAL ANALYSES

5.1 IRS Transactions Across IRS Divisions

One possible explanation for why trades of IRS officials are informative about subsequent tax outcomes is that IRS officials sell stock prior to an audit, consistent with IRS ethical guidelines. As previously discussed, our results concentrating in IRS purchases suggest otherwise. However, we further investigate the role that compliance with ethical guidelines may influence our results by investigating our results across IRS divisions. In particular, the LB&I division is primarily tasked with selecting and conducting audits of the publicly traded firms in our sample. To the extent ethical guidelines drive our results, then we should expect trades by LB&I officials to be more informative about subsequent tax outcomes.

We present our results across IRS divisions in Table 6. In particular we create indicators for IRS purchases and sales inside of and outside of the LB&I division. We find a significantly positive coefficient on *IRS Purchase (LBI)*$_{(t,t+1)}$ in Column (1) ($p < 0.01$), suggesting that purchases by IRS officials within the LB&I division partly explain our main findings. However, we find significantly positive coefficients on *IRS Purchase (non-LBI)*$_{(t,t+1)}$ in Columns (1) ($p < 0.10$) and

[19] We calculate economic magnitude as 0.0694/0.144 = 0.482 or 48.2%.

(2) ($p < 0.01$). We also find a significantly positive coefficient on *IRS Sale* (*non-LBI*)$_{(t,t+1)}$ in Column (4) ($p < 0.05$). Economically, this implies a firm is 17.8% more likely to decrease UTBs; 15.2% more likely to recognize a lapse in statutes of limitations in the year following a purchase by an IRS official outside the LB&I division; and 38.2% more likely to recognize a large, unfavorable settlement with a tax authority in the year following a sale by an IRS official outside the LB&I division relative to the sample mean.[20] Combined, these results suggest that our results from Table 6 concentrate *outside* the LB&I division, inconsistent with the notion that IRS trading primarily arises from complying with ethical guidelines regarding direct involvement in the performance of audits.

5.2 IRS Transactions and Corporate Insider Transactions

Thus far, our results suggest that IRS officials transact based on the likelihood of having firm-specific information, and that such information is not yet priced by investors and predicts the resolution of tax uncertainty. Our results are consistent with both information flowing from the firm to the IRS (e.g., the IRS becoming aware of a new transfer pricing strategy or changes in tax position) as well as information flowing from the IRS to the firm (e.g., changes in the priority of audits or decreases in assessed deficiencies). While we cannot definitively estimate the direction of information flow between the IRS and firms, we seek to estimate whether IRS officials generate at least a portion of the information flow we have documented. To do so, we modify Equation (1) to include an indicator for the existence of corporate insider transactions ($Insider_{(t,t+1)}$). If UTBs are more likely to decrease with IRS purchases when insiders trade alongside the IRS, we interpret this as evidence consistent with an information flow from IRS officials to the insider.[21]

[20] We calculate economic significance as 0.056/0.316 = 0.178 or 17.8%; 0.050/0.328 = 0.152 or 15.2%; 0.055/0.144 = 0.382 or 38.2%.

[21] If the IRS is merely observing the private information of executives, then executives are most likely to have already traded on such information and would not trade concomitant with the IRS officials.

We access data for corporate insider trades from the Insider Transactions Data Sets published by the Securities and Exchange Commission's based on firms' quarterly filings of Forms 3 and 4. We retain only open-market transactions (transaction codes S and P) to reflect only those transactions which have a higher likelihood of being informed trades, as opposed to regularly scheduled transactions such as stock option awards. We then compute the variable $Insider_{(t,t+1)}$ which equals one when there is at least one insider open-market purchase or sale that coincides (in the same direction) with an IRS transaction within a one-week window and zero otherwise. Based on this definition of coinciding insider open-market transactions, we find that 36% of the firm-years that we identify as either an IRS sale (or purchase) also have a coinciding insider sale (or purchase).

In Figure 3, we plot the dollar volume of open market transactions, where the first figure represents corporate insider sale volume and the second figure represents corporate insider purchase volume. Red lines indicate insider trade dollar volumes for firms which were sold by IRS officials at week 0 and blue lines indicate insider trade dollar volumes for firms which were purchased by IRS officials at week 0. We find that insider trades increase substantially when the direction of the trades are aligned. In the first figure, insider sales in dollar volume increase by up to 12 times the volume in the five weeks prior to the IRS sale date, but there is no corresponding spike in insider sales if IRS officials purchased at week 0. In the second figure, insider purchases increase by up to 14 times the volume in the five weeks prior to the IRS purchase date, but insiders do not purchase disproportionately if IRS officials sold at week 0.

We present our multivariate analysis where we split $IRS\ Purchase_{(t,t+1)}$ and $IRS\ Sale_{(t,t+1)}$ by $Insider_{(t,t+1)}$ in Table 7. In Column (1) and Column (2), we continue to find significantly positive coefficients on $IRS\ Purchase\ (Only)_{(t,t+1)}$ ($p < 0.10$ and $p < 0.05$) where insiders transactions do not

coincide, consistent with IRS purchases predicting decreases in tax uncertainty and lapses in statutes of limitations. Furthermore, we also find significant positive coefficients on *IRS Purchase (& Insider)*$_{(t,t+1)}$ ($p < 0.10$ and $p < 0.01$) suggesting that IRS transactions also predict subsequent changes in tax uncertainty where corporate insiders coincide in trading with IRS officials. These results are consistent with information flowing from IRS officials to insiders and suggests that IRS officials not only learn information from the firm itself but also generate some of the information during the audit and enforcement process.

5.3 IRS Transactions and IRS Audit Probability

Given that we primarily investigate changes in tax uncertainty within a firm across years, we cannot directly observe when a firm is under audit by the IRS (Yost and Shu, 2022; Bozanic et. al 2017). However, we estimate IRS audit probability by combining IRS audit rates by asset class and year published in the IRS website and a text-based measure of IRS exposure.[22] Specifically, our measure of IRS exposure equals the number of times a firm's 10-K mentions the IRS, following Armstrong, Glaeser and Hoopes (2024). Yost and Shu (2022) build a similar measure, using IRS audit rates by asset class and year with EDGAR downloads by the IRS (Hoopes et al., 2012). However, EDGAR download data is not publicly available in our sample period between 2016 and 2020. Thus, we use a dataset made available by Armstrong, Glaeser and Hoopes (2024), who construct and extensively validate a firm-year level measure of exposure to the IRS, by counting the times the company's annual reports mentions the IRS relative to the total length of the annual reports. Following Yost and Shu (2022), we calculate the IRS audit measure as *IRS Audit*$_t$ equal to one for firm-years above a specific percentile of IRS 10-K mentions, where the threshold is determined by IRS audit probability by asset class for a given year prior to the release

[22] Table 17 at https://www.irs.gov/statistics/

of the 10-K. As an illustrative example, suppose a firm has $10 billion in assets in the year 2017, this would place them in asset class 11, where the IRS audited 27.8% of the firms. If the firm's 10-K in the subsequent year mentions the IRS more than 72.2% (100% - 27.8%) of the firms in the same asset class, we argue that it is more likely that the IRS audited the firm, and code *IRS Audit*$_t$ as one, zero otherwise.[23]

