Determinants of Lengthy IRS Conflict

by

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ABSTRACT

This study examines determinants of the length of conflict between firms and the Internal Revenue Service (IRS). I hand collect firm disclosures of the number of years open for federal tax purposes to create a proxy for IRS conflict length. Using this proxy, I find evidence that larger firms, firms with more book-tax differences, and firms facing higher IRS attention and audit probabilities are associated with lengthier IRS conflicts. In contrast, firms with higher deferred tax assets, intangibles, return on assets, and firms disclosing participation in the Compliance Assurance Process program are associated with shorter IRS conflicts. Additional analyses show IRS conflict length is positively associated with manager risk preferences and poor tax accounting quality. I also find lengthier IRS conflicts are associated with higher future tax risk and higher audit fees. Tax controversy is becoming increasingly important for firms but remains relatively understudied. I provide empirical evidence on cross-sectional variation in IRS conflict length.

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CHAPTER 1

INTRODUCTION

The majority (55%) of respondents to a 2017 survey of tax executives see tax conflict management becoming more important (Ernst and Young [EY] 2017). In this study, I examine the determinants of the length of conflict between firms and the Internal Revenue Service (IRS).[1] Both firms and the IRS have incentives to work towards timely dispute resolution. For firms, lengthy IRS conflicts can entail additional accounting and legal costs, as well as increased uncertainty in future cash tax flows. Likewise, the IRS is under increasingly prohibitive resource constraints that create incentives to reduce time and resources spent on any one audit. Despite incentives faced by both parties to work toward timely resolution (De Simone, Sansing, and Seidman 2013), there is considerable variation in the length of disputes between firms and the IRS.

As of 2007, firms are required to disclose "a description of tax years that remain subject to examination by major tax jurisdictions" in their 10-K (FASB 2006). A federal tax return is considered "open to examination" to the extent the IRS can still choose to assess additional tax. The IRS generally has a three-year statute of limitations to initiate an audit of a filed tax return (IRC §6501(a)); thus, when firms disclose open years beyond the statute of limitations, they provide financial statement insight as to the extent of conflicts with the IRS. By hand collecting tax footnote disclosures on IRS years that

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[1] I refer to IRS "conflict" as inclusive of ongoing IRS audits, escalations through IRS appeals, tax court, higher courts, as well as reviews by the Joint Committee on Taxation.

remain open, I create a proxy for IRS conflict length. While prior research examines limited aspects of the IRS enforcement process (e.g. Bozanic, Hoopes, Thornock and Williams 2017; Hoopes, Mescall, and Pittman 2012; Mills 1998), to my knowledge no prior research specifically examines the *length* of conflicts between firms and the IRS.

When selecting determinants for IRS conflict length, I consider the timeline leading to a lengthy conflict. I test firm characteristics that may be associated with more contentious tax positions in the originally filed return, as well as firm and IRS characteristics that may make the firm more likely to be selected for audit, more likely to face an assessment for additional tax upon audit, and more likely to lead to an escalation of the conflict, potentially through appeals or even to court.

I examine whether the length of IRS conflict is associated with (1) tax avoidance, measured by book-tax differences; (2) the aggressiveness of the tax positions taken during the years that remain open, measured by uncertain tax benefits (UTBs); (3) firm tax attributes, measured by deferred tax assets, deferred tax liabilities, and net operating losses; (4) firm asset structure, measured by PP&E and inventory; (5) debtholder monitoring, measured by leverage; (6) firm financial health, measured by cash and return on assets; (7) tax complexity, measured by multinationality, research and development expense, and intangibles; (8) size, measured by total assets; (9) firm growth, measured by sales growth and the market to book ratio; (10) IRS resources being directed against similarly-sized corporate taxpayers, measured by time and size varying IRS audit probabilities; (11) the level of IRS effort being exerted against the firm, measured by the

number of times the IRS downloads the firm's 10-Ks during the year; and (12)

participation in the Compliance Assurance Process (CAP) program, by using an indicator

for the firm voluntarily disclosing they are in the CAP program. [2]

After screening for firm-years that are not missing relevant Compustat data, I

hand collect disclosures pertaining to the number of IRS-specific tax years that remain

open from firms' tax footnotes within their 10-K filings. My most general sample is

comprised of 1,445 unique firms, or 5,482 firm-years between 2010 and 2015. In addition

to collecting data on the number of IRS years open, I also hand collect voluntary

disclosure data on both firm participation in the CAP program as well as the existence of

ongoing IRS audits.

I find evidence that the length of IRS conflict is positively associated with the

aggressiveness of the positions taken during the years that remain open.[3] I also find that

firms facing higher IRS attention and higher audit probabilities tend to have more years

open, consistent with the necessity for initiation of a conflict before it can become

lengthy. IRS audit probabilities are changing over time as a function of the level of IRS

resources being directed against corporate taxpayers, therefore my findings are also

consistent with higher IRS corporate enforcement resources being associated with

lengthier conflict. Consistent with the intended effect of the program, I find that firms

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[2] The Compliance Assurance Process program is a voluntary program where participant firms undergo contemporaneous tax audits before a return is even filed in exchange for expedited closure of tax years.
[3] A useful feature of the UTB balance is that it specifically reflects UTBs from those years that remain open. That is, if a firm has 6 years open, the UTB balance will reflect 6 years worth of uncertain tax positions.

who disclose participation in the CAP program are likely to resolve IRS conflict faster. Finally, I find evidence that firms with greater DTAs, intangibles, ROA, or inventories are likely to have less unresolved years with the IRS.

My results suggest the contentiousness of the original positions taken, as well as greater IRS and firm resources are associated with longer conflicts. I also find evidence that certain firm characteristics such as greater tax attributes may shorten IRS conflict, consistent with these conflicts being easier to resolve via adjustments to the tax attributes (rather than requiring immediate cash payments).

To examine nonlinearities regarding the number of years open, I perform an additional set of analyses to test whether certain firm characteristics are likely to have an effect for particularly long, or particularly short conflict periods. Specifically, I re-estimate my analyses using indicators for a firm exceeding various thresholds of numbers of years open (e.g. an indicator for having more than 3, or more than 9 years open). While most of the inferences from my main analysis are stable using various thresholds, certain characteristics tend to have a stronger effect on the likelihood of particularly lengthy conflicts. For example, greater leverage and intangibles are associated with a lower likelihood of a firm having more than nine years open, but have little effect on the likelihood of having more than three or four years open.

My measure of IRS conflict length helps build upon recent studies examining different aspects of IRS tax enforcement. For example, Hoopes et al. (2012) use Transactional Records Access Clearinghouse (TRAC) data that provide IRS audit

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probabilities based on firm size (asset) intervals and year. The authors find firms in a size-year bucket with greater IRS audit probability exhibit higher effective tax rates. Bozanic et al. (2017) use 10-K downloads by the IRS to develop a proxy for firm-specific IRS attention. IRS attention captures information gathering activities by the IRS that aid in auditing a firm. Other work uses uncertain tax benefits (UTB) or UTB settlements to capture general tax authority monitoring (Finley and Stekelberg 2019). I posit that IRS conflict length captures a distinct construct to audit probability, IRS attention, or measures that include positions with state and foreign tax jurisdictions (e.g. UTBs or ETRs). Greater IRS audit probability or IRS attention might not necessarily result in lengthy conflict – the IRS might not actually audit the specific firm, might not generate an assessment, or an assessment may be settled in a timely manner. A greater number of IRS years open, on the other hand, generally measures conflict that could not be resolved during standard statutory periods.

In additional analyses, I examine whether CEO preferences for risk taking are associated with IRS conflict length. Engaging in lengthy IRS conflict can be risky, because a firm trades a relatively moderate outcome (settling quickly with the IRS for some amount in between the two parties' positions) for a more extreme outcome (winning or losing in appeals or tax court). Because IRS conflict is a form of firm risk-taking behavior, I expect managers with greater risk incentives to be associated with IRS conflict. It is also likely that some managers would *not* prefer lengthy conflicts with the IRS. For example, managers near retirement or those with considerable wealth tied up in

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the company might prefer lower levels of firm risk taking. Consistent with these conjectures, I find some evidence that CEOs with higher Vega are associated with lengthier IRS conflicts, while CEOs at or beyond retirement, and those with higher wealth invested in their firm stock are associated with shorter IRS conflicts.[4]

I also perform additional tests to examine whether poor tax accounting quality is associated with longer IRS conflicts. Poor tax accounting quality may lead to difficulty in locating supporting documentation for tax positions, may require correction of errors, and may even necessitate filing amended tax returns – all of which can lengthen the time a firm's tax return is exposed. Following prior literature, I proxy for poor tax accounting quality using tax related restatements and tax related internal control weaknesses (Fox and Wilson 2019). I find some evidence that firms with poor tax accounting quality to have lengthier IRS conflicts.

After determinants, I examine tax and nontax costs of IRS conflict length. Guenther, Matsunaga, and Williams (2017) note that tax risk (volatility of cash effective tax rates) is costly to firms as it is associated with greater firm risk. Large eventual resolutions of lengthy IRS conflict can introduce significant volatility in firm tax rates. Consistent with protracted IRS conflict creating greater tax risk, I find a greater number of years open is associated with higher future cash tax volatility. Extended IRS conflicts necessitate subjective estimates in firm financial statements. Verifying these estimates

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[4] These later analyses are performed separately to limit severe sample attrition from requiring additional data sets.

may require significant professional judgment by financial statement auditors, introducing more risk to the audit process. These audit risks may increase the cost of providing assurance. I find lengthier IRS conflicts are associated with higher financial statement audit fees. These findings offer evidence that lengthy IRS conflict creates significant economic costs to firms.

My study adds to the literature examining tax outcomes over longer time horizons. For example, Dyreng, Hanlon, and Maydew (2008) find many firms can maintain low effective tax rates for extended periods of time. Using private IRS data, Beck and Lisowsky (2014) find firms who voluntarily enter the CAP program reduce their UTB balances by 16.5%. Beck and Lisowsky (2014) note "the CAP program features a more cooperative and **timely resolution** of uncertain tax positions". Part of my findings suggest that lengthy IRS conflict is significantly associated with UTB balances. This is consistent with larger UTB balances mechanically reflecting additional years' positions that remain unresolved past their statutory three-year period due to IRS audit conflict. That is, a greater UTB balance could reflect longer conflict with the IRS instead of (or in addition to) the aggressiveness of the original position. These findings are particularly relevant given the extant and growing literature using UTBs as a measure of tax aggressiveness (Hanlon and Heitzman 2010).

This manuscript contributes to the tax enforcement literature by examining a publicly available source of data on IRS conflict length.[5] Taken together, my determinant

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[5] Recall that IRS 10-K downloads were, until recently, only available via a FOIA request.

findings suggest lengthier IRS conflict is jointly determined by firm, manager, and IRS characteristics. By documenting economic consequences to lengthy IRS conflict, I also contribute to the tax risk literature by providing context to findings in Nesbitt, Outslay, and Persson (2017) who note positive market reactions to revelations of reduced tax agency conflict risk.

The remainder of this manuscript is organized as follows: Section II discusses background and theoretical development, Section III describes sample selection, descriptive statistics, and research design, Section IV provides results, and Section V concludes.

CHAPTER 2

BACKGROUND AND THEORETICAL DEVELOPMENT

Background

Following the Financial Accounting Standards Board's (FASB) pronouncement

of Financial Interpretation No. 48 (FIN 48) in 2007 on accounting for uncertainty in

income taxes, firms are now required to disclose "a description of tax years that remain

subject to examination by major tax jurisdictions."[6] Other additional disclosure

requirements include a tabular reconciliation of unrecognized tax benefits, unrecognized

benefits that would affect the effective tax rate, interest and penalties recognized, and

qualitative information on unrecognized benefits that could change within 12 months

(FASB 2006, p. 6). These disclosure requirements were motivated by a desire to provide

financial statement users with information to assess the risk of tax positions (Blouin,

Gleason, Mills, Sikes 2007).

Firms have incentives to resolve IRS assessments quickly: paying the proposed

assessment or settling for an amount slightly lower than the IRS's original position can

close tax years and reduce the firm's exposure. The perceived value of reducing these

uncertainties is demonstrated in firm's *voluntary* participation in the IRS's CAP program,

where firms willingly place themselves under IRS audit before their returns are even filed

in exchange for a faster resolution. For firms that do face additional tax assessments,

settling quickly can save the firm from needing to procure old documentation to further

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[6] FIN 48 became effective for fiscal years beginning after December 16, 2006.

support previously taken tax positions. Closing tax years in a timely manner can prevent

interest and penalties from accruing, and can also save the firm legal, accounting, and

potentially political costs of a drawn-out appeal and tax court process.[7] Because of the

low IRS audit probability in any given year, it may not be cost-effective for firms to

permanently retain human resources whose only responsibility is to deal with these

audits.[8] Therefore, it is likely that employees (such as the CFO or tax director) who deal

with these audits have other functions during normal non-audited periods (e.g. forward-

looking tax planning, etc.) – functions whose performance may suffer during an IRS

audit. Such costs may motivate firms to avoid lengthy conflicts. It is plausible that

lengthy IRS conflicts could also result in reputational and political costs. For example,

Dyreng, Hoopes, and Wilde (2016) find firms facing public pressure are concerned

enough about reputational costs that they increase their tax expense, suggesting

reputational costs could similarly reduce incentives to fight the IRS.

