

Audited by Association: IRS Activity Across the Supply Chain

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ABSTRACT

This study investigates IRS attention up the supply chain and responds to the call in Slemrod [2019] for more research on the role of taxpayer networks in tax enforcement and deterrence activity. We use 10-K disclosure of material customers to identify customer-supplier relationships and IRS downloads of firm 10-Ks to proxy for IRS attention (Bozanic et al. [2017]). We find that prior IRS attention toward a customer firm is positively associated with IRS attention toward the supplier firm in the current year. We also find that prior customer settlements (a signal of audit conclusion) are positively associated with IRS attention toward the supplier in the current year. Taken together, our results are consistent with the IRS leveraging information gained from one audit to assist in the audit selection process of other firms in the supply chain.

1. *Introduction*

In this paper, we explore Internal Revenue Service (IRS) attention up the supply chain. Recent research provides evidence that close customer-supplier relationships facilitate tax avoidance (Cen, Maydew, Zhang, and Zuo [2017]). We posit that close customer-supplier relationships may also influence attention and enforcement activity by the IRS. During audits of customer firms, the IRS likely gains knowledge that is useful for identifying underreporting by their suppliers. By empirically examining the spread of IRS attention along the supply chain, this study responds to the call in Slemrod [2019] who notes we “have just begun to scratch the surface” on research examining the role of taxpayer networks in tax enforcement and deterrence activity (p. 938).

The IRS uses a variety of methods to select corporate taxpayers for audit (GAO [2017]), but to date, little empirical research on the IRS’s audit selection process exists because details about the IRS’s selection criteria and taxpayers under audit are not generally public.¹ Bozanic, Hoopes, Thornock, and Williams [2017] develop a proxy for taxing authority scrutiny (IRS attention) using IRS downloads of a firm’s reports through the Security and Exchange Commission’s EDGAR portal. The authors provide evidence that the IRS regularly accesses the EDGAR portal to download company 10-Ks and that IRS downloads are associated with firm characteristics like size, profitability, foreign exposure, leverage and cash holdings. Following Bozanic et al. [2017], we utilize this public signal of IRS attention to study firms that share a

¹ Notable exceptions include Mills [1998] and Mills and Sansing [2000]. Using IRS data, these studies find a positive correlation between book-tax differences and proposed audit adjustments.

customer-supplier relationship. In particular, we examine whether IRS attention toward a customer firm is positively associated with subsequent IRS attention toward their supplier.

Often, a few customers can account for a large portion of a firm's revenues. Participation in a customer-supplier relationship, especially one that constitutes a significant portion of firm revenue or expense, requires a high level of coordination. This high-level coordination may also facilitate tax planning and tax avoidance activities between customers and suppliers. In fact, global accounting firms offer consulting services to firms in order to achieve a tax-efficient supply chain. Prior research finds that (1) customers and suppliers in significant supply-chain relationships have lower GAAP and cash effective tax rates relative to firms not participating in a significant supply-chain relationship (Cen et al. [2017]), and (2) customers appear to share tax strategies with suppliers who then respond with lower product markups (Cen et al. [2019]). Where Cen et al. [2017, 2019] provide evidence of a benefit of customer-supplier relationships—shared tax avoidance knowledge—we examine a potential consequence of customer-supplier relationships—increased IRS attention.

There are several reasons to expect IRS attention toward supplier firms to be positively associated with IRS attention toward customer firms.² The IRS may perceive the examination of a supply-chain partner as a lower effort endeavor than targeting an entirely new, unrelated taxpayer because the IRS has already borne the cost of familiarizing itself with the (joint) operating environment. When the IRS conducts an audit of a supplier's major customer, the IRS may gain insight into the customer's relationship with the supplier, the supplier's industry, and even the customer and supplier's joint tax avoidance strategies.³ The IRS may then use this

² Because we rely on Bozanic et al.'s [2017] measure of IRS attention, we focus our analyses on IRS enforcement activities. However, our suppositions are not unique to the IRS or federal income taxes. Other tax enforcement agencies may similarly direct attention toward supply chain participants.