In Table 8, we modify Equation (1) by interacting our IRS transaction indicators with *IRS Audit*$_t$. In Column (1), we find that a negative and significant interaction between *IRS Sale*$_t$ and *IRS Audit*$_t$ ($p < 0.05$), consistent with IRS sales being negatively associated with UTB decreases for a given firm when it is more likely to be under audit. Economically, this implies a firm is 55.6% less likely to decrease UTBs in the year following an IRS sale for a given firm when it is more likely to be under audit.[24] These results suggest that while IRS officials' sales may not reflect an increase in subsequent tax uncertainty on average, they do so when the firm is more likely to be under audit. In Column (2), we fail to find a significant interaction between IRS transactions and *IRS Audit*$_t$ when predicting subsequent lapses in statute of limitations. In Column (3), we find a positive and significant coefficient on *IRS Audit*$_t$ ($p < 0.10$) consistent with IRS audit likelihood predicting subsequent likelihood of settlements with tax authorities on average for a given firm. Additionally in Column (3), we find a negative and significant interaction between *IRS Purchase*$_{(t,t+1)}$ and *IRS Audit*$_{(t,t+1)}$ ($p < 0.05$), consistent with the notion when IRS officials purchase stock for a given firm when it is more likely to be under audit, the firm is less likely to recognize settlements. Economically, this implies a firm is 45.5% less likely to recognize a settlement when

[23] The key difference between Yost and Shu (2022)'s IRS Audit measure and ours is the use of 10-K mentions of the IRS for a firm-year instead of IRS' 10-K downloads (Bozanic et al. 2017) to measure cross-sectional variation within an asset class and year. In untabulated analyses, we validate our *IRS Audit* measure similar to Yost and Shu (2022) and Bozanic et. al (2017). In untabulated analysis, we confirm that *IRS Audit* predicts significantly higher settlement probability (coef. = 0.028; p-value < 0.10) in the subsequent year, indicating that the IRS audit proxy is significantly associated with future tax settlements.

[24] We calculate economic significance as 0.176/0.316 = 0.556 or 55.6%.

both an IRS official purchases the firm's stock and when the firm is likely to be under audit.[25] These findings are consistent with IRS officials' trades containing specific and complex tax-related information regarding subsequent changes in a given firm's tax uncertainty, specifically decisions made during an IRS audit.

VI. ADDITIONAL ANALYSIS

Thus far, we include loss firms in our sample as the prior periods which the IRS is able to audit are unaffected by the current period's profitability. As such, we do not include ETR_t or *Delta* $ETR_{(t,\ t+1)}$ as a control in our tests. In Table 9, we test the robustness of our main findings to removing loss firms and adding ETR_t and *Delta* $ETR_{(t,\ t+1)}$ as controls. We continue to find our primary results among profitable firms. Our primary results are also robust to including ETR_t and *Delta* $ETR_{(t,\ t+1)}$ as controls. We note that in Columns (1) and (2) of Table 9, the coefficient on *IRS* $Purchase_{(t,\ t+1)}$ remains statistically and economically similar to our main findings. In Column (4) of Table 9, we note that while the coefficient on *IRS* $Sale_{(t,\ t+1)}$ is still similarly economically significant to our main findings, the statistical significance is less strong ($p < 0.10$) compared to the same coefficient in Table 5 ($p < 0.01$).

VII. CONCLUSION

We investigate the relationship between IRS officials' private stock holdings, firm-specific information, and future corporate tax outcomes. We construct a novel dataset on IRS officials' personal stock transactions from OGE Form 78e financial disclosure documents of IRS officials obtained from the Wall Street Journal that include trades on individual stocks. We find that the trades executed by IRS officials, particularly purchases, generate positive abnormal returns over longer time horizons. Second, we find that IRS officials trading contains information about

[25] We calculate economic significance as 0.091/0.199 = 0.455 or 45.5%.

subsequent tax uncertainty. In particular, we find that IRS purchases are associated with reductions in tax uncertainty in the subsequent year as well as positively associated with lapses in the statute of limitations of UTBs. We also find that IRS sales are positively correlated with subsequent large, unfavorable tax settlements.

We perform three sets of cross-sectional analyses. First, we find our results do not concentrate in the LB&I division, suggesting that IRS officials who are not directly involved in the selection and execution of audits possess firm-specific, tax-related information about firms. Second, we find these results in firms where corporate insiders also transact around the same time as the IRS officials. This finding suggests that IRS officials produce at least a portion of the information rather than merely consume information produced by firms. Lastly, we find that firms are less likely to reduce tax uncertainty in the year following IRS officials' sales when the firms are also more likely to be under audit. This result suggests officials are most likely to trade when in possession of firm-specific information.

Our study makes three primary contributions. First, we add new evidence to the insider trading literature by empirically examining the trading activity of high-ranking officials from a specific regulatory agency with unique access to specific tax information. Second, we contribute to the literature on government oversight and market activity by providing evidence suggesting that IRS officials' not only have firm-specific information, but that this information impacts firm value and predicts future tax outcomes. Third, we contribute to the literature on tax uncertainty. Our results suggest that IRS officials' information regarding tax enforcement incrementally predicts the resolution of tax uncertainty and unfavorable settlements in the subsequent year beyond publicly observable factors. Our findings shed light on the relationship between taxpayers

and the IRS and suggests the prudence of additional oversight regarding the stock ownership of IRS officials and the timeliness of IRS disclosures to public markets.

VIII. REFERENCES

Armstrong, D. M., S. Glaeser, and J. L. Hoopes. 2024. "Measuring Firm Exposure to Government Agencies." *Journal of Accounting and Economics*, May 9, 101703.

Ballhaus, R., B. Mullins, C. Day, J. West, J. Palazzolo, and J. V. Grimaldi. 2022. "Federal Officials Trade Stock in Companies Their Agencies Oversee." *Wall Street Journal*, October 11, sec. Page One.

Belmont, W., B. Sacerdote, R. Sehgal, and I. Van Hoek. 2022. "Do Senators and House Members Beat the Stock Market? Evidence from the STOCK Act." *Journal of Public Economics* 207 (March 1): 104602.

Billings, B. K., and W. L. Buslepp. 2016. "Strategic Management Guidance and Insider Trading Activities." *Journal of Accounting and Public Policy* 35 (1): 84–104.

Bozanic, Z., J. L. Hoopes, J. R. Thornock, and B. M. Williams. 2017. "IRS Attention." *Journal of Accounting Research* 55 (1): 79–114.

Brown, J. L., K. Drake, and L. Wellman. 2015. "The Benefits of a Relational Approach to Corporate Political Activity: Evidence from Political Contributions to Tax Policymakers." *Journal of the American Taxation Association* 37 (1): 69–102.

Campbell, J. L. and Davidson, O. and Goldman, N. C. and Holt, M. 2024. "Does Complex Regulation Create Insider Trading Opportunities?" SSRN Scholarly Paper.

Ciconte III, W. A., M. P. Donohoe, P. Lisowsky, and M. A. Mayberry. 2024. "The Predictive Ability of Tax Contingencies for Future Income Tax Cash Outflows." *Contemporary Accounting Research* 41 (1): 355–90.

Cornell, B. and Sirri, Erik. 1992. "The Reaction of Investors and Stock Prices to Insider Trading", *The Journal of Finance* 47 (3): 1031-1059.

Dechow, P., A. Lawrence, and J. Ryans. 2015. "SEC Comment Letters and Insider Sales." SSRN Scholarly Paper.

Demeré, P. 2023. "Is Tax Return Information Useful to Equity Investors?" *Review of Accounting Studies* 28 (3): 1413–65.