Despite incentives against it, frictions exist that promote conflict length. Even if

both the IRS and firms roughly expect the same ultimate outcome of a negotiation, a

game-theoretical problem develops whereby both parties (the IRS and the firm) take

aggressive positions that deviate from that resolution expectation in order to "walk down"

to the expected outcome. Consistent with this conjecture, Hanlon, Mills, and Slemrod

(2005, p.8) note that because both parties may expect a negotiation to ensue, the initial

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[7] For example, hedge fund Renaissance Technologies is in an ongoing dispute with the IRS that has already accrued almost $1 billion dollars in penalties (Mider and Weiss 2019).

[8] Even among my sample of publicly traded firms, the median sized firm only faced a 22% IRS audit probability in 2015 according to TRAC data.

"tax liability per the originally filed return, as well as the initial deficiency assessed by the examination team, may be partly a tactical 'opening bid' that is neither party's best estimate of the 'true' tax liability". Similarly, some firms may attempt to appear a "combative target" and seek to send a message that they will take a fight all the way to court for every tax dollar to dissuade future IRS assessments. Consistent with competing incentives for and against tax controversy, the length of conflicts between firms and the IRS exhibit considerable variation.

In addition to firm-borne costs, the IRS itself can incur greater legal and staffing costs. Conflict length can also cause the IRS to bear greater outcome uncertainty and may increase the difficulty of achieving its goal of distributed enforcement of the tax code. The IRS is under increasingly prohibitive resource constraints.[9] The Tax Policy Center notes IRS enforcement activities such as audits against corporations has fallen by half between 2010 and 2018.[10] To the extent one given tax audit becomes protracted, IRS staff may be unable to move on to other audits, leading to an even lower overall audit rate.

Several events must occur in sequence before a firm finds itself in a lengthy conflict with the IRS. First, a firm takes positions on their tax return as to what their tax liability should be. Second, the IRS must choose to audit the firm, and upon audit, assess additional tax. Third, the firm must choose to contest the additional tax (instead of accepting it), potentially through appeals, and beyond to tax court and higher courts.

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[9] Between 2010 and 2017 the IRS budget dropped by about 18% and staff was reduced by 13,000 (14%). (Debot, Horton and Marr 2017).
[10] https://www.taxpolicycenter.org/taxvox/irs-data-book-tells-story-shrinking-staff-fewer-audits-and-less-customer-service

Given the confluence of events required, it is likely that firm or IRS characteristics that increase the probability of events along this sequence may be associated with lengthier IRS conflict. That is, because a conflict must first begin before it can become lengthy, characteristics leading to the *initiation* of conflict may also be associated with *lengthy* conflict. However, because firms face relatively low IRS audit probabilities,[11] some firms may rationally take aggressive positions without intention of defending them if audited and discovered. Therefore, it is not obvious that conditions and activities leading to an IRS assessment would necessarily lead to a lengthy conflict.

Prior literature has developed some measures of IRS activity using publicly available data. Hoopes et al. (2012) use TRAC data from Syracuse University to identify the probability that a size-year interval of firms will be audited, finding firms exhibit higher effective tax rates when IRS audit rates increase. Though such data is useful for examining firms' behavior in response to the likelihood of an audit, it is not firm-specific. As such, the TRAC data cannot be used to study determinants of audit selection or conflict length. Bozanic et al. (2017) develop a firm-specific measure by capturing how many times the IRS downloaded any of a firm's 10-Ks during a given year, finding strategic behavior by firms to avoid provision of an "audit roadmap" to the IRS. This measure allows identification of IRS attention directed at specific firms. The authors validate that such attention is not random. For example, attention dissipates during IRS

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[11] TRAC provides audit probabilities for size intervals by year. For example, a median sized firm in my sample (1.4B in assets) would fall into the $1B to $5B in assets size interval. Firms in this size interval had a 22% (27%) IRS audit probability in 2015 (2010).

shutdowns driven by federal budget political impasses. However, the authors stop short of claiming their measure identifies active audits. It is plausible that the IRS gathers public information from the 10-K in their audit selection process or shortly thereafter (while reviewing the firm's tax filings but before formally beginning an extensive audit). Using firms' 10-K downloads can aid in the study of the IRS selection process but is limited in its ability to examine *lengthy* IRS conflicts. Moreover, being selected for audit and having a lengthy conflict are different constructs – a firm must first be selected for audit before it can develop a lengthy conflict. Consequently, I expect audit probabilities and IRS attention to be positively associated with my measure of IRS conflict length.

Theoretical Development

Though some existing research examines various aspects of interactions between firms and the IRS, there is relatively limited guidance to direct expectations. Therefore, while I employ literature on related constructs to develop my expectations, this study can be interpreted as exploratory, and as a start to the examination of the determinants of IRS conflict length.

When considering events leading to a lengthy conflict, the firm must first take positions on their tax return. Some positions that are advantageous from a tax perspective can give rise to differences between GAAP earnings – which management generally attempts to maximize – and tax earnings – which management generally attempts to minimize (i.e. book-tax differences). Mills (1998) finds that firms with greater book-tax differences are positively associated with proposed IRS adjustments. Larger adjustments

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are more likely to be worth contesting. Therefore, I expect that book-tax differences may be positively associated with lengthier IRS conflict.

Certain positions may be considered 'aggressive' if, for example, they rely on relatively under-established precedent from lower courts. Tax benefits arising from tax positions that fail the "more likely than not [to prevail in court]" standard must remain unrecognized from a GAAP perspective via an increase in the uncertain tax benefit balance. Tax positions requiring increases to the UTB balance are likely to be seen by the IRS as easier to challenge.[12] Moreover, Beck and Lisowsky (2014) find evidence that moderate levels of UTBs may be related to firm participation in the CAP program.[13] An interesting feature of the UTB balance in my setting is that the UTB balance decreases when the statute of limitations expires or when the positions are settled with the revenue agency. Therefore, the UTB balance specifically reflects positions *from those years that remain open.* In other words, a firm with three (nine) years open would have a UTB balance with three (nine) years' worth of uncertain tax positions.

Once the IRS chooses to audit and assess additional tax, certain firm characteristics could affect the length of the ensuing conflict. For example, firm tax attributes such as deferred tax assets, deferred tax liabilities, and net operating losses may reduce the immediate cash effects of additional tax assessments. Therefore, it may be

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[12] Consistent with this conjecture, Bozanic et al. (2017) finds UTBs are positively associated with IRS 10-K downloads.
[13] Firms participating in the IRS's CAP program agree to contemporaneous audits of their tax positions before they are formally filed in exchange for an expedited tax audit process, which may plausibly shorten IRS conflict length.

easier to negotiate an assessment by resolving it with an adjustment to the tax loss carryforward balance than to press for a cash payment. I expect firm tax attributes to be negatively associated with IRS conflict length.

Asset structure affects the types of transactions that firms engage in, which may have differing tax treatments (e.g. depreciation for firms with high PPE, or using LIFO for firms with high levels of inventory). These types of transactions and tax treatments may have lower levels of contentiousness that may reduce the length of conflict with the IRS.

Engaging in lengthy IRS conflict can move the resolution of the conflict from a moderate outcome (settling) to a more extreme outcome (e.g. winning or losing in tax court). Firms that are highly leveraged likely receive additional oversight from lenders who bear asymmetric downside risk (Loktionov 2009). I expect firms with higher leverage to be less likely to engage in lengthy IRS conflict.

Hanlon, Maydew, and Saavedra (2017) find that firms facing greater tax uncertainty hold cash to satisfy potential future cash tax payments, suggesting that firms facing lengthy conflict might preemptively hold more cash. However, Edwards, Schwab, and Shevlin (2016) find financially distressed firms increase internal fund generation by engaging in tax planning, suggesting cash-starved and poorly performing firms might be the most in need to "borrow" funds from the IRS by dragging out conflict. Though I expect cash and firm performance to be associated with IRS conflict length, ex ante the direction is unclear.

It is possible that firms that are more complex may have complicated tax issues that take longer to resolve. Ayers, Seidman, and Towery (2019) note that firms with more complex operations are more likely to be assigned to the Coordinated Industry Case program, guaranteeing an audit. However, De Simone, Mills, and Stomberg (2017) find multinational firms that engage in greater net intercompany payments out of the US are *less* likely to be selected for IRS audit. Therefore, it is also possible that complexity (such as multinationality, research and development, and intangibles) could be *negatively* associated with IRS conflict length. Similarly, Ayers et al. (2019) note that in a typical time period, a firm would be notified regarding CIC assignment relatively shortly after filing their tax return (p.30). Therefore, despite CIC audits not being contemporaneous, it is possible that CIC assignment (and firm complexity) *increases* the speed with which IRS conflicts are resolved in a manner similar to the CAP program, by fast-tracking IRS review of those positions.

Accounting and legal costs to dispute a tax assessment can be investments with a positive net present value. Larger firms are likely to receive larger tax assessments. However, accounting and legal costs are unlikely to increase linearly with the size of the tax liability. Therefore, it is more likely for dispute-related accounting and legal costs to have a positive net present value when the amounts disputed are larger. It is also likely

that larger firms simply have more resources to engage in lengthier conflict.[14] Consequently, I expect larger firms to have lengthier conflicts with the IRS.

Firms with greater growth may experience issues with their accounting systems. For example, firms with high levels of growth are associated with internal control weaknesses (Doyle, Ge, and McVay 2007). Consequently, firms experiencing high growth may be less equipped to deal with tax audits in a timely manner, leading to lengthier IRS conflicts.

Because the IRS is the opposing party in these conflicts, I expect IRS characteristics to impact the conflict length. To capture IRS resources, I borrow a measure from Hoopes et al. (2012) that identifies the probability that firms in various asset size categories (e.g. firms with 250-500M in assets, etc.) will be audited in a given year. These probabilities change over time and are a reasonable proxy for the level of resources the IRS is directing against similarly-sized taxpayers. Therefore, I expect IRS audit probabilities to be positively associated with IRS conflict length.

I expect the IRS to exert more effort against firms that it wants to build a strong case against to prepare for escalation of conflict. IRS attention, as measured by IRS 10-K downloads in Bozanic et al. (2017), is a good proxy of information gathering effort against the firm. I expect that the level of IRS attention directed at the firm to be positively associated with IRS conflict length.

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[14] Consistent with this, in the individual income tax enforcement space, the IRS has recently been found to be less likely to audit rich taxpayers (than the poor) because of the difficulty involved (Kiel 2019).

Some firms voluntarily enter the CAP program and accept contemporaneous audits – that begin before their tax return is even filed – in exchange for a faster closing of their tax years. The fact that an expectation of faster closing of tax years is sufficient to entice firms to submit to these audits serves as evidence that firms are deeply interested in reducing their conflict length. Through hand collection from firm 10-Ks, I find approximately 4% of my sample discloses CAP program participation.[15] I expect participation in the CAP program to be negatively associated with IRS conflict length.

Table 1 provides a summary of expectations and variable calculations.

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[15] Firms are not required to disclose participation in the CAP program.

CHAPTER 3

SAMPLE SELECTION, DESCRIPTIVE STATISTICS, AND RESEARCH DESIGN

Sample Selection

To examine IRS conflict length, I hand-collect 10-K disclosures of the number of years open for federal purposes. The IRS generally has three years to begin an audit of a firm.[16] Therefore, a greater number of years open is a plausible proxy of IRS conflict length. Consistent with this conjecture, in later sensitivity analysis, firms who voluntarily disclose that they are under IRS audit are positively associated with having more IRS years open. I use the phrase "under audit" to include instances where a return is under review, in appeals, in tax court, or under review by the Joint Committee for Taxation. Figure 1 provides further explanation of the number of years open. I begin with US firms listed in Compustat from 2010-2015. My sample period begins in 2010 because TRAC data for IRS audit probabilities becomes considerably more granular beginning in 2010. I conclude my sample period in 2015 because IRS attention data ends during 2015.[17] I then exclude firms missing necessary Compustat data, Real Estate Investment Trusts, and firms whose share price is less than $1. To reduce hand collection of unusable observations, I also require firms to have positive income in either t-1, t, or t+1. This design choice helps exclude firms facing continuous losses[18], while not excluding firms

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[16] Exceptions include instances where there is a substantial understatement of income or where the IRS requests and receives a voluntary extension from the taxpayer.

[17] I would like to thank Jeff Hoopes for making this data available.

[18] During preliminary sample collection, I found many research startup firms reporting over a decade of continuous losses. I found heterogeneity in whether these firms would separately disclose years open due to the standard statutory window (generally 3 years if not under audit) and years open due to losses (10+

with temporary low performance. These restrictions lead to 11,313 firm-year

observations that I attempt to collect.