³ Cen et al. [2019] demonstrate tax planning coordination between customers and suppliers.

information to subsequently examine the supplier. Indeed, the IRS publicly states, “we may select your returns when they involve issues or transactions with other taxpayers, such as business partners or investors, whose returns were selected for audit” (Internal Revenue Service [2019]).

Although we expect IRS attention toward supplier firms to be positively associated with IRS attention toward customer firms, it is not obvious that we will observe this relation. Low audit rates suggest the IRS largely serves as a deterrent rather than a verifier, and an optimal deterrence strategy involves casting a wide audit net.⁴ As such, focusing on taxpayers in the same supply-chain may not be congruent with the IRS’s overall tax strategy. Additionally, the IRS has a limited amount of time to examine the customer and then initiate an audit of the supplier before the statute of limitations on transactions expires. Also, suppliers may update their beliefs regarding their own audit selection risk when learning of a customer’s audit, and they may act to decrease their chances of being targeted by the IRS. Finally, IRS processes call for a segregation of duties between the agent who selects a return for audit and the agent who conducts the audit (Internal Revenue Service [2018]).

We follow Bozanic et al. [2017] and use IRS downloads of a firm’s 10-K from EDGAR as a proxy for IRS attention. To examine IRS attention across the supply chain, we construct a list of customers disclosed by firms under Statement of Financial Accounting Standard (SFAS) No. 14 and Regulation S-K using the WRDS Linking Suite. These customers generally comprise at least 10% of the supplier’s revenues. We then construct measures of IRS attention toward suppliers and their customer firm base.

⁴ See Andreoni, Erard, and Feinstein [1998] for a review of literature on tax compliance including the role of the taxing authority as a deterrent.

Using both a continuous measure and an indicator measure for customer IRS attention, we find that customer IRS attention in the *prior year* is positively associated with supplier IRS attention in the current year. These results are consistent with the IRS directing attention toward customer firms and then subsequently directing attention toward supplier firms. Although we cannot observe IRS audit selection or effort directly, our main results are also consistent with the IRS leveraging information gained from one audit to assist in the selection of other firms in the supply chain for audit.

Given constrained resources, the IRS should be motivated to direct attention where additional collection of revenue is likely. Thus, we also expect customer settlements with the IRS to impact IRS attention toward suppliers. Beyond settlements in general, we expect unfavorable customer settlements in particular to signal fruitful enforcement areas for the IRS.⁵ Thus, if a customer has a relatively large unfavorable settlement with the IRS, its supplier may soon face IRS attention of its own. We follow Finley [2017] and define an unfavorable settlement where a firm is in the top tercile of interest and penalties not explained by UTB balance. We find that having a customer that reports a settlement in the prior year and having a customer that reports a large unfavorable settlement in the prior year are both positively associated with IRS downloads of the supplier's 10-K during the current year.⁶ Overall our results indicate that the IRS directs attention toward supplier firms following the agency's audit of customer firms.

We use IRS downloads of 10-K data to proxy for IRS attention. Thus, one interpretation of a positive relationship between IRS attention toward customer firms and their supplier firms is

⁵ In this case, we use the term “unfavorable” as referenced from the taxpayer’s perspective in order to be consistent with prior literature.

⁶ We are only able to observe tax settlements when disclosed in the uncertain tax benefit reconciliation. Non-IRS related settlements add noise to the settlement measure, which if anything, we expect would lead to an understatement of our documented findings.

that the IRS searches for the supplier's 10-K data as part of its examination of the customer firm's tax return. However, our pattern of results is more consistent with the IRS shifting their focus to examine the supplier. For one, we use measures of *prior* year customer attention in our main findings. Further, we find that prior customer settlements are positively related to current supplier IRS attention. Customer settlements signal the completion of an enforcement action against the customer, thus subsequent attention toward the supplier is unlikely to be in furtherance of the customer's audit. Finally, we find that prior year customer IRS attention and prior year customer settlements are associated with an increased probability of current supplier settlements. Overall our findings are more consistent with the IRS initiating an audit of the supplier following an audit of the customer rather than gathering information about the supplier for use against the customer.