Dyreng, S. D., M. Hanlon, and E. L. Maydew. 2019. "When Does Tax Avoidance Result in Tax Uncertainty?" *The Accounting Review* 94 (2): 179–203.

El Ghoul, S., O. Guedhami, and J. Pittman. 2011. The role of IRS monitoring in equity pricing in public firms. *Contemporary Accounting Research*, 28(2): 643-674.

Everson, M. 2008. "A Reform Tool: Tax Returns." *The Washington Post*, October 18.

Fama, E. and French, K. 1992. “The Cross-Section of Expected Stock Returns”. *The Journal of Finance.* 47 (2): 427-465.

Gallemore, J. and Jacob, M. 2020, Corporate Tax Enforcement Externalities and the Banking Sector (December 1, 2020). *Journal of Accounting Research*, Volume 58 (5).

Gleason, C. A., and L. F. Mills. 2002. “Materiality and Contingent Tax Liability Reporting.” *The Accounting Review* 77 (2): 317–42.

Hanlon, M., J. L. Hoopes, and N. Shroff. 2014. “The Effect of Tax Authority Monitoring and Enforcement on Financial Reporting Quality.” *Journal of the American Taxation Association* 36 (2): 137–70.

Hoopes, J. L., D. Mescall, and J. A. Pittman. 2012. “Do IRS Audits Deter Corporate Tax Avoidance?” *The Accounting Review* 87 (5): 1603–39.

House Ways and Means Committee (HWAMC). 2023. Press Release. "Smith: Agency Watchdog Highlights Unacceptable Levels of Incompetence and Abuse at the IRS”.

Internal Revenue Service (IRS). 2024. Press Release. “IRS releases Strategic Operating Plan update outlining future priorities; transformation momentum accelerating following long list of successes for taxpayers.”

Jagolinzer, A. D. 2009. “SEC Rule 10b5-1 and Insiders’ Strategic Trade.” *Management Science* 55 (2): 224–39.

Jennings, J., Kim, J.M., Lee, J., and Taylor, D. 2024. Measurement error, fixed effects, and false positives in accounting research. *Review of Accounting Studies* 29: 959–995.

Kacperczyk, M., and E. S. Pagnotta. 2019. “Chasing Private Information.” *The Review of Financial Studies* 32 (12): 4997–5047.

Karadas, S. 2019. “Trading on Private Information: Evidence from Members of Congress.” *Financial Review* 54 (1): 85–131.

Kim, O., and R. E. Verrecchia. 1997. “Pre-Announcement and Event-Period Private Information.” *Journal of Accounting and Economics* 24 (3): 395–419.

Kim, S., A. P. Schmidt, and K. Wentland. 2020. “Analysts, Taxes, and the Information Environment.” *Journal of the American Taxation Association* 42 (1): 103–31.

Lakonishok, J., and I. Lee. 2001. “Are Insider Trades Informative?” *The Review of Financial Studies* 14 (1): 79–111.

Lee, I., M. Lemmon, Y. Li, and J. M. Sequeira. 2014. "Do Voluntary Corporate Restrictions on Insider Trading Eliminate Informed Insider Trading?" *Journal of Corporate Finance* 29 (December): 158–78.

Lenter, D., J. Slemrod, and D. Shackelford. 2003. "Public Disclosure of Corporate Tax Return Information: Accounting, Economics, and Legal Perspectives." *National Tax Journal* 56 (4): 803–30.

McGill, G. A., and E. Outslay. 2004. "Lost in Translation: Detecting Tax Shelter Activity in Financial Statements." *National Tax Journal* 57 (3): 739–56.

Morris, D. 2015. "A Case for Company-Specific Public Disclosure of Corporate Tax Returns." *Accounting and the Public Interest* 15 (1): 1–21.

Nessa, M., Schwab, C., Stomberg, B., Towery, E. 2020. How do IRS Resources Affect the Corporate Audit Process?. *The Accounting Review* 95 (2): 311–338

U.S. Office of Government Ethics (OGE). 2024. "Public Financial Disclosure Guide: OGE Form 278e" p. 200.

Ryan, S. G., Tucker, J.W., and Zhou, Y. 2016. "Securitization and Insider Trading." *The Accounting Review* 91 (2): 649–75.

Sawyers, R. B., D. L. Baumer, and W. M. Chumney. 2016. "Insider Trading and IRC Section 6103(e)(1)(D)(Iii)." *The ATA Journal of Legal Tax Research* 14 (1).

Tahoun, A. 2014. "The Role of Stock Ownership by US Members of Congress on the Market for Political Favors." *Journal of Financial Economics* 111 (1): 86–110.

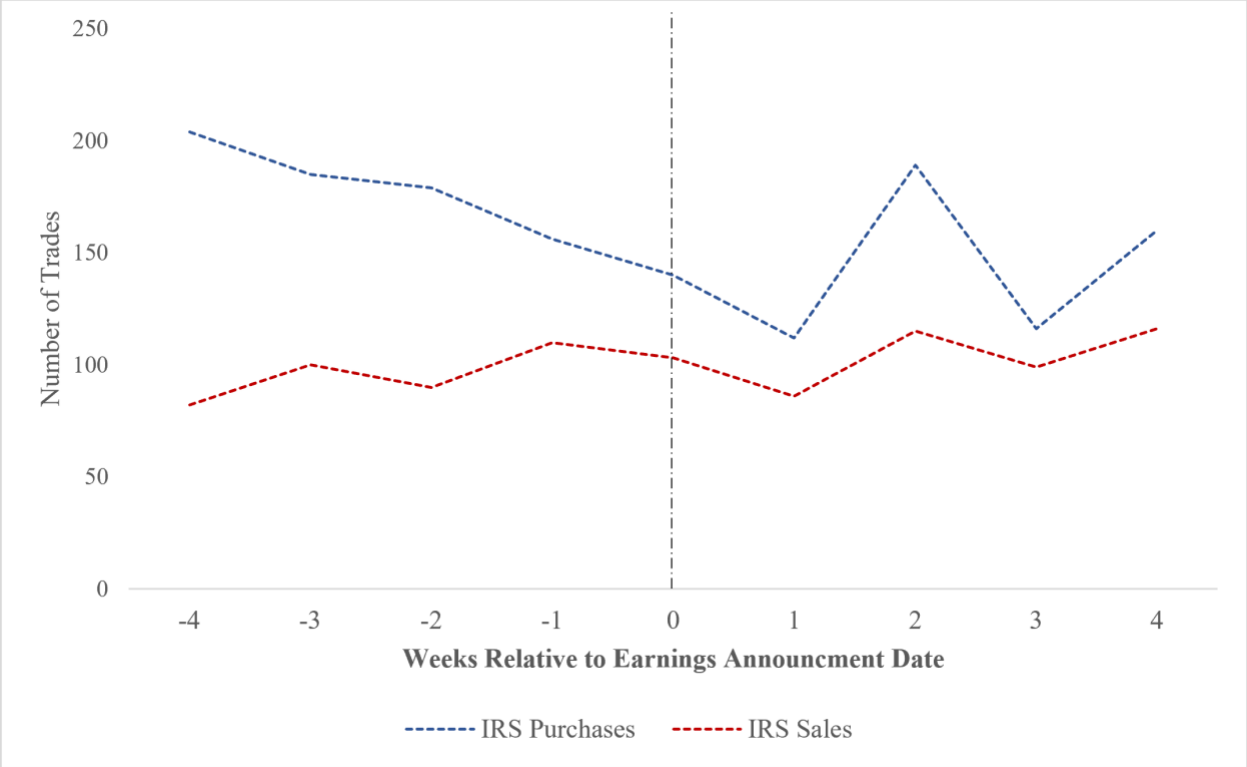
Towery, E. M. 2017. "Unintended Consequences of Linking Tax Return Disclosures to Financial Reporting for Income Taxes: Evidence from Schedule UTP." *The Accounting Review* 92 (5): 201–26.