I then exclude observations that were non-compliant because they did not disclose

the number of years open, observations with more than 20 years open, or observations

who provided a range of years open (e.g. "3-5 years open"). Finally, I exclude

observations where inferences regarding IRS conflict are impossible due to net operating

losses causing additional years open, or where the disclosure aggregates multiple

jurisdictions. Appendix B includes excerpts from tax footnotes for firms whose

disclosures were usable and not usable. Observations excluded due to losses include

instances where firms include tax loss carryforward years in their "earliest year open"

disclosure, or firms with a high number of open years whose earliest tax year open aligns

with their year of incorporation.[19] The number of years open for these observations is not

reflective of IRS conflict, necessitating their exclusion. I also exclude instances where

firms aggregate multiple jurisdictions in the disclosure, as IRS-specific inferences are not

possible.[20] These sample restrictions provide 5,482 firm year observations for my most

general determinant model. I then merge in IRS Attention and TRAC IRS audit

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years). I exclude these firms from my sample to prevent non-disaggregating and extended loss-state firms from contaminating my inferences.

[19] E.g., many firms would disclose "We have tax years open going back to our inception [fifteen years ago]."

[20] For example, a firm's 2010 10-K disclosing "Our earliest year open is 2007 federal purposes, 2005 for state and local, and 2003 for foreign" would be collected, whereas one whose disclosure read "Our earliest tax year open for federal, state, and foreign purposes is 2003" would be insufficiently clear. I provide comparative descriptives for firms excluded due to disclosure aggregation in Table 3, Panel B.

probabilities. Later tests sometimes require additional data sources, leading to further

sample attrition. My sample selection is described in Table 2.

Descriptive Statistics

Firms must disclose the number of years open to potential audit, even if the

disclosure only reflects the statutory three-year period. The mean (median) firm-year in

my sample has 4.7 (4) IRS years open.[21] Reviewing the distribution of IRS years open,

the 5th and 95th percentiles correspond to two and nine years open, respectively. This

variation reflects some firms facing audits that close faster than the statutory period,

while other firms engage in lengthier conflict. Separately, I collect data on instances

where firms voluntarily disclose that they are under IRS audit in the tax footnote. I find

30.2% of my sample discloses an ongoing federal audit. This is consistent with the mean

TRAC *AuditProb* of my sample being 31.5%. Further descriptive statistics are provided

in Table 3, Panel A. Comparative descriptive statistics relative to firms dropped due to

disclosure aggregation are shown in Table 3, Panel B. Firms with clear disaggregated IRS

disclosures tend to be larger, more profitable, and facing more IRS attention than firms

with unclear aggregated disclosures. The exclusion of firms who aggregate IRS years

open with other jurisdictions is necessary to arrive at valid inferences because other

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[21] This is consistent with Robinson and Schmidt (2013) who descriptively note "on average, each firm has approximately five open tax years subject to examination by federal tax authorities". Robinson and Schmidt do not explicitly perform tests using the number of years open – they create a FIN 48 disclosure quality measure which, among other things, is "better" if firms comply with the requirement to disclose the number of years open.

jurisdictions have different statutory periods. Exclusion of these firms is a limitation of my study.

Pairwise correlations are shown in Table 4. IRS years open is significantly correlated with other measures of IRS enforcement. The number of IRS years open a correlation of 0.20 with the log of IRS 10-K downloads, and a correlation of 0.29 with size-driven audit probability.[22] These correlations provide univariate evidence that the number of years open captures a related construct, as IRS 10-K downloads and a higher probability of being audited are leading indicators of a firm being targeted for an audit – i.e., a conflict must first begin in order to ever become lengthy. The imperfect correlations suggest that though the measures are related, they capture different constructs – being chosen for audit will not always lead to lengthy conflict.

I calculate the number of IRS years open as (10-K year – earliest year open + 1).[23] Figure 2 shows the frequency with which a given level of IRS years open is disclosed. Four years is the most frequently listed level, consistent with tax returns being typically filed at the extended deadline of October in the subsequent year. I note a slightly longer right tail, with some firms having lengthy IRS conflicts. Of the shown sample of 5,482 firm years, 1,870 have five or greater years open, consistent with meaningful variation in

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[22] The number of IRS years open also has significant correlations of 0.38 with voluntarily disclosing an ongoing IRS audit, -0.05 with GAAP effective tax rates, and -0.05 with cash effective tax rates (untabulated).

[23] A calendar year firm's 2010 income statement will typically be reflected in tax returns filed October 2011. The three-year statute of limitations generally starts when the return is filed.

IRS conflict length. The lack of overdispersion seen in Figure 2, as well as formal

goodness of fit tests confirm the appropriateness of using a Poisson model.

Research Design

To develop a determinants model for lengthy IRS conflicts, I estimate the

following Poisson model:

$$
\begin{aligned}
IRSYearsOpen = {} & \beta_0 + \beta_1 BTD + \beta_2 UTB + \beta_3 DTA + \beta_4 DTL + \beta_5 AmountNOL \\
& + \beta_6 DeltaNOL + \beta_7 PPE + \beta_8 Inventory + \beta_9 Lev + \beta_{10} Cash + \beta_{11} ROA \\
& + \beta_{12} MNE + \beta_{13} RND + \beta_{14} Intangibles + \beta_{15} Size + \beta_{16} SalesGrowth \\
& + \beta_{17} MTB + \beta_{18} AuditProb + \beta_{19} IRSAttn + \beta_{20} YesCAP + \beta_k IndustryFE \\
& + \beta_k YearFE \quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad (1)
\end{aligned}
$$

I examine the relationship between several covariates and the length of IRS

conflict. Book-tax differences are associated with higher IRS tax assessments (Mills

1998), therefore I measure firm book-tax differences with *BTD*. I measure the tax

aggressiveness of positions with the *UTB* balance. Because tax assessments may be easier

to settle with tax attribute adjustments, I measure firm tax attributes with deferred tax

assets (*DTA*), deferred tax liabilities (*DTL*), and the amount and change in tax loss

carryforwards (*AmountNOL* and *DeltaNOL*). Firms with certain asset structure may have

relatively more straightforward tax positions, therefore, asset structure is measured with

PPE and *Inventory*. Debtholders bear asymmetric downside risk and may not want firms

to engage in lengthy and risky IRS conflict, therefore I include a measure for leverage

(Lev). Firms' cash holdings are measured with *Cash*. Firm performance is measured with

return on assets (*ROA*).Because complexity may be associated with selection into the CIC

program (Ayers et al. 2019) and may result in prompter IRS review of tax positions, I

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measure complexity with an indicator for multinationality (*MNE*), research and development expense (*RND*) and *Intangibles*. Firm size is captured with the natural log of assets (*Size*). Firms with higher growth may have more accounting problems and consequent difficulty responding to tax assessments quickly, therefore, growth is measured by *SalesGrowth* and the market to book ratio (*MTB*). I capture IRS effort against the firm with the number of IRS downloads of firm 10-Ks (*IRSAttn)*. I also measure the level of IRS resources being directed at similarly sized firms with *AuditProb*. Finally, I proxy for participation in the CAP program with an indicator set to one if the firm discloses CAP participation, and zero otherwise (*YesCAP*). I also include year and industry fixed effects, with standard errors clustered by firm. I use a Poisson model because it is the most popular model for count data (Wooldridge 2012, p.645). Detailed variable definitions are provided in Appendix A.

CHAPTER 4

RESULTS

Main Results

I estimate model (1) in Table 5. Consistent with prior findings that BTDs are associated with more IRS tax adjustments (Mills 1998), in Column (1), I find that higher BTDs are associated with more IRS years open ($\beta = 0.183$, $p < 0.10$). Using the margins command in Stata, I find a movement from the 25th to 75th percentile in *BTD* is associated with 0.046 more years open, or 1% more than the median (4). I find a significantly positive coefficient for uncertain tax benefits ($\beta = 6.793$, $p < 0.01$), consistent with tax aggressiveness leading to lengthier IRS conflict. I find moving from the 25th to 75th percentile in *UTB* is associated with 0.318 more IRS years open, 8% more relative to the median number of years (4). I find deferred tax assets are negatively associated with IRS conflict length ($\beta = -0.304$, $p < 0.10$), with a 25th to 75th percentile movement being associated with 0.067 fewer years open, or 1.7% fewer years than the median (4). I find *ROA* to be negatively associated with IRS years open ($\beta = -0.407$, $p < 0.01$). Moving from the 25th to 75th percentile in *ROA* is associated with 0.199 fewer years open, or 5% fewer than the median (4). I find intangibles are negatively associated with lengthy IRS conflict ($\beta = -0.131$, $p < 0.05$), which although not necessarily intuitive, is consistent with previous findings that these firms face less IRS attention (Bozanic et al. 2017). Moving from 25th to 75th percentiles in *Intangibles* is associated with 0.228 fewer years open, or 6% fewer relative to the median (4). Given that size is a significant determinant of being

selected for IRS audit, it is not surprising that I find it to have a positive coefficient (β = 0.066, p < 0.01), with a 25th to 75th movement reflecting 0.758 more years open, or 19.0% more years open relative to the median (4).

In Column (2) I include proxies for IRS effort directed against the firm (*IRSAttn*) and the level of IRS resources being directed at similarly-sized firms (*AuditProb*). I find both *IRSAttn* (β = 0.025, p < 0.01) and *AuditProb* are (β = 0.005, p < 0.01) are significantly associated with having more IRS years open. I estimate that moving from the 25th to the 75th percentile in *IRSAttn* (*AuditProb*) is associated with 0.164 (0.380) more years open, or 4% (10%) more relative to the median (4). Not surprisingly, in Column (2) *Size* becomes insignificant with the inclusion of size-related *AuditProb*.

Finally, in Column (3) I include an indicator set to one if the firm discloses participation in the CAP program (*YesCAP*). I find participation in the CAP program is significantly associated with fewer IRS years open (β = -0.730, p < 0.01). Using the margins command, I find that firms who disclose CAP program participation are associated with 2.491 fewer years open, or 62% less relative to the median (4).

Taken together, my results in Table 5 suggest that larger firms, firms facing higher audit probabilities, and firms facing higher IRS attention are likely to have lengthier IRS conflicts. These findings suggest that greater IRS or firm resources are associated with IRS conflict length. Consistent with Mills (1998) who finds BTDs are associated with more IRS tax assessments, I find that BTDs are associated with greater IRS conflict length. I also find that firms with greater uncertain tax benefit balances are

associated with lengthier conflict, consistent with the aggressiveness of the original

positions being an important determinant of conflict length. My findings suggest that

higher tax attributes (DTAs) may make conflict resolution easier because assessments

can be resolved with DTA adjustments rather than with immediate cash payments. My

results also suggest that participation in the CAP program greatly reduces the length of

IRS conflict, providing evidence that firms see faster resolutions of their tax years when

they subject themselves to contemporaneous audits.

Additional Determinants Tests

Probit Tests

It is possible that some firm and IRS characteristics may be more important in

determining particularly long or particularly short IRS conflict lengths. To examine

whether nonlinearities exist in the relationships I document in my main results, I run

several probit estimations where I replace the count measure of the number of IRS years

open with indicators for whether the firm has more than "n" years open (e.g. *Over3*,

Over5). I select thresholds for "n" to correspond with exceeding the statutory number of

years (3), the median number of years (4), the rounded mean number of years (5), and the

extended number of years the IRS would have to audit if the firm voluntarily granted an

IRS request for an extension on the statute of limitations (6), and the 95th percentile in my

sample (9).

These estimations are shown in Table 6. While most of my findings are relatively

stable across the various thresholds used, certain relationships are more likely to occur at

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the extremes. For example, the negative effect of leverage (*Lev*) on conflict length seems to be more pronounced for particularly long conflicts (*Over9*). This is consistent with debtholders with asymmetric payoff functions desiring the firm to refrain from particularly risky behavior like engaging in extremely lengthy IRS conflict. In contrast, IRS audit probabilities load positively for most thresholds but become insignificant at the higher end (*Over9*). Interestingly, *Size* is negatively associated with *Over3*, but positively associated with *Over9*. Overall, the results in Table 6 show that while some relationships exhibit interesting nonlinearities, the majority of my findings are generally stable across various thresholds.

CEO Tests

Extensive literature documents manager's effects on firm tax behavior. (e.g. Law and Mills 2017; Olsen and Stekelberg 2016; Christensen, Dhaliwal, Boivie, Graffin 2015; Chyz 2013; Francis, Hasan, Wu, Yan 2014; Feller and Schanz 2017; Koester, Shevlin, Wangerin 2016). Because tax controversy is an important part of a firm's overall tax strategy, I posit that management's incentives may also affect the length of IRS conflicts. Specifically, upon receipt of proposed tax adjustments by the IRS, firms have choices such as agreeing to the adjustment, negotiating for some amount slightly lower than the IRS proposal, escalating the appeal to higher levels within the IRS, or even taking the issue to court. When firms protract the process, they can incur additional legal and accounting costs, or even face additional penalties and interest. Lengthier conflict with the IRS, then, can entail the firm trading a certain outcome (paying the additional tax, or

settling for some amount slightly lower) for a riskier outcome (winning or losing in appeals or in tax court). Therefore, I expect managerial risk incentives to affect IRS conflict length.