Our tests focus on the spread of IRS attention up the supply chain. As in prior studies, our analyses are limited to supplier disclosures of significant customers. Customers are not required to disclose their major suppliers, and the significance of the relationship is unlikely to be symmetric. Using available data, we create a supplier base for each customer. In untabulated tests, we reverse the direction of our main analyses and examine whether IRS attention also flows down the supply chain. However, our results are considerably weaker, likely because of data limitations.

We perform several robustness tests to corroborate our primary results. To mitigate concerns that a relatively unimportant customer drives our results, we recalculate customer IRS attention weighting each customer's logged IRS attention by the percentage of sales the supplier makes to the customer. We also recalculate customer IRS attention to only include IRS 10-K downloads for the customer that the supplier is most dependent upon. In both specifications, we

find results consistent with our main findings. We also specify a changes model and find that changes in customer IRS attention are associated with changes in supplier IRS attention. Finally, we perform a placebo test by replacing each of a supplier's customers with the firm closest in size and in the same industry as the customer (who is not also a customer of the supplier). We find no association between the supplier's IRS attention and our "replacement" customer base's IRS attention, offering evidence that it is the customer-supplier *relationship* leading the IRS to pay additional attention to a supplier rather than general IRS enforcement actions against specific industries or types of transactions common to specific industries.

We contribute to the literature on the effects of tax planning along the supply chain as well as literature on IRS attention and enforcement. The Scholes-Wolfson framework introduces the concept of all parties, all taxes, and all costs in tax planning. Our paper focuses on the uninvited party to all transactions – the Internal Revenue Service (Scholes et al. [2015]). While benefits to tax planning are spread along the supply chain (Cen et al. [2019]) and dependent suppliers and principal customers avoid more tax (Cen et al. [2017]), we show this may have unintended consequences in terms of increased attention from the IRS. We also contribute to the literature on the information gathering by the IRS (Bozanic et al. [2017], Sansing [1993]).

The IRS has limited resources with which to operate. For example, IRS staff fell 14.9% from 2012 to 2017 (IRS Data Book [2017]). Increasing resource limitations necessitate a more efficient audit selection process (Nessa, Schwab, Stomberg, and Towery [2019]). Yet, research on how the IRS directs its audit effort is scant. Typically, the study of IRS audits requires nonpublic information. For example, Ayers, Seidman, and Towery [2019] use private IRS data to examine firms in the Coordinated Industry Case (CIC) program, a program in which taxpayers are *assigned* by the IRS for an assured audit. Similarly, Beck and Lisowsky [2014] use private

IRS data to examine firms in the Compliance Assurance Program (CAP), where firms *elect* to undergo concurrent audit before filing their tax returns. In a contemporaneous study using IRS attention, Fox and Wilson [2019] find that after a firm restates its financial statements or discloses a material weakness in internal controls, the IRS engages in significantly more downloads of that firm's public disclosures. Our results provide insight into the IRS's audit selection process and suggest that the IRS leverages knowledge spillovers from auditing other firms in the same supply chain.

The paper continues as follows. Section 2 presents prior research and hypothesis development. Section 3 describes our methods and sample selection. Section 4 reports results. Section 5 shows additional analyses and Section 6 shows robustness tests. Finally, Section 7 concludes.

2. *Prior Research and Hypothesis Development*

2.1 TAX ENFORCEMENT

Due to data availability constraints, few studies have directly examined IRS enforcement activity. Thus, scarce empirical evidence exists on the IRS's audit selection process. A handful of studies examine taxpayers under voluntary or compulsory audit certainty. Ayers, Seidman, and Towery [2019] study the Coordinated Industry Case (CIC) program, in which taxpayers are designated by the IRS for an assured audit. The authors use private IRS data to develop a prediction model for assignment to the CIC. They find determinants consistent with the Internal Revenue Manual, generalizing to size and complexity (Ayers et al. [2019]). Alternatively, firms may voluntarily participate in the Compliance Assurance Process program (CAP), undertaking a concurrent audit before filing their returns. Beck and Lisowsky [2014] study participation in this program, finding a U-shaped relationship between uncertain tax benefits and voluntary

participation. Findings related to these specialized audit selection settings may not generalize in a broader sample of firms.