Yost, B. P., and S. Shu. 2022. "Does Tax Enforcement Deter Managers' Self-Dealing?" *Journal of Accounting and Economics* 74 (1).

Ziobrowski, A. J., P. Cheng, J. W. Boyd, and B. J. Ziobrowski. 2004. "Abnormal Returns from the Common Stock Investments of the U.S. Senate." *Journal of Financial and Quantitative Analysis* 39 (4): 661–76.

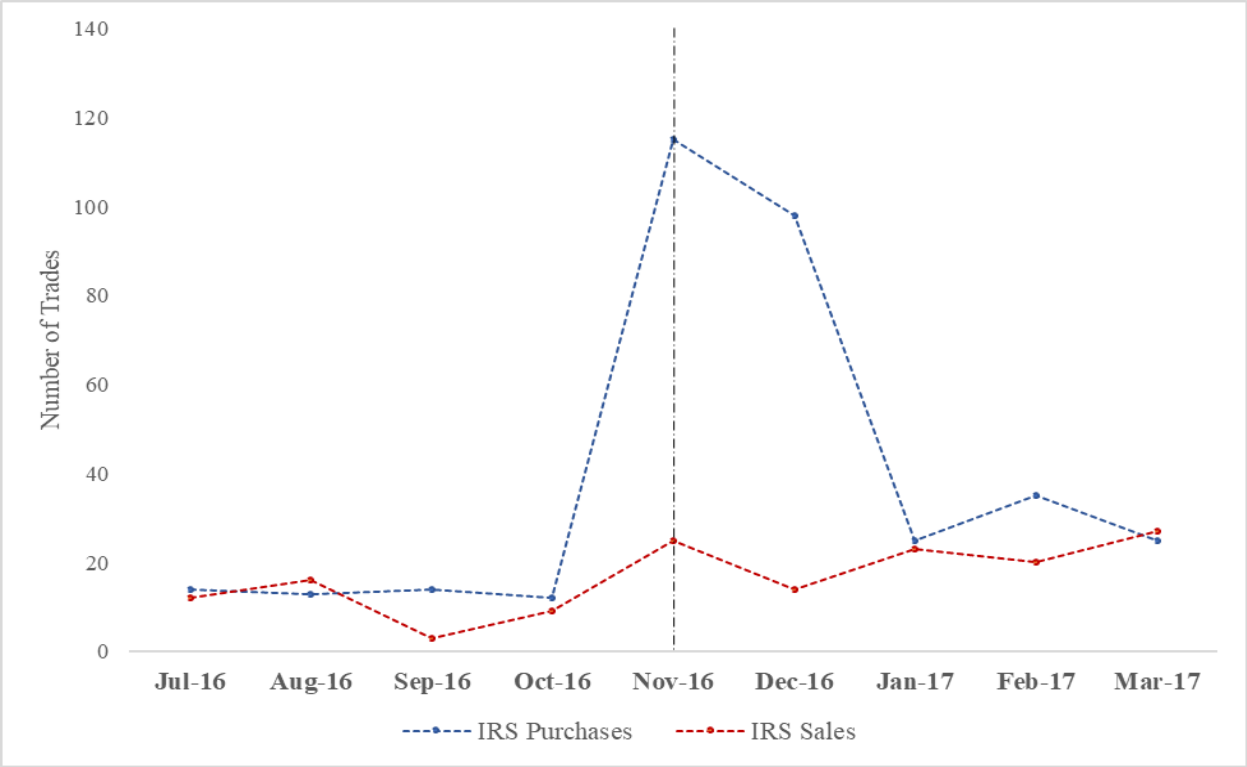
Ziolkowski, C. 2020. "Senators Dumped Stocks Amid the Coronavirus Crisis. Here's What We Know About Congress and Financial Self-Interest." *The Washington Post*, March 25.

Figure 1
IRS Officials' Trading Activity Around Firms' Earnings Announcement Dates



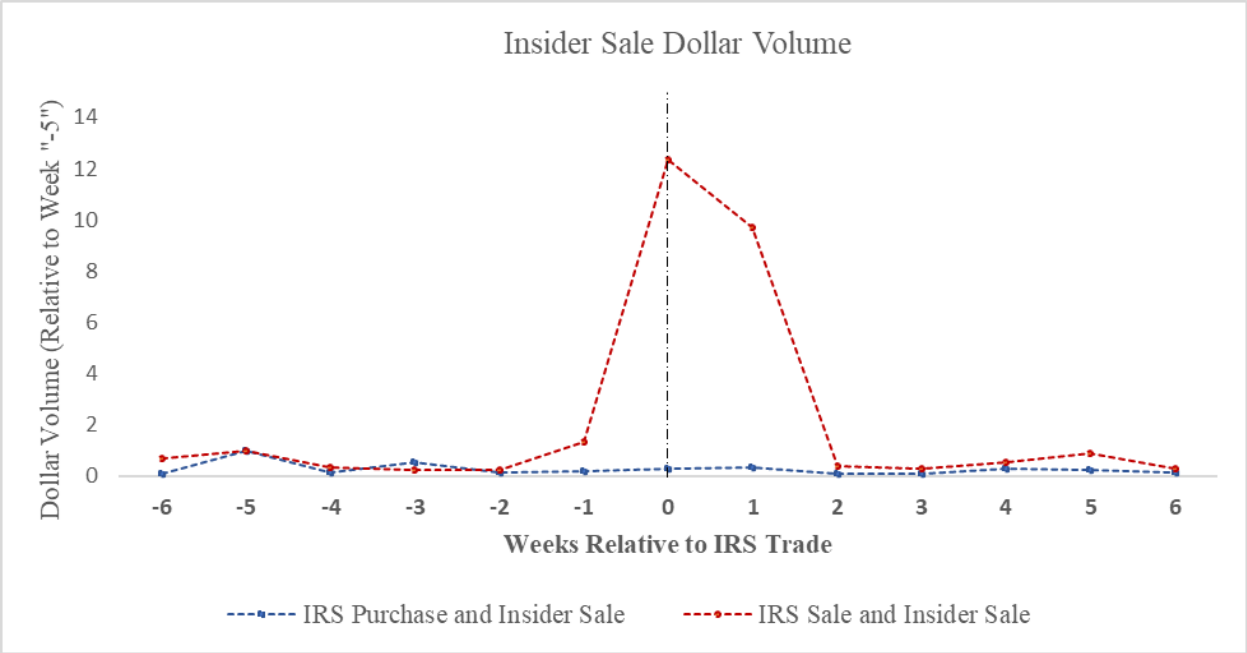
This figure presents the transaction count of IRS officials' purchases (in blue) and IRS officials' sales (in red) around earnings announcement dates. The x-axis (in weeks) is centered around the quarterly earnings announcement date (Week 0) and show when IRS officials purchased or sold stock relative to each firms' quarterly earnings announcements.