Prior tax literature has examined the effects of manager's wealth and compensation incentives on tax planning, finding mixed evidence. Seidman and Stomberg (2012) find firms are less likely to engage in tax shelters when managers receive greater equity compensation. In contrast, Rego and Wilson (2012) find equity risk incentives are associated with greater tax risk. Using IRS data, Hanlon et al. (2005) find bonuses -but not equity pay- are associated with higher tax noncompliance. Brown, Drake, and Martin (2016) find bonus compensation is lower when tax uncertainty is higher. These findings suggest managerial incentives may be important when examining IRS conflict length. Specifically, I expect risk incentives (Vega) may motivate managers to engage in lengthier conflict with the IRS.

Personal risk-taking preferences affect corporate risk taking (Cain and McKeon 2016). Managers who have considerable wealth invested in their firm may have a lower risk appetite that manifests in risk-averse firm behavior (May 1995). Avoiding lengthy IRS conflict is one such way managers may make the firm more risk averse. Managers may prefer lower firm risk taking than other investors because of their relative lack of investment diversification (idiosyncratic risk in particular). Therefore, greater wealth tied to stock ownership may make managers sensitive to changes in stock price, leading the manager to avoid risk taking and instead opt for "the quiet life" (Bertrand and

Mullainathan 2003). Similar to wealth related incentives, CEO age can negatively affect firm risk taking (Croci, Giudice, & Jankensgård, 2017; Li, Low, & Makhija, 2017). Consistent with this, older CEOs engage in less tax avoidance (James 2019). This could be partly because older CEOs at retirement age may have different career incentives (Brookman and Thistle 2009). Manager's personal wealth incentives and career horizons are plausible proxies for manager risk appetites that may be associated with their willingness to engage in lengthier IRS conflict. I expect managers with higher personal wealth invested in the firm, and managers who are at or beyond retirement age to be negatively associated with risky firm behavior like lengthier IRS conflict.

In Table 7, I test whether various measures of manager risk preferences are associated with IRS conflict length. In Column (1), I find that CEO pay Vega is positively associated with IRS conflict length ($\beta = 0.000$, $p < 0.05$). Using the margins command in Stata, I estimate that moving from the 25th to the 75th percentile in *CEOVega* is associated with 0.115 more IRS years open, or 3% more than the median (4). In Column (2), I do not find evidence that CEO performance pay is associated with IRS conflict length. In Column (3), I find that CEOs at or beyond retirement age are associated with fewer years open with the IRS ($\beta = -0.067$, $p < 0.01$).[24] I estimate that CEOs at or beyond retirement age are associated with 0.321 fewer IRS years open, or 8% fewer than the median (4). In Column (4), I find weak evidence that CEOs with more

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[24] As in Brookman and Thistle (2009), I use age 60 as my indicator because many retirement plan withdrawals become penalty free at age 59.5. My results are qualitatively similar with a continuous measure of CEO age, or alternative thresholds of 55 and 65.

wealth invested in their firm are associated with fewer IRS years open (β = -0.000, p < 0.10, one tailed). Taken together, the findings in Table 7 suggest that CEO risk preferences may affect decisions to prolong IRS conflicts.

Tax Accounting Quality

Another possible reason for observing prolonged IRS conflict are instances where the IRS is more motivated to "go the full length". Firms whose tax accounting quality is poor may signal an opportunity for the IRS to gain additional revenue. Firms with poor tax accounting quality are likely to struggle to locate supporting documentation for positions taken many years ago. Similarly, poor tax quality could lead the firm to file amended tax returns to correct errors. Therefore, it is possible poor tax accounting quality may lengthen the amount of time a firm's tax return is exposed to IRS scrutiny. Prior literature has examined poor tax accounting quality in different contexts. Gallemore and Labro (2015) find better internal information quality is associated with more tax avoidance. Choudhary, Koester, and Shevlin (2016) find poor tax accrual quality is associated with future tax related restatements. Concurrent work by Fox and Wilson (2019) also examines poor tax accounting quality and IRS behavior. Fox and Wilson find tax related restatements and internal control weaknesses are associated with greater downloads of a firm's 10-K by the IRS. A plausible alternative exists in that it is possible that poor tax accounting quality may reduce the expected benefit of contesting IRS challenges. If so, poor tax accounting quality could lead firms to quickly accept proposed IRS changes resulting in reduced conflict length. Despite this, I expect poor tax

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accounting quality as measured by tax restatements and tax internal control weaknesses to be associated with lengthier IRS conflict.

Results on tax accounting quality and IRS conflict length are shown in Table 8. Because restatements generally occur long after the 10-Ks and tax returns are filed, it is unclear what period's restatement should be measured when estimating the effect of tax accounting quality on IRS conflict length. Therefore, I create various indicator measures set to one if there was a tax related restatement or internal control weakness for the current period, previous period, or in any of the previous 5 periods. I find some evidence that tax related internal control weaknesses are associated with lengthier IRS conflicts in Columns (2), (4), and (6). I find that a current period tax related internal control weakness is associated with 0.557 more IRS years open, or 14% more than the median (4). Findings in Table 8 suggest that poor tax accounting quality may be associated with lengthier IRS conflicts.

Additional Consequence Tests
Tax Risk

It is plausible for lengthy IRS conflict to lead to certain negative consequences for firms. The ultimate resolution of a lengthy conflict, whether through settlement or by court decision, can lead to large tax related windfalls or outflows. Volatility in cash taxes is commonly studied as a measure of tax risk. Tax risk has been shown to be associated with firm risk (Guenther et al. 2017), lower dividend payout probability (Amberger 2017), lower valuation of tax avoidance (Drake, Lusch, and Stekelberg 2019), greater preemptive cash hoarding (Hanlon et al. 2017), and greater market perceptions of firm

risk (Hutchens and Rego 2015). I expect increased tax risk to be a cost borne by firms

engaging in lengthy IRS conflict.

I use a model similar to that in Guenther et al. (2017) to estimate the association

between IRS years open and tax risk as follows:

$$
\begin{aligned}
VolCETR_{t+1\ to\ t+5} = {} & \beta_0 + \beta_1 IRSYearsOpen + \beta_2 IRSAttn + \beta_3 AuditProb \\
& + \beta_4 GETR + \beta_5 CETR + \beta_6 LnAssets + \beta_7 PTBI + \beta_8 Lev + \beta_9 VolPTBI_{t-4\ to\ t} \\
& + \beta_{10} MTB + \beta_{11} AbnAcc + \beta_{12} VolSpecialItems_{t-4\ to\ t} + \beta_{13} VolCashFlows_{t-4\ to\ t} \\
& + \beta_{14} VolETBSO_{t-4\ to\ t} + \beta_{15} ETBSO + \beta_{16} DeltaNOL + \beta_{17} AmountNOL \\
& + \beta_k IndustryFE + \beta_k YearFE \qquad\qquad\qquad\qquad\qquad\qquad (2)
\end{aligned}
$$

Results on the impact of greater IRS years open on tax risk are shown in Table 9.

In Column (4), I find some evidence that firms with a greater number of IRS years open

have higher volatility of future cash taxes ($\beta = 0.002$, $p < 0.10$). This result is consistent

with the resolution of a lengthy IRS conflict leading to a large change in firm's cash

taxes. This suggests firms who choose to engage in lengthy conflict with the IRS are

taking on greater tax risk. Interestingly, I do not find that *IRSAttn*, nor *AuditProb*, are

associated with future volatility of cash tax rates, consistent with being selected for audit

and engaging in lengthy conflict being separate constructs.

Audit Fees

Part of the financial audit process requires auditors to assess the riskiness of an

audit. When firms are preparing financial statements, unresolved tax conflicts require

firms to create estimates regarding the validity of positions previously taken, as well as

estimates of the ultimate resolution of these disputes. These financial statement estimates

can be subjective and introduce significant audit risk, making it more costly for the

financial statement auditor to provide assurance. Concurrent work by Abernathy, Finley,

Rapley, and Stekelberg (2017) find external auditors charge higher audit fees when firms

are more tax aggressive, consistent with auditors perceiving greater audit engagement

risk for these firms. Similarly, Donohoe and Knechel (2014) find tax aggressiveness is

positively associated with audit fees, also suggesting an increase in auditor effort for

these riskier clients. Lengthy IRS conflict could represent additional risks to a financial

statement auditor, leading to greater audit fees.

In order to ascertain whether audit fees are another cost of greater IRS years open,

I look to prior literature (Hanlon, Krishnan, and Mills 2012; Donohoe and Knechel 2014)

to find reasonable audit fee covariates, and estimate the following audit fee model:

$$
\begin{aligned}
LnAuditFee = {} & \beta_0 + \beta_1 IRSYearsOpen + \beta_2 IRSAttn + \beta_3 AuditProb + \beta_4 UTB \\
& + \beta_5 APTS + \beta_6 AudExpert + \beta_7 Size + \beta_8 LnTaxFees + \beta_9 Inventory \\
& + \beta_{10} aMNE + \beta_{11} Loss + \beta_{12} AmountNOL + \beta_{13} Lev + \beta_{14} RND \\
& + \beta_{15} FirmAge + \beta_{16} SalesGrowth + \beta_{17} Big4 + \beta_{18} AuditTenure + \beta_{19} Busy \\
& + \beta_{20} Opin + \beta_{21} BTD + \beta_{22} AbnAcc + \beta_{23} VolPTBI_{t\text{-}5\,to\,t} \\
& + \beta_{24} VolCashflow_{t\text{-}4\,to\,t} + \beta_k IndustryFE + \beta_k YearFE
\end{aligned} \tag{3}
$$

I control for *IRSAttn* and *AuditProb* to ascertain that effects from *IRSYearsOpen*

are incremental to audit probability or IRS attention. Because tax aggressiveness and

book-tax differences have been shown to be associated with audit fees (Hanlon,

Krishnan, and Mills 2012; Donohoe and Knechel 2014), I control for *UTB* and *BTD*,

respectively. Variable definitions are detailed in Appendix A.

Table 10 provides results on the impact of a greater number of IRS years open on

audit fees. In Column (2), I find the number of IRS years open has a positive and

significant coefficient ($\beta = 0.011$, $p < 0.05$). This is consistent with IRS conflict

representing greater financial statement audit risk, as such conflict would likely require subjective estimates within financial statements. In Column (4), I find that even after controlling for *IRSAttn* and *AuditProb*, the *length* of the IRS conflict is incrementally associated with audit fees ($\beta = 0.011$, $p < 0.05$).

CHAPTER 5

CONCLUSION

I study determinants of lengthy IRS conflict by hand collecting 10-K disclosures

of the number of years still open to IRS audit. By statute, the IRS generally has three

years to begin an audit of filed tax returns. Therefore, I posit longer open periods are a

proxy for lengthy IRS conflict. I find lengthy IRS conflict is negatively associated with

DTAs, inventory. leverage, intangibles, ROA, and participation in the CAP program. I

find IRS conflict length is positively associated with BTDs, UTBs, size, IRS attention,

and IRS audit probabilities.

My results suggest that the aggressiveness or contentiousness of the originally

taken tax positions may lead to lengthier IRS conflict. Similarly, my findings suggest that

when the IRS or the firm has more resources, conflicts may take longer to resolve.

Certain firm characteristics, such as higher tax attributes (DTAs) are associated with

shorter conflicts, consistent with easier settlements via DTA adjustments rather than

immediate cash payments. Importantly, I find that participation in the CAP program is

associated with significantly shorter IRS conflicts.

In additional analyses, I also find CEO risk incentives (Vega) are positively

associated with lengthier IRS conflicts, consistent with these CEOs taking on risky

protracted conflict. In contrast, CEOs at or beyond retirement age, and those with higher

wealth invested in their firm, are associated with shorter IRS conflicts, consistent with the

"quiet life" hypothesis (Bertrand and Mullainathan 2003). I also find that firms with tax

related internal control weaknesses are more likely to have longer IRS conflicts, consistent with these firms having difficulty supporting positions taken long ago, and with the IRS being emboldened in their negotiations against these firms.

I also find some evidence that firms with lengthy IRS conflict face greater tax risks as proxied by the volatility of future cash effective tax rates. This is consistent with firms juggling several years' worth of unresolved tax returns facing either windfalls or large outflows upon resolution of tax disputes. Because tax disputes are a contingent liability, firms with many IRS years open must estimate the validity of the legal support for their tax positions. Similarly, these firms must generate estimates of the ultimate resolution amounts. These estimates can be subjective, and likely represent significant financial statement audit risk. Consistent with this, I find evidence that firms with a greater number of IRS years open pay higher audit fees.

I develop a measure of a relatively understudied construct, IRS conflict length, with publicly available data. Understanding IRS conflict length can help the literature better understand the meandering path that is a firm's ultimate tax rate. Study of IRS conflict length also expands our understanding of effective tax rates, as the resolution of old outstanding tax disputes can have outsized one-period impacts on firms' cash taxes. Moreover, I document heterogeneity in firms' IRS tax conflict length, suggesting that future related research may further disentangle why some firms choose to escalate tax controversy instead of settling. My study is of interest to investors, firms, and future researchers studying tax controversy. This manuscript also answers the call for further

research as to "why do some investments in tax planning result in successful tax avoidance, while others fail" in Dyreng and Maydew (2017) by studying IRS conflict.