While there is little extant research on the audit selection process, a growing body of research examines the tax and non-tax correlates of variation in tax enforcement activity, captured by Transactional Records Access Clearinghouse (TRAC) IRS audit probability data, state-level budget data, and other aggregated tax enforcement data. Studies focused on tax consequences provide evidence that variation in tax enforcement activity impacts tax compliance and tax outcomes. For example, Hoopes, Mescall, and Pittman [2012] demonstrate that firms reduce tax aggressiveness in response to greater IRS enforcement rates, and DeSimone, Stomberg, and Williams [2018] show that tax enforcement spending within countries is associated with lower tax avoidance, but mainly for domestic-only firms. Shevlin, Thornock, and Williams [2017] find that state tax enforcement amnesty increases future firm tax aggressiveness, while Gupta and Lynch [2015] find that a \$1 increase in state expenditures on tax enforcement is associated with an \$8 to \$11 increase in tax collections in the future.

Other studies show that variation in tax enforcement activity can be associated with non-tax firm outcomes as well. Hanlon, Hoopes, and Shroff [2014] find that greater tax audit enforcement is associated with greater financial reporting quality. Gallemore and Jacob [2018] find that IRS tax audit likelihood is associated with higher commercial lending growth, and El Ghoul, Guedhami and Pittman [2011] find IRS audit probabilities are associated with lower cost of equity. Overall, evidence that variation in tax enforcement has consequences serves to motivate our investigation into a possible determinant of tax enforcement activity. Below we build an argument for why IRS attention toward customer firms may increase the likelihood of enforcement activity directed toward their suppliers.

2.2 CUSTOMER AND SUPPLIER TAX PLANNING

Suppliers and their customers enjoy a symbiotic relationship allowing them to leverage their unique strengths to create competitive advantages through lower costs and more efficient production (Cannon and Homburg [2001]; Hult et al. [2006]). One such competitive advantage suppliers and customers can create are lower taxes (Cen et al. [2017]). Large accounting firms recognize the need for tax efficient supply chains and have begun offering consulting services focused on management of these processes.⁷ Taxes, both direct (e.g. income taxes) and indirect (e.g. value added taxes) arise at various stages of the supply chain, including sourcing materials from suppliers to manufacture and eventual sale to a firm's own customers. Given interdependencies along the supply chain, customers and suppliers likely benefit from coordinating their tax strategies.

Huang et al. [2016] provide some of the first evidence that firms with a concentrated customer base avoid more taxes. In a similar study, Cen et al. [2017] find that dependent suppliers, defined as suppliers that report at least one customer comprising greater than 10% of their sales, and principal customers, firms that are reported by at least one supplier as generating greater than 10% of their sales, avoid more tax than other firms.

In a follow up paper, Cen et al. [2019] further develop the relationship between tax planning and supply chain relationships. Drawing on social networking theory in tax planning (Brown and Drake [2014]; Gallemore et al. [2018]; Bird et al. [2018]), the authors use relationship-level data to show that tax planning spreads from principal customers to their

⁷ <https://www.ey.com/us/en/services/tax/international-tax/tax-effective-supply-chain-management>

dependent suppliers. Suppliers then reciprocate benefits by lowering mark-ups on sales to their customers (Cen et al. [2019]).