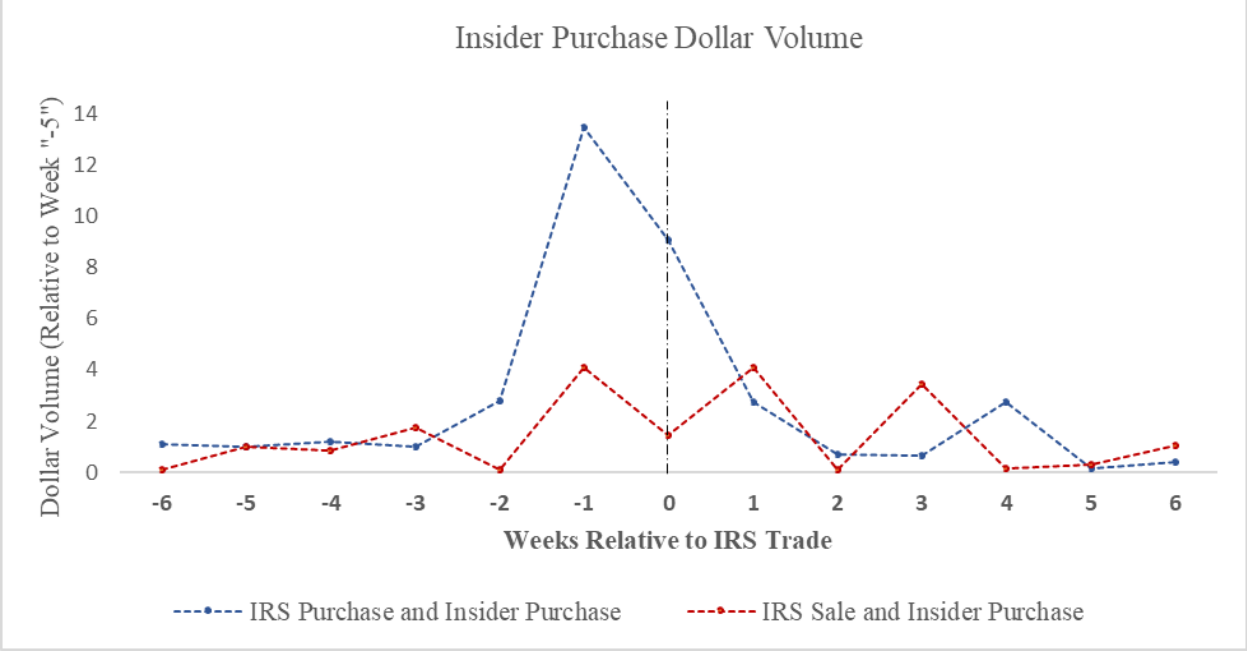
Figure 2
IRS Officials' Trading Activity Around the Surprise Election of Donald Trump



This figure presents the monthly transaction count of IRS officials' trades between May 2016 and May 2017, centered around the surprise election of Donald Trump to the U.S. presidency in November 2016. The x-axis represents the number of transactions by IRS officials in the sample, which each line corresponding to purchase and sale activity respectively.

Figure 3
Corporate Insider Trading Volume Around IRS Officials' Trades





This figure presents the trading volume of corporate insiders' open market stock purchases and sales around IRS officials' trade dates. The first figure shows corporate insider sales around IRS officials' purchase or sale date. The second figure shows corporate insider purchases around IRS officials' purchase or sale date.

Table 1: Sample Selection

Panel A: IRS Trades Sample	**Observations**
Transactions Extracted from OGE Form 278e Disclosures from 2016-2020	13,467
Exclude unidentifiable firm names or transaction dates	(5,654)
Exclude securities unable to match PERMNO and price data	(2,564)
Final Sample (Trades)	**5,249**
Final Sample (Firm-Years)	**812**
Panel B: Firm-Year Sample	**Observations**
Compustat Annual Fiscal Firm-Years from 2016-2020	46,352
Exclude firm-years with missing UTB-related variables	(30,508)
Exclude firm-years with missing data for key variable construction	(14,944)
Final Sample (Firm-Years)	**15,564**

Table 2: IRS Officials' Transaction Count by Internal Revenue Service Department and Title

Division	Trades	Firm-Years
Office of Chief Counsel	1,292	280
Large Business & International (LB&I)	1,107	243
Criminal Investigation	277	47
Small Business /Self-Employment (SBSE)	248	54
Tax-Exempt Organizations and Government Entities (TEGE)	55	15
Support Services (IT, Procurement, HR)	1,131	83
Others (e.g., Taxpayer Advocacy, Communications & Liaison)	1,139	90
Total	**5,249**	**812**

Title	Trades	Firm-Years
Area Counsel	1,095	201
Director	944	80
Associate Chief	909	123
Chief	905	145
Senior Advisor	855	61
Deputy Associate Chief	307	124
Others	234	78
Total	**5,249**	**812**

Table 3: Summary Statistics

Variable	N	Mean	SD	Min	Max
Dependent Variables					
UTB Decrease$_{t+1}$	15,564	0.316	0.444	0.000	1.000
Lapse in Statutes$_{t+1}$	15,564	0.328	0.399	0.000	1.000
Any Settlement$_{t+1}$	15,564	0.199	0.476	0.000	1.000
Unfav Settlement$_{t+1}$	15,564	0.144	0.351	0.000	1.000
Key Variables of Interest					
IRS Sale$_{(t, t+1)}$	15,564	0.029	0.168	0.000	1.000
IRS Purchase$_{(t, t+1)}$	15,564	0.035	0.184	0.000	1.000
LBI$_{(t, t+1)}$	15,564	0.007	0.079	0.000	1.000
Insider$_{(t, t+1)}$	15,564	0.019	0.137	0.000	1.000
IRS Audit$_{(t, t+1)}$	13,120	0.102	0.302	0.000	1.000
Control Variables					
Delta AT$_{(t, t+1)}$	15,564	386.994	2097.939	-5316.355	20624.340
Delta Intangible Intensity$_{(t, t+1)}$	15,564	0.000	0.071	-0.238	0.341
Delta Leverage$_{(t, t+1)}$	15,564	0.012	0.233	-1.627	2.298
Delta R&D$_{(t, t+1)}$	15,564	-0.031	2.365	-14.604	15.333
Delta AD$_{(t, t+1)}$	15,564	0.000	0.013	-0.090	0.066
Delta Cap Intensity$_{(t, t+1)}$	15,564	0.002	0.056	-0.253	0.250
Delta Option Tax Ben$_{(t, t+1)}$	15,564	-0.062	0.240	-1.000	0.000
Delta PTROA$_{(t, t+1)}$	15,564	0.013	0.447	-4.668	5.253
ROA$_t$	15,564	-0.154	1.440	-34.091	0.847
LEV$_t$	15,564	0.339	0.393	0.000	3.184
NOL$_t$	15,564	0.725	0.446	0.000	1.000
DNOL$_t$	15,564	0.002	0.027	-0.076	0.144
FI$_t$	15,564	0.005	0.117	-0.936	0.255
PPE$_t$	15,564	0.244	0.275	0.000	2.363
INTAN$_t$	15,564	0.344	0.451	0.000	3.223
MB$_t$	15,564	3.993	13.900	0.000	90.453
LOSS$_t$	15,564	0.378	0.485	0.000	1.000
ETR$_t$	8,680	0.233	0.205	0.000	1.000
Delta ETR$_{(t, t+1)}$	8,680	-0.005	0.266	-1.000	1.000