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APPENDIX A

VARIABLE DEFINITIONS

Variable	Definition
Dependent Variables	
IRSYearsOpen	The current fiscal year minus earliest year open for federal tax audits plus one. [(fyear - earliestyearopenfed + 1)]
FutureVolCETR	The standard deviation of future 5 year cash effective tax rates. [std(cetr$_{t+1}$ to cetr$_{t+5}$)]. Requires nonmissing CETR data in t+1 to t+5.
LnAuditFees	The log of audit fees. [ln(audit_fees+1)]
OverN	An indicator equal to 1 if *IRSYearsOpen* is greater than N, and zero otherwise.

Independent Variables for Main Analysis

Variable	Definition
BTD	Book tax differences. [(pi-((txfed+txfo)/.35)-(tlcf#-tlcf$_{t-1}$#))/at]
UTB	Uncertain tax benefit balance over lagged assets. [txtubend/at$_{t-1}$]
DTA	Deferred tax assets over lagged assets. [txndba#/at$_{t-1}$]
DTL	Deferred tax liabilities over lagged assets [txndbl#/at$_{t-1}$]
AmountNOL	Tax loss carryrfowards over lagged assets. [tlcf#/at$_{t-1}$]
DeltaNOL	The change in tax loss carryforwards over lagged assets. [(tlcf#-tlcf$_{t-1}$#)at$_{t-1}$]
PPE	Property, plant, and equipment over lagged assets. [ppent/at$_{t-1}$]
Inventory	Inventory over lagged assets. [invt/at$_{t-1}$]
Lev	Long term debt over lagged assets. [dltt/at$_{t-1}$]
Cash	Cash over lagged assets. [ch/at$_{t-1}$]
ROA	Pretax income over lagged assets. [pi/at$_{t-1}$]
MNE#	Indicator set to 1 if pifo# is greater than zero, and zero otherwise.
RND#	Research and development over sales. [xrd/sale]
Intangibles#	Intangibles over lagged assets. [intan/at$_{t-1}$]
Size	The natural log of assets. [ln(at)]
SalesGrowth	The change in sales over lag sales. [(sale-sale$_{t-1}$)/sale$_{t-1}$]
MTB	Market value over book value. [(prcc_f*csho)/ceq]
AuditProb	Calculated by what year and size bucket the firm was in per TRAC data.####
IRSAttn##	The log of IRS attention. ln(irs_attention + 1)

| YesCAP | Indicator set to 1 if the firm discloses participation in the Compliance Assurance Process program, and zero otherwise. |
| YesFedAudit | Indicator set to 1 if the firm discloses being in an ongoing IRS-specific audit, being in tax court with the IRS, or under joint committee on taxation review, and zero otherwise. |

Independent Variables in Additional Determinant Analyses

CEOVega##	CEO risk-taking incentives. (see Coles, Daniel, and Naveeen 2006).
CEODelta##	Pay for performance sensitivity (see Coles, Daniel, and Naveeen 2006).
CEOPerfPay	CEO performance pay. (option_wards_fv + stock_awards_fv + bonus).
CEO60	An indicator set to 1 if the CEO is at least 60 years old.
CEOShareWealth	Value of CEOs shares. (shrown*prccf/100)
TaxRS	Indicator equal to 1 if a firms fiscal year end date lies within a restated window and the restatement includes tax as one of the reasons listed, and zero otherwise. If (res_begin_date <= fiscal_year_end_op <= res_end_date) and (res_acc_res_fkey_list contains '|18|').
TaxICW	Indicator equal to 1 if a firm has an internal control weakness and lists tax as one of the reasons, and zero otherwise. (noteff_acc_reas_keys includes '|41|').
TaxRS_Lag	Indicator equal to 1 if $TaxRS = 1$ in the previous year. Requires previous year data to be nonmissing.
TaxICW_Lag	Indicator equal to 1 if $TaxICW = 1$ in the previous year. Requires previous year data to be nonmissing.
RecentTaxRS	Indicator equal to 1 if $TaxRS = 1$ in any of the previous 5 years (t-4 to t). Requires nonmissing data in respective years.
RecentTaxICW	Indicator equal to 1 if $TaxICW = 1$ in any of the previous 5 years (t-4 to t). Requires nonmissing data in respective years.

Additional Controls for Consequences Tests

CETR	Cash taxes paid over pretax income less special items. [txpd/(pi-spi)]. Winsorized to [0,1].
GETR	Total tax expense over pretax income. [txt/pi]. Winsorized to [0,1].
LnAssets	The natural log of assets. [ln(at)]
PTBI	Pretax income over lagged assets. [pi/at $_{t-1}$]
VolPTBI $_{t-4\text{ to } t}$	The standard deviation of scaled pretax income. [std(PTBI t-4 to PTBI t).] Requires nonmissing PTBI data in t-4 to t.

AbnAcc	Signed performance matched discretionary accruals. (Kothari 2005)
SpecialItems	Special items over lagged assets. [spi – at $_{t-1}$]
VolSpecialItems $_{t-4 \text{ to } t}$	The standard deviation of scaled special items. [std(SpecialItems t-4 to SpecialItems t)]. Requires nonmissing SpecialItems data in t-4 to t.
Cashflows	Cash flows over lagged assets. [oancf/at $_{t-1}$]
VolCashflows $_{t-4 \text{ to } t}$	The standard deviation of scaled cash flows. [std(cashflows t-4 to cashflows t)]. Requires nonmissing cashflows data in t-4 to t.
ETBSO	Excess tax benefit of stock options cash flow financing plus operating over lagged assets. [(txbcof+txbco)/at $_{t-1}$]
VolETBSO $_{t-4 \text{ to } t}$	The standard deviation of scaled excess tax benefit of stock options. [std(etbso $_{t-4}$ to etbso $_t$)]. Requires nonmissing etbso data in t-4 to t.
APTS	Indicator set to 1 if tax_fees > 0, and 0 otherwise.
AudExpert	Indicator set to 1 if the auditor's office has at least 30% of the city's audit fees in the given two-digit SIC industry, and zero otherwise. [30% of the two-digit SIC audit_fees in auditor_city in the given year].
LnTaxFees	The log of audit fees plus one. ln(tax_fees+1)
Loss	Indicator set to 1 if ptbi < 0, and 0 otherwise.
FirmAge	Count of the number of years the firm appears in Compustat fundamentals annual dataset.
Big4	Indicator set to 1 if auditor_fkey is 1,2,3, or 4.
AuditTenure	Number of continuous years the audit firm has audited the client.
Busy	Indicator set to 1 if the fiscal year ends in December, and zero otherwise. [if fyr=12].
Opin	Indicator set to 1 if auop is not equal to 1, and zero otherwise.

#These variables are set to zero if missing.

##Special thanks to Kai Chen for code availability. http://kaichen.work/?p=211

###See Hoopes et al. (2012) and https://tracfed.syr.edu/index/index.php?laye
r=admin&ds=audit&tool=corptax&group=boxes&program=

APPENDIX B

EXCERPTS FROM 10-K TAX FOOTNOTES

Excerpts:

Disclosure with sufficient clarity to identify IRS years open:
Denny's 2010 10-K
We file income tax returns in the U.S. federal jurisdictions and various state jurisdictions. With few exceptions, we are no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations by tax authorities for years before 2007. **We remain subject to examination for U.S. federal taxes for 2007-2010** and in the following major state jurisdictions: California (2006-2010); Florida (2007-2010) and Texas (2006-2010). [emphasis added].

Disclosure with insufficient clarity to identify IRS years open due to jurisdiction aggregation:
Papa Johns 2010 10-K
The Company files income tax returns in the U.S. federal jurisdiction and various states and foreign jurisdictions. **The Company, with few exceptions, is no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations by tax authorities for years before 2006.** The Company is currently undergoing examinations by various tax authorities. The Company anticipates that the finalization of these current examinations and other issues could result in a decrease in the liability for unrecognized tax benefits (and a decrease of income tax expense) of approximately $334,000 during the next 12 months. [emphasis added].

Disclosure with insufficient clarity to identify IRS years open due to loss carryforwards:
UltraTech, Inc. 2010 10-K
We are subject to Federal and state tax **examination for years 1999 forward** and 1997 forward, respectively, **by virtue of the tax attributes carrying forward from those years**. We are also subject to audits in the foreign jurisdictions in which we operate for years 2004 and forward. There are no income tax examinations currently in progress. [emphasis added].

TABLE 1
Variable Definitions and Expectation of Relationship with IRS Years Open

Variable	Predicted direction	Calculation
BTD	+	Book tax differences. [(pi-((txfed+txfo)/.35)-(tlcf-tlcf t-1))/at]
UTB	+	Uncertain tax benefit balance over lagged assets. [txtubend/at t-1]
DTA	-	Deferred tax assets over lagged assets. [txndba#/at t-1]
DTL	-	Deferred tax liabilities over lagged assets [txndbl#/at t-1]
AmountNOL	-	Tax loss carryforwards over lagged assets. [tlcf#/at t-1]
DeltaNOL	-	The change in tax loss carryforwards over lagged assets. [(tlcf#-tlcf t-1#)at t-1]
PPE	-	Property, plant, and equipment over lagged assets. [ppent/at t-1]
Inventory	-	Inventory over lagged assets. [invt/at t-1]
Lev	-	Long term debt over lagged assets. [dltt/at t-1]
Cash	?	Cash over lagged assets. [ch/at t-1]
ROA	?	Pretax income over lagged assets. [pi/at t-1]
MNE#	-	Indicator set to 1 if pifo# is greater than zero, and zero otherwise.
RND#	-	Research and development over sales. [xrd/sale]
Intangibles#	-	Intangibles over lagged assets. [intan/at t-1]
Size	+	The natural log of assets. [ln(at)]
SalesGrowth	+	The change in sales over lag sales. [(sale-sale t-1)/sale t-1]
MTB	+	Market value over book value. [(prcc_f*csho)/ceq]
AuditProb	+	IRS audit probability. (Hoopes et al. 2012)
IRSAttn	+	The natural log of the number of 10-K downloads by the IRS. (Bozanic et al. 2017)
YesCAP	+	An indicator equal to one if the firm discloses CAP program participation, and zero otherwise.

These variables are set to zero if missing

TABLE 2
Sample Selection

Compustat US firm years 2010-2015 that are not missing variables necessary for determinants in list 1*, not REITs, with share price >=$1, and positive income in either t-1, t, or t+1	11,313
Firm years hand collected	**11,313**
Not missing earliest year open	10,558
Has 20 or less years open	10,520
Does not give a range (e.g. "3-5 years open")	10,473
Not contaminated by loss (e.g. "15 years due to TLCF")**	9,856
Not aggregating multiple jurisdictions**†	5,482
Variables used in main model	**5,482**
Not missing *IRSAttn*	4,606

_____

*Determinants list 1: *BTD UTB DTA DTL AmountNOL DeltaNOL PPE Inventory Lev Cash ROA MNE RND Intangibles Size SalesGrowth MTB*
**See Appendix B for samples for disclosures that are unusable due to losses or jurisdiction aggregation.
†See Table 2, Panel B for comparative descriptives for firm-years that were/were not dropped due to this requirement

TABLE 3
Panel A: Descriptive Statistics

	n	Mean	Median	Std Dev	25th Pctl	50th Pctl	75th Pctl
IRSYearsOpen	5,482	4.687	4.000	2.224	4.000	4.000	5.000
BTD	5,482	0.003	0.015	0.115	-0.011	0.015	0.043
UTB	5,482	0.010	0.005	0.014	0.001	0.005	0.011
DTA	5,482	0.054	0.042	0.050	0.022	0.042	0.070
DTL	5,482	0.059	0.044	0.057	0.017	0.044	0.083
AmountNOL	5,482	0.134	0.014	0.423	0.000	0.014	0.091
DeltaNOL	5,482	0.011	0.000	0.093	-0.001	0.000	0.005
PPE	5,482	0.243	0.166	0.233	0.071	0.166	0.343
Inventory	5,482	0.123	0.079	0.146	0.004	0.079	0.185
Lev	5,482	0.225	0.179	0.235	0.015	0.179	0.330
Cash	5,482	0.137	0.094	0.144	0.036	0.094	0.186
ROA	5,482	0.088	0.076	0.108	0.029	0.076	0.133
MNE	5,482	0.624	1.000	0.484	0.000	1.000	1.000
RND	5,482	0.034	0.000	0.067	0.000	0.000	0.031
Intangibles	5,482	0.250	0.177	0.256	0.032	0.177	0.402
Size	5,482	7.324	7.265	1.843	6.069	7.265	8.524
SalesGrowth	5,482	0.092	0.061	0.211	-0.005	0.061	0.147
MTB	5,482	3.020	2.163	4.156	1.351	2.163	3.645
AuditProb	5,482	31.494	26.880	20.026	18.490	26.880	36.400
IRSAttn	4,606	1.854	1.609	1.094	1.099	1.609	2.485
YesCAP	5,482	0.040	0.000	0.195	0.000	0.000	0.000
YesFedAudit	5,482	0.302	0.000	0.459	0.000	0.000	1.000

TABLE 3 (continued)
Panel B: Sample Mean Differences Tests

	Disaggregated (included)		Aggregated (excluded)		
	n	Mean	n	Mean	p
BTD	5,482	0.003	4,374	0.000	0.122
UTB	5,482	0.010	4,374	0.010	0.923
DTA	5,482	0.054	4,374	0.055	0.249
DTL	5,482	0.059	4,374	0.054	0.000
AmountNOL	5,482	0.134	4,374	0.210	0.000
DeltaNOL	5,482	0.011	4,374	0.012	0.775
PPE	5,482	0.243	4,374	0.242	0.868
Inventory	5,482	0.123	4,374	0.125	0.459
Lev	5,482	0.225	4,374	0.204	0.000
Cash	5,482	0.137	4,374	0.153	0.000
ROA	5,482	0.088	4,374	0.081	0.004
MNE	5,482	0.624	4,374	0.626	0.837
RND	5,482	0.034	4,374	0.037	0.036
Intangibles	5,482	0.250	4,374	0.230	0.000
Size	5,482	7.324	4,374	6.873	0.000
SalesGrowth	5,482	0.092	4,374	0.110	0.000
MTB	5,482	3.020	4,374	2.895	0.124
AuditProb	5,482	31.494	4,374	27.871	0.000
IRSAttn	4,606	1.854	3,690	1.673	0.000
YesCAP	5,482	0.040	4,374	0.012	0.000
YesFedAudit	5,482	0.302	4,374	0.175	0.000

This table shows results from t-tests of the difference in sample means between firms-years whose disclosure disaggregated IRS-specific years open (observations included and used in analyses) and firm-years dropped because their disclosure aggregated the IRS years open with other jurisdictions (subset of observations not used in paper). The 4,374 observations dropped due to aggregation corresponds to that in the sample selection (Table 2) line item.

Table 4

Pairwise Correlations

	IRS Years Open	BTD	UTB	DTA	DTL	Amnt NOL	Delta NOL	PPE	Invt	Lev	Cash	ROA	MNE	RND	Intam	Size	Sales Grow	MTB	Audit Prob	IRS Atm	Yes CAP
IRSYears Open	1.000																				
BTD	0.019	1.000																			
UTB	0.236	-0.007	1.000																		
DTA	-0.023	0.027	0.134	1.000																	
DTL	0.015	0.039	-0.053	0.181	1.000																
AmntNOL	-0.020	-0.295	0.180	0.073	-0.053	1.000															
DeltaNOL	-0.016	-0.795	0.056	0.041	0.035	0.342	1.000														
PPE	-0.045	0.023	-0.146	0.035	0.434	-0.034	0.029	1.000													
Invt	-0.073	0.023	-0.063	-0.024	-0.174	-0.036	-0.003	-0.041	1.000												
Lev	0.013	-0.024	-0.021	0.111	0.350	0.024	0.055	0.277	-0.113	1.000											
Cash	-0.037	0.028	0.198	0.036	-0.264	0.154	0.033	-0.220	-0.059	-0.235	1.000										
ROA	-0.046	0.450	0.049	0.037	0.001	-0.193	-0.178	-0.015	0.055	-0.103	0.271	1.000									
MNE	0.096	0.009	0.241	-0.007	-0.106	-0.039	-0.006	-0.216	-0.034	-0.070	0.062	-0.004	1.000								
RND	0.047	-0.075	0.369	0.067	-0.190	0.186	0.074	-0.246	-0.139	-0.185	0.301	-0.049	0.220	1.000							
Intam	0.002	-0.031	0.080	0.042	0.287	0.026	0.067	-0.274	-0.240	0.356	-0.125	-0.031	0.142	0.077	1.000						
Size	0.269	0.087	0.056	-0.054	0.240	-0.235	-0.052	0.075	-0.120	0.264	-0.284	0.002	0.213	-0.091	0.153	1.000					
SalesGrow	-0.022	0.095	0.027	0.037	0.090	0.046	0.034	0.075	0.041	0.143	0.126	0.220	-0.063	0.042	0.183	-0.019	1.000				
MTB	0.025	0.022	0.074	0.044	0.048	0.071	0.018	-0.020	-0.073	0.010	0.115	0.261	0.031	0.064	0.050	0.016	0.086	1.000			
AuditProb	0.294	0.073	0.035	-0.067	0.194	-0.156	-0.041	0.061	-0.113	0.158	-0.222	0.010	0.147	-0.069	0.073	0.850	-0.010	0.018	1.000		
IRSAtm	0.204	0.052	0.133	-0.019	0.038	-0.113	-0.031	-0.018	-0.004	0.014	-0.105	0.037	0.190	0.023	0.025	0.461	-0.059	-0.003	0.439	1.000	
YesCAP	-0.191	-0.001	-0.055	-0.006	0.000	-0.041	-0.010	0.031	-0.013	0.040	-0.027	0.001	0.020	-0.064	0.012	0.178	-0.010	-0.022	0.162	0.128	1.000

This table shows pairwise correlations. Significant correlations (p<0.10) are shown in bold. N=5,482 except for *IRSAtm* correlations where N=4,606.

TABLE 5
Main Findings for Determinants of the Number of Years Open with the IRS

DV =IRSYearsOpen	(1)	(2)	(3)
BTD	0.183*	0.153	0.086
	(0.109)	(0.123)	(0.117)
UTB	6.793***	6.810***	6.336***
	(0.686)	(0.691)	(0.683)
DTA	-0.304*	-0.378**	-0.315*
	(0.175)	(0.175)	(0.173)
DTL	0.055	0.102	-0.067
	(0.224)	(0.233)	(0.227)
AmountNOL	-0.006	-0.028+	-0.023
	(0.020)	(0.020)	(0.019)
DeltaNOL	0.084	0.094	0.032
	(0.112)	(0.129)	(0.122)
PPE	-0.065	-0.061	-0.040
	(0.063)	(0.066)	(0.065)
Inventory	-0.127+	-0.136*	-0.157**
	(0.083)	(0.080)	(0.079)
Lev	-0.065+	-0.034	-0.038
	(0.045)	(0.048)	(0.046)
Cash	-0.040	-0.043	-0.008
	(0.065)	(0.068)	(0.065)
ROA	-0.407***	-0.409***	-0.395***
	(0.113)	(0.119)	(0.114)
MNE	-0.014	-0.020	-0.015
	(0.024)	(0.025)	(0.023)
RND	-0.253+	-0.227+	-0.290*
	(0.174)	(0.177)	(0.169)
Intangibles	-0.131**	-0.116**	-0.098*
	(0.052)	(0.055)	(0.052)
Size	0.066***	0.008	0.015
	(0.008)	(0.013)	(0.012)
SalesGrowth	0.016	0.034	0.034
	(0.032)	(0.035)	(0.033)
MTB	0.004*	0.002	0.002
	(0.002)	(0.002)	(0.002)

TABLE 5 (continued)

DV =*IRSYearsOpen*	(1)	(2)	(3)
AuditProb		0.005***	0.005***
		(0.001)	(0.001)
IRSAttn		0.025***	0.030***
		(0.009)	(0.008)
YesCAP			-0.730***
			(0.086)
IndFE	Yes	Yes	Yes
YearFE	Yes	Yes	Yes
n	5,482	4,606	4,606
pseudo R-sq	0.035	0.039	0.053

This table reflects Poisson regressions where the dependent variable is the count of IRS years open. Variable definitions are provided in Appendix A. Poisson models are used because the number of years is a count variable. Two-tailed statistical significance indicated by *, **, *** at the $p=0.10$, $p=0.05$, and $p=0.01$ levels, respectively. One-tailed statistical significance at the $p=0.10$ level is indicated with +. Standard errors in parentheses clustered by firm (CIK). Year fixed effects and Fama-French 17 industry fixed effects are included.

TABLE 6
Probability of Having Over N IRS Years Open

DV=	(1) *Over3*	(2) *Over4*	(3) *Over5*	(4) *Over6*	(5) *Over9*
BTD	-0.011	0.594+	0.250	0.383	-0.502
	(0.438)	(0.410)	(0.488)	(0.570)	(0.923)
UTB	17.700***	16.334***	18.684***	20.086***	22.922***
	(3.167)	(1.961)	(2.198)	(2.421)	(3.130)
DTA	0.141	-0.876+	-1.331**	-1.579**	-3.781***
	(0.638)	(0.566)	(0.673)	(0.777)	(1.246)
DTL	-1.428*	0.438	0.139	0.369	0.871
	(0.735)	(0.656)	(0.766)	(0.890)	(1.101)
AmountNOL	0.013	-0.151**	-0.164+	-0.224**	-0.083
	(0.081)	(0.074)	(0.103)	(0.108)	(0.143)
DeltaNOL	-0.269	0.400	0.147	0.313	-0.830
	(0.498)	(0.461)	(0.546)	(0.643)	(0.998)
PPE	0.137	-0.043	0.012	-0.111	-0.080
	(0.199)	(0.183)	(0.220)	(0.268)	(0.429)
Inventory	-0.155	-0.410*	-0.689**	-0.867**	-0.755+
	(0.239)	(0.224)	(0.277)	(0.337)	(0.490)
Lev	0.083	0.015	-0.026	-0.139	-0.606**
	(0.152)	(0.151)	(0.173)	(0.200)	(0.293)
Cash	0.236	0.190	0.012	-0.110	-0.502
	(0.226)	(0.227)	(0.270)	(0.334)	(0.697)
ROA	-0.566*	-1.318***	-0.911*	-1.164*	-1.699*
	(0.337)	(0.383)	(0.488)	(0.633)	(1.025)
MNE	-0.056	0.080	0.043	-0.035	-0.129
	(0.076)	(0.072)	(0.081)	(0.090)	(0.123)
RND	-0.128	-0.233	-0.827+	-1.192*	-1.584+
	(0.584)	(0.525)	(0.595)	(0.672)	(1.049)
Intangibles	0.214+	-0.073	-0.346*	-0.526**	-0.611**
	(0.161)	(0.155)	(0.183)	(0.234)	(0.311)
Size	-0.066*	-0.002	0.100**	0.113**	0.235***
	(0.037)	(0.037)	(0.043)	(0.050)	(0.075)
SalesGrowth	0.146	0.045	-0.104	-0.065	0.006
	(0.127)	(0.126)	(0.139)	(0.143)	(0.187)
MTB	-0.001	-0.001	0.005	0.007	0.016+
	(0.006)	(0.007)	(0.008)	(0.008)	(0.011)

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TABLE 6 (continued)

DV=	(1) *Over3*	(2) *Over4*	(3) *Over5*	(4) *Over6*	(5) *Over9*
AuditProb	0.007**	0.015***	0.010***	0.010***	0.003
	(0.003)	(0.003)	(0.003)	(0.004)	(0.005)
IRSAttn	0.003	0.100***	0.089***	0.104***	0.119***
	(0.026)	(0.025)	(0.027)	(0.030)	(0.043)
YesCAP	-1.702***	-1.124***	-0.936***	-0.778***	-1.311***
	(0.155)	(0.173)	(0.195)	(0.205)	(0.396)
IndFE	Yes	Yes	Yes	Yes	Yes
YearFE	Yes	Yes	Yes	Yes	Yes
n	4,606	4,606	4,606	4,606	4,434
N obs where DV=1	3721	1594	943	633	211
% obs where DV=1	80.8%	34.6%	20.5%	13.7%	4.8%
pseudo R-sq	0.098	0.111	0.158	0.188	0.278

This table reflects Probit regressions where the dependent variable is an indicator for the firm having more than N number of IRS years open. Variable definitions are provided in Appendix A. Two-tailed statistical significance indicated by *, **, *** at the p=0.10, p=0.05, and p=0.01 levels, respectively. One-tailed statistical significance at the p=0.10 level is indicated with +. Standard errors in parentheses clustered by firm (CIK). Year fixed effects and Fama-French 17 industry fixed effects are included. Results in the Over9 column reflect slight sample attrition because certain industries (FF9 - Steel and FF12 - Automobiles) perfectly predict zero for the dependent variable.

TABLE 7
Panel A: CEO Incentives and the Number of Years Open with the IRS

DV = *IRSYearsOpen*	(1)	(2)	(3)	(4)
CEOVega	0.000**			
	(0.000)			
CEODelta	-0.000			
	(0.000)			
CEOPerfPay		0.000		
		(0.000)		
CEO60			-0.067***	
			(0.022)	
CEOShareWealth				-0.000+
				(0.000)
Determinants in Table 4, Column (3)	Yes	Yes	Yes	Yes
IndFE	Yes	Yes	Yes	Yes
YearFE	Yes	Yes	Yes	Yes
n	3,158	3,297	3,297	3,149
pseudo R-sq	0.068	0.068	0.069	0.068

This panel reflects Poisson regressions where the dependent variable is the count of IRS years open. Variable definitions are provided in Appendix A. Poisson models are used because the number of years is a count variable. Two-tailed statistical significance indicated by *, **, *** at the p=0.10, p=0.05, and p=0.01 levels, respectively. One-tailed statistical significance at the p=0.10 level is indicated with +. Standard errors in parentheses clustered by firm (CIK). Year fixed effects and Fama-French 17 industry fixed effects are included. Descriptive statistics for CEO related variables are shown below.