Table 4: Abnormal Returns for IRS Purchases and Sales

IRS Purchases	Buy and Hold Abnormal Returns (BHAR)			
Window	(0,30)	(0,60)	(0, 90)	(0, 120)
Size-Decile Adjusted Returns	0.007*	0.028***	0.048***	0.060***
	(0.004)	(0.007)	(0.010)	(0.017)
Fama-French 3-Factor Adjusted Returns	0.002	0.016**	0.029***	0.035***
	(0.003)	(0.007)	(0.009)	(0.012)
IRS Sales	Buy and Hold Abnormal Returns (BHAR)			
Window	(0,30)	(0,60)	(0, 90)	(0, 120)
Size-Decile Adjusted Returns	0.007	0.033***	0.068***	0.092***
	(0.005)	(0.010)	(0.019)	(0.027)
Fama-French 3-Factor Adjusted Returns	-0.003	0.008	0.020*	0.033*
	(0.005)	(0.008)	(0.009)	(0.018)

We calculate buy-and-hold abnormal returns for all stocks purchased or sold by IRS officials over 1, 2, 3, and 4-month time periods. Mean abnormal returns are reported with standard error of the mean in parentheses. Returns are from the day of the trade. We calculate the stocks' returns against a size-decile benchmark using a lagged 1-year market cap. We detail all variable definitions in Appendix A.

Table 5: Do IRS Trades Predict Subsequent Changes in Fin 48 Reserves?

	UTB Decrease$_{t+1}$	*Lapse in Statutes*$_{t+1}$	*Any Settlement*$_{t+1}$	*Unfav Settlement*$_{t+1}$
IRS Purchase$_{(t, t+1)}$	**0.0708****	**0.0502*****	0.0244	-0.0024
	(2.42)	**(3.07)**	(1.06)	(-0.10)
IRS Sale$_{(t, t+1)}$	-0.0030	0.0144	0.0291	**0.0694*****
	(-0.09)	(0.75)	(1.23)	**(2.72)**
Delta AT$_{(t, t+1)}$	0.0000***	0.0000**	0.0000	-0.0000
	(4.76)	(2.42)	(0.33)	(-0.06)
Delta Intangible Intensity$_{(t, t+1)}$	-0.0365	-0.0403	0.0329	0.0076
	(-0.70)	(-1.33)	(0.98)	(0.24)
Delta Leverage$_{(t, t+1)}$	-0.0056	-0.0230***	-0.0125**	-0.0120**
	(-0.48)	(-3.26)	(-2.03)	(-2.05)
Delta R&D$_{(t, t+1)}$	-0.0033**	0.0004	-0.0000	-0.0001
	(-2.54)	(0.86)	(-0.26)	(-0.81)
Delta AD$_{(t, t+1)}$	0.1967	-0.0164	0.0050	0.0666
	(0.65)	(-0.11)	(0.03)	(0.45)
Delta Cap Intensity$_{(t, t+1)}$	-0.0640	-0.0033	0.0548	0.0560*
	(-1.09)	(-0.10)	(1.54)	(1.72)
Delta Option Tax Ben$_{(t, t+1)}$	0.0148	-0.0325***	-0.0084	-0.0098
	(0.81)	(-3.06)	(-0.65)	(-0.80)
Delta NOL Ind$_{(t, t+1)}$	-0.0001	-0.0274	0.0123	0.0152
	(-0.00)	(-1.55)	(0.61)	(0.78)
Delta PTROA$_{(t, t+1)}$	0.0121***	-0.0036*	-0.0019	-0.0012
	(3.06)	(-1.86)	(-1.40)	(-0.93)
Constant	0.3112***	0.3219***	0.1964***	0.1425***
	(158.21)	(273.54)	(134.01)	(94.18)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Clustered SE	Firm	Firm	Firm	Firm
Observations	15,564	15,564	15,564	15,564
Adjusted R-squared	0.208	0.725	0.508	0.416

***, **, * indicate significance at the 1 percent, 5 percent, and 10 percent levels, respectively. This table presents the regression results of estimating the effect of IRS officials' transactions on subsequent likelihood of reducing tax uncertainty (*UTB Decrease*), lapse in statutes of limitations (*Lapse in Statutes*), settlements with tax authorities (*Settlement*) and large unfavorable settlements (*Unfav Settlement*). We define all variables in Appendix A. We report t-statistics in parentheses below coefficient estimates.

Table 6: Do LB&I Officials' Trades Predict Subsequent Changes in Fin 48 Reserves?

	UTB Decrease$_{t+1}$	*Lapse in Statutes$_{t+1}$*	*Any Settlement$_{t+1}$*	*Unfav Settlement$_{t+1}$*
IRS Purchase (non-LBI)$_{(t, t+1)}$	**0.0564***	**0.0502*****	0.0273	0.0011
	(1.82)	**(2.92)**	(1.15)	(0.04)
IRS Sale (non-LBI)$_{(t, t+1)}$	0.0052	0.0131	0.0255	**0.0554****
	(0.16)	(0.65)	(1.03)	**(2.13)**
IRS Purchase (LBI)$_{(t, t+1)}$	**0.1943*****	0.0534	0.0043	-0.0120
	(2.95)	(1.56)	(0.08)	(-0.19)
IRS Sale (LBI)$_{(t, t+1)}$	-0.0306	0.0266	0.0528	0.0415
	(-0.34)	(0.80)	(1.12)	(0.61)
Delta AT$_{(t, t+1)}$	0.0000***	0.0000**	0.0000	-0.0000
	(4.80)	(2.42)	(0.32)	(-0.13)
Delta Intangible Intensity$_{(t, t+1)}$	-0.0380	-0.0401	0.0334	0.0054
	(-0.73)	(-1.32)	(0.99)	(0.17)
Delta Leverage$_{(t, t+1)}$	-0.0056	-0.0230***	-0.0125**	-0.0122**
	(-0.48)	(-3.26)	(-2.04)	(-2.09)
Delta R&D$_{(t, t+1)}$	-0.0033**	0.0004	-0.0000	-0.0001
	(-2.55)	(0.86)	(-0.26)	(-0.91)
Delta AD$_{(t, t+1)}$	0.1947	-0.0160	0.0060	0.0643
	(0.64)	(-0.11)	(0.04)	(0.44)
Delta Cap Intensity$_{(t, t+1)}$	-0.0635	-0.0032	0.0549	0.0552*
	(-1.08)	(-0.10)	(1.54)	(1.70)
Delta Option Tax Ben$_{(t, t+1)}$	0.0149	-0.0325***	-0.0085	-0.0096
	(0.81)	(-3.07)	(-0.65)	(-0.79)
Delta NOL Ind$_{(t, t+1)}$	0.0001	-0.0274	0.0122	0.0166
	(0.00)	(-1.55)	(0.60)	(0.85)
Delta PTROA$_{(t, t+1)}$	0.0121***	-0.0036*	-0.0019	-0.0013
	(3.05)	(-1.86)	(-1.39)	(-0.98)
Constant	0.3110***	0.3219***	0.1964***	0.1424***
	(157.90)	(274.54)	(133.43)	(93.82)
F-stat for difference LBI vs. non-LBI Purchases	3.91**	0.01	0.16	0.04
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Clustered SE	Firm	Firm	Firm	Firm
Observations	15,564	15,564	15,564	15,564
Adjusted R-squared	0.208	0.725	0.508	0.593

***, **, * indicate significance at the 1 percent, 5 percent, and 10 percent levels, respectively. This table presents the regression results of estimating the effect of IRS officials' transactions for LB&I and non-LB&I officials on various subsequent tax uncertainty outcomes. We define all variables in Appendix A. We report t-statistics in parentheses below coefficient estimates.