Panel B: Descriptive Statistics for CEO Data

	n	Mean	Std Dev	25th Pctl	50th Pctl	75th Pctl
CEOVega	3,158	138	216	8	52	167
CEODelta	3,158	623	1338	87	215	584
CEOPerfPay	3,297	3714	4002	957	2433	5248
CEO60	3,297	0.319	0.466	0.000	0.000	1.000
CEOShareWealth	3,149	370	1087	34	92	240

TABLE 8
Panel A: Tax Accounting Quality and the Number of Years Open with the IRS

DV = *IRSYearsOpen*	(1)	(2)	(3)	(4)	(5)	(6)
TaxRS	0.004					
	(0.044)					
TaxICW		0.111*				
		(0.065)				
TaxRS_Lag			0.051			
			(0.047)			
TaxICW_Lag				0.168*		
				(0.090)		
TaxRSAnyPrev5					0.059+	
					(0.041)	
TaxICWAnyPrev5						0.096+
						(0.069)
Determinants in Table 4, Column (3)	Yes	Yes	Yes	Yes	Yes	Yes
IndFE	Yes	Yes	Yes	Yes	Yes	Yes
YearFE	Yes	Yes	Yes	Yes	Yes	Yes
N	4,531	4,112	4,426	4,007	2,598	2,279
pseudo R-sq	0.054	0.059	0.055	0.060	0.058	0.066

The panel above reflects Poisson regressions where the dependent variable is the count of IRS years open. Variable definitions are provided in Appendix A. Poisson models are used because the number of years is a count variable. Two-tailed statistical significance indicated by *, **, *** at the p=0.10, p=0.05, and p=0.01 levels, respectively. One-tailed statistical significance at the p=0.10 level is indicated with +. Standard errors in parentheses clustered by firm (CIK). Year fixed effects and Fama-French 17 industry fixed effects are included. Descriptive statistics for variables used in these regressions but not elsewhere are shown below.

Panel B: Descriptive Statistics for Tax Accounting Quality Data

	n	Mean	Std Dev	25th Pctl	50th Pctl	75th Pctl
TaxRS	4,531	0.040	0.195	0.000	0.000	0.000
TaxICW	4,112	0.013	0.113	0.000	0.000	0.000
TaxRS_Lag	4,426	0.041	0.199	0.000	0.000	0.000
TaxICW_Lag	4,007	0.008	0.090	0.000	0.000	0.000
TaxRSAnyPrev5	2,598	0.090	0.287	0.000	0.000	0.000
TaxICWAnyPrev5	2,279	0.040	0.197	0.000	0.000	0.000

TABLE 9
Panel A: Future Volatility of Cash ETRs

DV=$VolCETR_{t+1\ to\ t+5}$	(1)	(2)	(3)	(4)
GETR	0.007	0.008	0.007	0.009
	(0.019)	(0.019)	(0.019)	(0.019)
CETR	0.031*	0.032*	0.031*	0.032*
	(0.018)	(0.018)	(0.018)	(0.018)
LnAT_Lag	-0.007***	-0.009***	-0.009***	-0.010***
	(0.002)	(0.002)	(0.003)	(0.003)
PTBI	-0.137***	-0.132***	-0.139***	-0.133***
	(0.039)	(0.038)	(0.038)	(0.038)
Lev	-0.021	-0.019	-0.021	-0.019
	(0.014)	(0.013)	(0.014)	(0.014)
$VolPTBI_{t-4\ to\ t}$	0.013	0.005	0.012	0.004
	(0.094)	(0.093)	(0.094)	(0.093)
MTB	-0.000	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)
AbnAcc	-0.010	-0.010	-0.011	-0.010
	(0.022)	(0.022)	(0.022)	(0.022)
$VolSpecialItems_{t-4\ to\ t}$	0.086	0.093	0.086	0.093
	(0.120)	(0.119)	(0.120)	(0.119)
$VolCashflows_{t-4\ to\ t}$	0.113	0.116	0.110	0.115
	(0.125)	(0.124)	(0.125)	(0.123)
$VolETBSO_{t-4\ to\ t}$	0.651	0.607	0.634	0.598
	(1.136)	(1.129)	(1.129)	(1.124)
ETBSO	0.390	0.344	0.424	0.365
	(1.128)	(1.113)	(1.123)	(1.110)
DeltaNOL	0.015	0.017	0.015	0.017
	(0.034)	(0.034)	(0.034)	(0.034)
AmountNOL	-0.014*	-0.015**	-0.015*	-0.015**
	(0.007)	(0.007)	(0.008)	(0.008)
IRSYearsOpen		0.002*		0.002*
		(0.001)		(0.001)
IRSAttn			0.001	0.001
			(0.002)	(0.002)
AuditProb			0.000	0.000
			(0.000)	(0.000)

TABLE 9 (continued)

DV=$VolCETR_{t+1\ to\ t+5}$	(1)	(2)	(3)	(4)
IndFE	Yes	Yes	Yes	Yes
YearFE	Yes	Yes	Yes	Yes
Observations	1,223	1,223	1,223	1,223
Adjusted R-squared	0.066	0.070	0.065	0.069

————————

This table reflects results of OLS regressions where the dependent variable is the five-year volatility of future cash effective tax rates. Two-tailed statistical significance is indicated by *, **, and *** at the $p<0.10$, $p<0.05$, and $p<0.01$ levels, respectively. Standard errors are shown in parentheses and are clustered by firm (CIK). Fama French 17 industry fixed effects and year fixed effects are included. The small sample size reflects requiring several years of non-missing data for several variables. Descriptive statistics for variables used in these regressions but not elsewhere are shown below.

Panel B: Descriptive Statistics for VolCETR Variables

	n	Mean	Std Dev	25th Pctl	50th Pctl	75th Pctl
$VolCETR_{t+1\ to\ t+5}$	1,223	0.091	0.078	0.040	0.069	0.107
GETR	1,223	0.306	0.136	0.256	0.327	0.375
CETR	1,223	0.225	0.146	0.125	0.221	0.312
LnAT_Lag	1,223	7.607	1.750	6.412	7.458	8.728
PTBI	1,223	0.121	0.092	0.059	0.100	0.158
$VolPTBI_{t-4\ to\ t}$	1,223	0.059	0.058	0.022	0.040	0.074
AbnAcc	1,223	-0.012	0.103	-0.059	-0.009	0.036
$VolSpecialItems_{t-4\ to\ t}$	1,223	0.025	0.039	0.004	0.010	0.025
$VolCashflows_{t-4\ to\ t}$	1,223	0.045	0.036	0.023	0.034	0.056
$VolETBSO_{t-4\ to\ t}$	1,223	0.002	0.003	0.000	0.000	0.001
ETBSO	1,223	0.001	0.003	0.000	0.000	0.000

TABLE 10
Panel A: Audit Fees

DV = *LnAuditFees*	(1)	(2)	(3)	(4)
UTB	4.383***	3.969***	4.477***	4.061***
	(1.043)	(1.040)	(1.092)	(1.077)
BTD	-0.111	-0.112	-0.127	-0.127
	(0.086)	(0.086)	(0.095)	(0.094)
APTS	-0.827***	-0.818***	-0.848***	-0.843***
	(0.112)	(0.112)	(0.115)	(0.115)
AudExpert	0.006	0.006	-0.002	-0.002
	(0.028)	(0.028)	(0.029)	(0.029)
Size	0.443***	0.439***	0.432***	0.432***
	(0.010)	(0.010)	(0.020)	(0.020)
LnTaxFees	0.076***	0.075***	0.078***	0.077***
	(0.010)	(0.010)	(0.010)	(0.010)
Inventory	0.139	0.142	0.144	0.146
	(0.110)	(0.109)	(0.110)	(0.109)
MNE	0.358***	0.359***	0.364***	0.366***
	(0.033)	(0.033)	(0.034)	(0.034)
Loss	0.165***	0.163***	0.168***	0.166***
	(0.027)	(0.027)	(0.028)	(0.028)
AmountNOL	0.067**	0.067**	0.059*	0.061*
	(0.032)	(0.031)	(0.033)	(0.033)
Lev	-0.035	-0.029	-0.047	-0.043
	(0.068)	(0.067)	(0.074)	(0.074)
RND	-0.350*	-0.339*	-0.317	-0.308
	(0.206)	(0.205)	(0.211)	(0.210)
FirmAge	0.003***	0.003***	0.003***	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)
SalesGrowth	-0.142***	-0.140***	-0.143***	-0.141***
	(0.043)	(0.043)	(0.049)	(0.049)
Big4	0.330***	0.334***	0.311***	0.313***
	(0.046)	(0.046)	(0.048)	(0.047)
AuditTenure	0.001	0.001	0.003	0.003
	(0.003)	(0.003)	(0.003)	(0.003)

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TABLE 10 (continued)

DV = *LnAuditFees*	(1)	(2)	(3)	(4)
Busy	0.050	0.050	0.056*	0.055*
	(0.031)	(0.031)	(0.031)	(0.031)
Opin	0.078***	0.076***	0.054*	0.052*
	(0.027)	(0.027)	(0.030)	(0.030)
AbnAcc	0.004	0.001	0.029	0.027
	(0.066)	(0.066)	(0.068)	(0.068)
VolPTBI$_{t-4 \text{ to } t}$	0.739***	0.738***	0.823***	0.830***
	(0.211)	(0.211)	(0.216)	(0.216)
VolCashflows$_{t-4 \text{ to } t}$	-0.579*	-0.570*	-0.671**	-0.662**
	(0.316)	(0.317)	(0.323)	(0.324)
IRSYearsOpen		0.011**		0.011**
		(0.005)		(0.006)
IRSAttn			0.008	0.007
			(0.009)	(0.009)
AuditProb			0.001	0.001
			(0.002)	(0.002)
IndFE	Yes	Yes	Yes	Yes
YearFE	Yes	Yes	Yes	Yes
Observations	4,941	4,941	4,165	4,165
Adjusted R-squared	0.826	0.826	0.828	0.828

This table shows results of OLS regressions where the dependent variable is the natural log of audit fees. Two-tailed statistical significance is indicated by *, **, and *** at the $p<0.10$, $p<0.05$, and $p<0.01$ levels, respectively. Standard errors are shown in parentheses and are clustered by firm (CIK). Fama French 17 industry fixed effects and year fixed effects are included.

Panel B: Descriptive Statistics for Audit Fees Variables

	n	Mean	Std Dev	25th Pctl	50th Pctl	75th Pctl
LnAuditFees	4,941	14.301	1.109	13.598	14.263	15.028
APTS	4,941	0.749	0.433	0.000	1.000	1.000
AudExpert	4,941	0.718	0.450	0.000	1.000	1.000
LnTaxFees	4,941	9.051	5.432	0.000	11.466	12.887
Loss	4,941	0.124	0.330	0.000	0.000	0.000
FirmAge	4,941	28.385	15.546	17.000	23.000	39.000
Big4	4,941	0.844	0.363	1.000	1.000	1.000
AuditTenure	4,941	8.963	4.467	5.000	10.000	13.000
Busy	4,941	0.679	0.467	0.000	1.000	1.000
Opin	4,941	0.117	0.321	0.000	0.000	0.000

TABLE 11
Sensitivity Analyses Using Voluntary Disclosure of Ongoing IRS Audit

DV = *IRSYearsOpen*	(1)	(2)	(3)
Sample=	Full	Full	*UnderFedAud*=1
BTD	0.086	0.066	-0.250
	(0.117)	(0.110)	(0.275)
UTB	6.336***	4.837***	6.164***
	(0.683)	(0.634)	(0.894)
DTA	-0.315*	-0.288*	-0.903**
	(0.173)	(0.163)	(0.351)
DTL	-0.067	-0.166	0.011
	(0.227)	(0.211)	(0.388)
AmountNOL	-0.023	0.001	-0.030
	(0.019)	(0.017)	(0.118)
DeltaNOL	0.032	0.019	-0.354
	(0.122)	(0.116)	(0.333)
PPE	-0.040	-0.034	-0.008
	(0.065)	(0.058)	(0.133)
Inventory	-0.157**	-0.097+	-0.085
	(0.079)	(0.071)	(0.163)
Lev	-0.038	-0.024	-0.003
	(0.046)	(0.040)	(0.079)
Cash	-0.008	-0.027	-0.022
	(0.065)	(0.059)	(0.140)
ROA	-0.395***	-0.368***	-0.526**
	(0.114)	(0.098)	(0.251)
MNE	-0.015	-0.014	-0.060+
	(0.023)	(0.021)	(0.042)
RND	-0.290*	-0.310**	-0.324
	(0.169)	(0.152)	(0.289)
Intangibles	-0.098*	-0.091*	-0.200**
	(0.052)	(0.047)	(0.094)
Size	0.015	0.003	0.058**
	(0.012)	(0.011)	(0.023)
SalesGrowth	0.034	0.043+	0.071
	(0.033)	(0.031)	(0.076)

TABLE 11 (continued)

DV = *IRSYearsOpen*	(1)	(2)	(3)
Sample=	Full	Full	*UnderFedAud*=1
MTB	0.002	0.001	0.004
	(0.002)	(0.002)	(0.003)
AuditProb	0.005***	0.004***	0.003*
	(0.001)	(0.001)	(0.002)
IRSAttn	0.030***	0.008	0.005
	(0.008)	(0.008)	(0.011)
YesCAP	-0.730***	-0.813***	-0.805***
	(0.086)	(0.083)	(0.100)
YesFedAudit		0.299***	
		(0.021)	
IndFE	Yes	Yes	Yes
YearFE	Yes	Yes	Yes
Observations	4,606	4,606	1,435
Pseudo R-squared	0.053	0.072	0.105

This panel reflects Poisson regressions where the dependent variable is the count of IRS years open. Columns (1) and (2) use the full sample. Column (3) only includes the portion of the sample that discloses an ongoing IRS audit. Variable definitions are provided in Appendix A. Poisson models are used because the number of years is a count variable. Two-tailed statistical significance indicated by *, **, *** at the p=0.10, p=0.05, and p=0.01 levels, respectively. One-tailed statistical significance at the p=0.10 level is indicated with +. Standard errors in parentheses clustered by firm (CIK). Year fixed effects and Fama-French 17 industry fixed effects are included.