Table 7: Do Coinciding Corporate Insider Trades and IRS Trades Predict Changes in Fin 48 Reserves?

	UTB Decrease$_{t+1}$	*Lapse in Statutes$_{t+1}$*	*Any Settlement$_{t+1}$*	*Unfav Settlement$_{t+1}$*
IRS Purchase (Only)$_{(t, t+1)}$	**0.0690***	**0.0402****	0.0325	-0.0034
	(1.95)	**(2.23)**	(1.21)	(-0.12)
IRS Sale (Only)$_{(t, t+1)}$	-0.0104	0.0093	0.0203	**0.0699****
	(-0.28)	(0.44)	(0.72)	**(2.37)**
IRS Purchase (& Insider)$_{(t, t+1)}$	**0.0751***	**0.0679*****	0.0125	-0.0008
	(1.82)	**(2.73)**	(0.38)	(-0.02)
IRS Sale (& Insider)$_{(t, t+1)}$	0.0130	0.0262	0.0472	0.0683
	(0.25)	(0.86)	(1.27)	(1.65)
Delta AT$_{(t, t+1)}$	0.0000***	0.0000**	0.0000	-0.0000
	(4.75)	(2.41)	(0.33)	(-0.06)
Delta Intangible Intensity$_{(t, t+1)}$	-0.0363	-0.0400	0.0329	0.0076
	(-0.70)	(-1.32)	(0.98)	(0.24)
Delta Leverage$_{(t, t+1)}$	-0.0056	-0.0230***	-0.0125**	-0.0120**
	(-0.48)	(-3.25)	(-2.03)	(-2.05)
Delta R&D$_{(t, t+1)}$	-0.0033**	0.0004	-0.0000	-0.0001
	(-2.54)	(0.89)	(-0.39)	(-0.76)
Delta AD$_{(t, t+1)}$	0.1984	-0.0150	0.0070	0.0665
	(0.66)	(-0.10)	(0.04)	(0.45)
Delta Cap Intensity$_{(t, t+1)}$	-0.0643	-0.0037	0.0547	0.0560*
	(-1.09)	(-0.11)	(1.54)	(1.72)
Delta Option Tax Ben$_{(t, t+1)}$	0.0149	-0.0325***	-0.0081	-0.0098
	(0.81)	(-3.06)	(-0.62)	(-0.80)
Delta NOL Ind$_{(t, t+1)}$	-0.0000	-0.0274	0.0125	0.0152
	(-0.00)	(-1.54)	(0.62)	(0.78)
Delta PTROA$_{(t, t+1)}$	0.0122***	-0.0036*	-0.0019	-0.0012
	(3.06)	(-1.85)	(-1.39)	(-0.93)
Constant	0.3112***	0.3219***	0.1964***	0.1425***
	(158.40)	(272.97)	(133.78)	(93.87)
F-stat for difference Insider vs. IRS Only Purchases	0.02	1.09	0.28	0.01
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Clustered SE	Firm	Firm	Firm	Firm
Observations	15,564	15,564	15,564	15,564
Adjusted R-squared	0.208	0.725	0.508	0.593

***, **, * indicate significance at the 1 percent, 5 percent, and 10 percent levels, respectively. This table presents the regression results of estimating the effect of IRS officials' transactions and corporate insiders on various subsequent tax uncertainty outcomes. We define all variables in Appendix A. We report t-statistics in parentheses below coefficient estimates.

Table 8: Do IRS Audit Likelihood and IRS Trades Predict Subsequent Changes in Fin 48 Reserves?

	UTB Decrease$_{t+1}$	*Lapse in Statutes$_{t+1}$*	*Any Settlement$_{t+1}$*	*Unfav Settlement$_{t+1}$*
IRS Purchase$_{(t, t+1)}$	**0.0996*** **	**0.0465** **	0.0394	0.0102
	(2.88)	**(2.30)**	(1.48)	(0.39)
IRS Sale$_{(t, t+1)}$	0.0234	0.0222	0.0219	**0.0546***
	(0.61)	(0.99)	(0.80)	**(1.90)**
IRS Audit$_{(t, t+1)}$	0.0268	0.0060	**0.0233***	0.0225
	(1.35)	(0.44)	**(1.73)**	(1.56)
IRS Purchase x IRS Audit$_{(t, t+1)}$	-0.0806	-0.0340	**-0.0910** **	-0.0712
	(-1.14)	(-0.93)	**(-2.14)**	(-1.45)
IRS Sale x IRS Audit$_{(t, t+1)}$	**-0.1763** **	-0.0133	0.0628	0.0796
	(-2.48)	(-0.34)	(1.33)	(1.41)
Delta AT$_{(t, t+1)}$	0.0000***	0.0000**	-0.0000	0.0000
	(5.29)	(2.39)	(-0.09)	(0.03)
Delta Intangible Intensity$_{(t, t+1)}$	-0.0683	-0.0523	0.0303	0.0093
	(-1.17)	(-1.52)	(0.78)	(0.26)
Delta Leverage$_{(t, t+1)}$	-0.0018	-0.0220***	-0.0158**	-0.0147**
	(-0.13)	(-2.75)	(-2.23)	(-2.23)
Delta R&D$_{(t, t+1)}$	-0.0024*	0.0003	0.0000	0.0000
	(-1.67)	(0.59)	(0.51)	(0.34)
Delta AD$_{(t, t+1)}$	0.0606	-0.0043	-0.0416	0.0564
	(0.18)	(-0.03)	(-0.24)	(0.34)
Delta Cap Intensity$_{(t, t+1)}$	-0.0322	0.0020	0.0596	0.0655*
	(-0.48)	(0.05)	(1.47)	(1.77)
Delta Option Tax Ben$_{(t, t+1)}$	0.0192	-0.0294***	-0.0056	-0.0096
	(1.03)	(-2.81)	(-0.43)	(-0.78)
Delta NOL Ind$_{(t, t+1)}$	0.0267	-0.0337*	0.0161	0.0084
	(0.85)	(-1.66)	(0.69)	(0.40)
Delta PTROA$_{(t, t+1)}$	0.0143***	-0.0037	-0.0022	-0.0018
	(3.24)	(-1.61)	(-1.43)	(-1.24)
Constant	0.3161***	0.3275***	0.2028***	0.1425***
	(100.87)	(169.27)	(85.66)	(61.82)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Clustered SE	Firm	Firm	Firm	Firm
Observations	13,120	13,120	13,120	13,120
Adjusted R-squared	0.208	0.725	0.508	0.433

***, **, * indicate significance at the 1 percent, 5 percent, and 10 percent levels, respectively. This table presents the regression results of estimating the effect of IRS officials' transactions and audit probability on various subsequent tax uncertainty outcomes. We define all variables in Appendix A. We report t-statistics in parentheses below coefficient estimates.