TABLE 12
Sensitivity Analysis Using OLS Estimation of Main Results

DV = *IRSYearsOpen*	(1)	(2)	(3)
BTD	0.842*	0.725	0.405
	(0.497)	(0.567)	(0.539)
UTB	36.235***	36.286***	33.898***
	(4.361)	(4.303)	(4.224)
DTA	-1.412*	-1.745**	-1.452*
	(0.815)	(0.814)	(0.808)
DTL	0.288	0.504	-0.250
	(1.082)	(1.137)	(1.113)
AmountNOL	-0.020	-0.131+	-0.109
	(0.099)	(0.099)	(0.094)
DeltaNOL	0.406	0.483	0.186
	(0.518)	(0.598)	(0.565)
PPE	-0.337	-0.321	-0.233
	(0.291)	(0.310)	(0.306)
Inventory	-0.576+	-0.615*	-0.727**
	(0.383)	(0.373)	(0.366)
Lev	-0.338+	-0.173	-0.185
	(0.214)	(0.226)	(0.219)
Cash	-0.205	-0.229	-0.080
	(0.295)	(0.308)	(0.296)
ROA	-1.863***	-1.889***	-1.827***
	(0.515)	(0.541)	(0.521)
MNE	-0.098	-0.115	-0.082
	(0.115)	(0.115)	(0.108)
RND	-1.265+	-1.104	-1.422*
	(0.876)	(0.881)	(0.847)
Intangibles	-0.630**	-0.545**	-0.480*
	(0.248)	(0.264)	(0.254)
Size	0.319***	-0.000	0.036
	(0.045)	(0.062)	(0.060)
SalesGrowth	0.102	0.192	0.194
	(0.156)	(0.171)	(0.161)
MTB	0.017*	0.010	0.007
	(0.010)	(0.011)	(0.010)

TABLE 12 (continued)

DV = *IRSYearsOpen*	(1)	(2)	(3)
AuditProb		0.028***	0.029***
		(0.007)	(0.006)
IRSAttn		0.126***	0.156***
		(0.043)	(0.042)
YesCAP			-2.789***
			(0.255)
IndFE	Yes	Yes	Yes
YearFE	Yes	Yes	Yes
n	5,482	4,606	4,606
adj. R-sq	0.138	0.158	0.212

This panel reflects OLS regressions where the dependent variable is the count of IRS years open. Variable definitions are provided in Appendix A. While results shown with OLS here are mostly qualitatively similar to that in the Poisson model, the findings with the Poisson models are more appropriate, and are used in the main tables because count data violates the OLS assumption of a normal distribution. Two-tailed statistical significance indicated by *, **, *** at the p=0.10, p=0.05, and p=0.01 levels, respectively. One-tailed statistical significance at the p=0.10 level is indicated with +. Standard errors in parentheses clustered by firm (CIK). Year fixed effects and Fama-French 17 industry fixed effects are included. No variance inflation factor (VIF) exceeds 10, suggesting absence of multicollinearity issues.

FIGURE 1

Panel A: Standard IRS Audit Window

After filing, the IRS generally has three years to begin auditing the tax return (IRC §6501(a)). In most circumstances, if the IRS does not begin an audit within three years, the statute of limitations is considered to have expired.
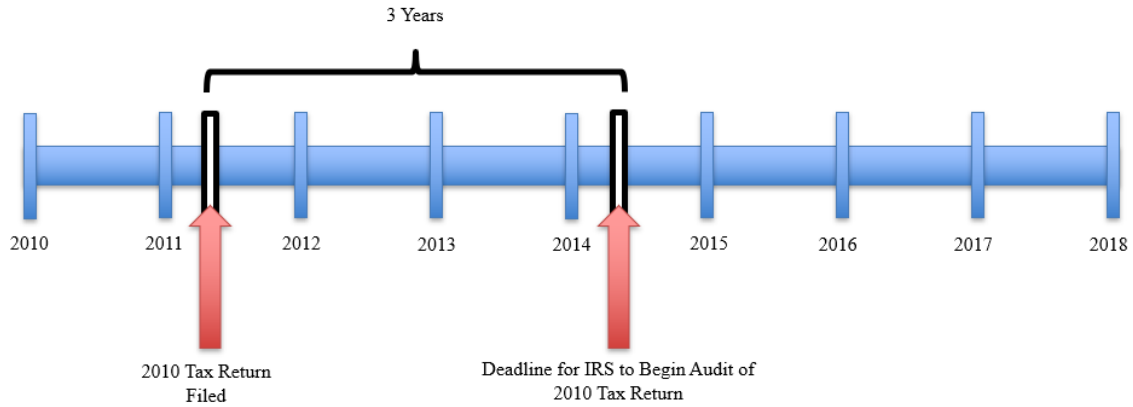
Panel B: IRS Audit Window Upon Audit

However, if the IRS begins an audit, the three-year statute of limitations no longer applies and the tax return stays open until resolution. (Figure continues in next page).
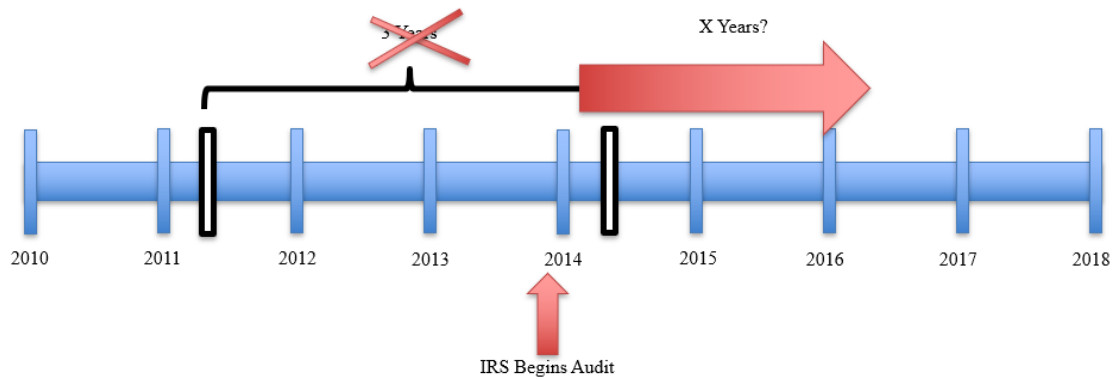
FIGURE 1 (continued)

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Panel C: Disclosure of IRS Years Open in 10-K

Therefore, disclosure of greater number of years open strongly suggests the existence of a lengthy conflict between the IRS and the firm.
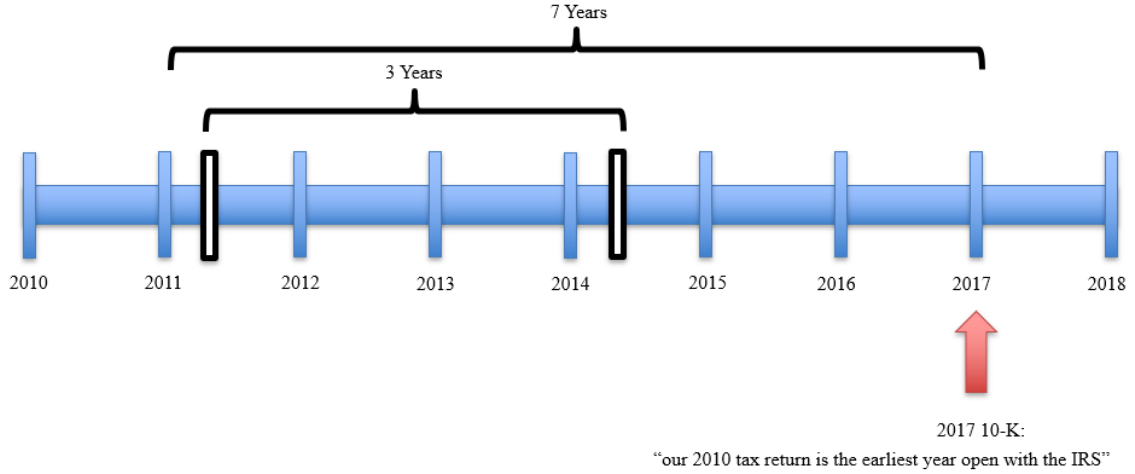
FIGURE 2
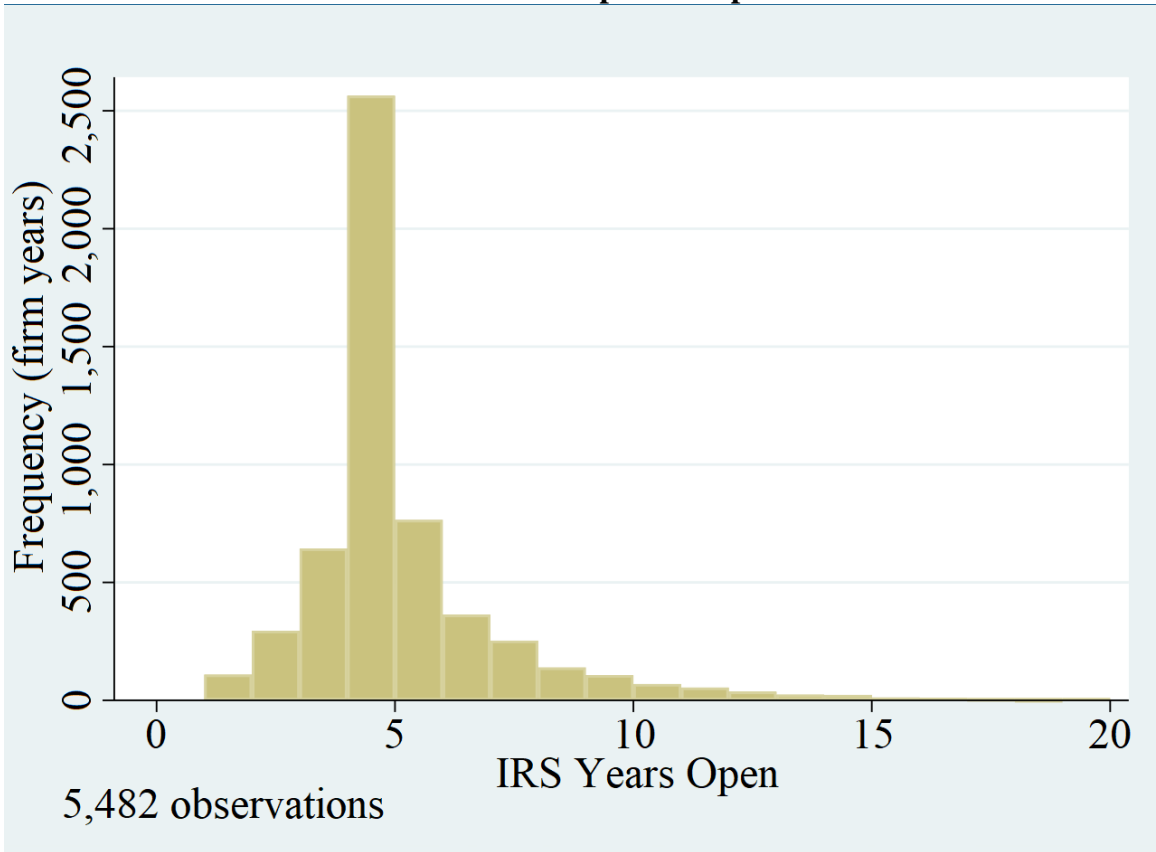**Distribution of IRS Years Open as Reported in 10-Ks**

Figure 2 shows the distribution of the number of IRS years open for my most general sample used in Table 5, Column 1 (5,482 observations). Some firms may have less than three years open because they were selected for audit and completed it, or because they are participating in the CAP program.