Table 9: Main Results Without Loss Firms and Controlling for *ETR*

	UTB Decrease$_{t+1}$	*Lapse in Statutes*$_{t+1}$	*Any Settlement*$_{t+1}$	*Unfav Settlement*$_{t+1}$
IRS Purchase$_{(t, t+1)}$	**0.0784****	**0.0543*****	0.0129	0.0036
	(2.36)	**(3.05)**	(0.48)	(0.12)
IRS Sale$_{(t, t+1)}$	-0.0058	0.0220	-0.0045	**0.0527***
	(-0.15)	(1.00)	(-0.17)	**(1.72)**
Delta AT$_{(t, t+1)}$	0.0000***	0.0000***	0.0000	0.0000
	(4.55)	(2.70)	(0.64)	(0.56)
Delta Intangible Intensity$_{(t, t+1)}$	-0.0860	-0.0864	0.0435	-0.0130
	(-0.91)	(-1.43)	(0.58)	(-0.19)
Delta Leverage$_{(t, t+1)}$	0.0237	-0.0814***	-0.0292	-0.0146
	(0.52)	(-2.84)	(-1.10)	(-0.56)
Delta R&D$_{(t, t+1)}$	-0.0314	0.0030	-0.0019	-0.0009
	(-0.95)	(1.07)	(-0.58)	(-0.38)
Delta AD$_{(t, t+1)}$	-0.6049	0.4497	0.1596	0.1247
	(-0.92)	(1.34)	(0.36)	(0.28)
Delta Cap Intensity$_{(t, t+1)}$	0.2185*	-0.0004	0.1243	0.1046
	(1.87)	(-0.01)	(1.47)	(1.35)
Delta Option Tax Ben$_{(t, t+1)}$	0.0217	-0.0235**	0.0010	0.0003
	(1.03)	(-2.08)	(0.06)	(0.02)
Delta NOL Ind$_{(t, t+1)}$	0.0202	-0.0280	-0.0087	0.0013
	(0.49)	(-1.07)	(-0.29)	(0.05)
Delta PTROA$_{(t, t+1)}$	-0.0658**	-0.0234	-0.0181	-0.0038
	(-2.00)	(-1.49)	(-1.48)	(-0.35)
ETR$_{t+1}$	-0.0002	-0.0572*	-0.0655*	-0.0166
	(-0.00)	(-1.77)	(-1.95)	(-0.55)
Delta ETR$_{(t, t+1)}$	0.0122	0.0262	0.0114	-0.0063
	(0.41)	(1.39)	(0.53)	(-0.32)
Constant	0.3592***	0.4598***	0.3006***	0.2110***
	(32.98)	(58.23)	(35.97)	(27.03)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Clustered SE	Firm	Firm	Firm	Firm
Observations	8,680	8,680	8,680	8,680
Adjusted R-squared	0.163	0.718	0.491	0.414

***, **, * indicate significance at the 1 percent, 5 percent, and 10 percent levels, respectively. This table presents the regression results of estimating the effect of IRS officials' transactions on various subsequent tax uncertainty outcomes after removing loss firms and adding *ETR* and *Delta ETR* as controls. We define all variables in Appendix A. We report t-statistics in parentheses below coefficient estimates.

APPENDIX A: VARIABLE DEFINITIONS

Variable Name	Definition
Dependent Variable	
UTB Decrease$_{t+1}$	An indicator variable equal to one if *ChgUTB* is less than zero, and zero otherwise.
Lapse in Statutes$_{t+1}$	An indicator variable equal to one if lapses in statutes of limitations on tax reserves (TXTUBSOFLIMIT) is greater than zero for non-missing values of lapses in statutes of limitations (TXTUBSOFLIMIT) and zero otherwise.
Any Settlements$_{t+1}$	An indicator variable equal to one if settlements with tax authorities (TXTUBSETTLE) is greater than zero for non-missing values of settlements (TXTUBSETTLE) and zero otherwise.
Unfav Settlements$_{t+1}$	An indicator variable equal to one for above-median values of *UNFAV* and zero otherwise.
Variables of Interest	
Insider$_{(t, t+1)}$	An indicator equal to one for firm-years if corporate insiders conducted open-market stock purchases or sales within one week before or after the IRS transaction date, zero otherwise.
IRS Audit$_{(t, t+1)}$	An indicator equal to one if IRS exposure (10-K mentions of the IRS for a firm-year) is in the top X percentile, where X is determined by IRS audit probability by asset class for a given year, zero otherwise.
IRS Purchase$_{(t, t+1)}$	An indicator variable equal to one if an IRS official purchases stock in the 365 days prior to the fiscal year end, zero otherwise.
IRS Sale$_{(t, t+1)}$	An indicator variable equal to one if an IRS official sold stock in the 365 days prior to the fiscal year end, zero otherwise.
LBI$_{(t, t+1)}$	An indicator variable equal to one if an IRS official with a job title indicating "Large Business and International" or "LB&I", purchased or sold stock in the 365 days prior to the fiscal year end, and zero otherwise.
Control Variables	
ChgUTB$_{(t, t+1)}$	The change in UTB between from year *t* to year *t+1*.
Delta AD$_{(t, t+1)}$	The change in advertising intensity, where advertising intensity equals advertising expense (XAD) scaled by sales (SALE), we set XAD equal to zero if missing.
Delta AT$_{(t, t+1)}$	The change in assets from year *t* to year *t+1*.
Delta Cap Intensity$_{(t, t+1)}$	The change in *PPE* from year *t* to year *t+1*.

Delta ETR$_{(t, t+1)}$	The change in *ETR* from year *t* to year *t+1*.
Delta Intangible Intensity$_{(t, t+1)}$	The change in *INTAN* from year *t* to year *t+1*.
Delta Leverage$_{(t, t+1)}$	The change in leverage (DLC+DLTT) scaled by assets from year *t* to year *t+1*.
Delta Option Tax Ben$_{(t, t+1)}$	The change in *Option Tax Ben* from year *t* to year *t+1*.
Delta PTROA$_{(t, t+1)}$	The change in pretax income from year *t* to year *t+1*, where pretax income equals pretax income (PI) net of special items (SPI), scaled by assets.
Delta R&D$_{(t, t+1)}$	The change in R&D intensity from year *t* to year *t+1*, where R&D intensity is the ratio of R&D (XRD) to sales (SALE), we set XRD equal to 0 if missing.
DNOL$_{(t, t+1)}$	The change in *NOL* from year *t* to year *t+1*.
ETR$_t$	The ratio of tax expense (TXT) to pretax income (PI).
FI$_t$	Pretax foreign income to (PIFO) scaled by lagged assets.
INTAN$_t$	Intangible assets (INTAN) scaled by lagged assets.
LEV$_t$	The ratio of long-term debt (DLTT) to lagged assets.
LOSS$_t$	An indicator equaling one if pretax income (PI) is less than zero, zero otherwise.
MB$_t$	The market to book ratio, defined as the ratio of the market value of equity (PRCC_F× CSHO) to the book value of equity (CEQ).
NOL$_t$	An indicator variable equal to one if tax loss carryforwards (TLCF) is greater than zero, and zero otherwise.
Option Tax Ben$_t$	An indicator equal to one if the tax benefits of stock options (TXBCOF) is greater than zero, and zero otherwise.
PPE$_t$	Property, plant, and equipment (PPENT) scaled by lagged assets (AT).
ROA$_t$	Pretax income (PI) before interest (XI) scaled by lagged assets (AT).
UTB$_t$	Current year additions to UTB (TXTUBPOSINC – TXTUBPOSDEC) scaled by lagged assets (AT).
UNFAV$_t$	The residual of the regression relating interest and penalties expense (TXTUBSINTIP) as a function of tax reserves as modelled in Equation (1) of Finley (2019).