2.3 IRS ATTENTION ACROSS THE SUPPLY CHAIN

While customers and suppliers enjoy benefits of lower product mark-ups and lower taxes respectively, an unintended consequence of this increased tax avoidance may be attracting attention from the IRS. The Scholes-Wolfson framework of tax planning suggests that all taxes, all parties, and all costs must be considered in an effective tax strategy. In particular, the framework emphasizes that, from the perspective of the taxpaying parties in a transaction, the taxing authority is an uninvited third party to all contracts. Because the taxing authority brings a set of common “contracting terms” (i.e. the Internal Revenue Code) that apply to every taxpayer, savvy tax planners can structure transactions in such a way to take advantage of intricacies and ambiguities therein (Scholes et al. [2015]). While suppliers learn tax avoidance strategies from their customers (Cen et al. [2019]), the IRS similarly observes and learns how taxpayers avoid tax using these strategies and can use that knowledge to more efficiently audit transacting parties. Thus, the IRS may turn its attention to a supplier after examining a major customer.

We posit that a subsequent supplier audit presents itself to the IRS as an attractive option: a speedy audit target that may enable the IRS to claim more audited tax returns and revenue with less resources. The IRS likely gains industry-specific and operating environment-specific knowledge relating to the supplier while exerting attention toward the customer. The IRS may also become aware of both the existence and extent of the relationship between the customer and supplier, and of transaction specific knowledge, particularly where two parties coordinated to save taxes (Cen et al. [2019]). Therefore, the IRS may need relatively less incremental effort and

time to perform an audit of the supplier. Any IRS ‘knowledge spillover’ is likely increasing in the existence and intensity of the IRS attention previously directed at the customer.

We predict that customer-supplier relationships will influence attention and enforcement activity by the IRS, but there are several reasons we may not find our expected effect. First, auditing taxpayers in the same supply chain may not be congruent with the IRS’s overall strategy for maximizing corporate tax compliance, even if doing so reduces information collection costs. Low IRS audit rates suggest the IRS serves as a deterrent rather than a verifier.^{8,9} Auditing a firm in a cluster of related firms (like a supply chain) updates the salience of tax audit risk for other firms within the cluster, but is less likely to provide deterrence in unrelated clusters.¹⁰ To the extent the IRS selects disparate and highly-visible firms to cast a wide net, we may not observe a supply chain effect.

Second, the IRS has a limited window of time to begin auditing a tax return, generally three years to open an examination after receiving a firm’s tax return for the year (IRC §6501).¹¹ By the time an IRS completes enforcement activity against the customer, it may be too late to audit the supplier, as the relevant knowledge of the audited year’s transactions may be beyond the statute of limitations. Third, there is evidence that firms manage the likelihood they are selected for tax audit when they perceive greater tax audit selection risk (Hoopes et al. [2012]).

⁸ Consistent with the idea that the IRS should focus on deterrence efforts, Slemrod [2019] notes “general deterrence is arguably the most important channel through which tax enforcement initiatives work” (p.939).

⁹ For example, our median sized supplier (\$562.1M in assets) only faced an IRS audit probability of 18.49% during 2014.

¹⁰ For example, using an Austrian TV license fee setting, Drago, Mengel and Traxler [2015] perform an experiment where they send mailings to potential non-compliers. They find that nearby (network) households were likely to become compliant (instead of evaders) when their neighbors received compliance related mailings.

¹¹ Exceptions exist in the case of fraud, substantial underpayment, and requests for extension of the statute of limitations by the IRS.

Thus, suppliers may limit their tax avoidance activities in response to customer IRS attention to decrease the chance of being targeted by the IRS.

Finally, we may not observe interactions between customer audits and supplier attention because IRS auditors adhere to a segregation of duties regarding audit selection and completion (Internal Revenue Service [2018]). In other words, the agent who chooses the taxpayer will not actually perform the audit. However, a process exists where IRS agents can refer other taxpayers for audit (GAO [2017]), and the IRS notes this by stating “we may select your returns when they involve issues or transactions with other taxpayers, such as business partners or investors, whose returns were selected for audit” (Internal Revenue Service [2019]).

Overall, we expect the IRS to leverage knowledge spillover when selecting firms for audit and thus hypothesize:

H1: The level of a supplier’s IRS attention during the year is positively associated with customer IRS attention in the prior year.

Given constrained resources (Nessa et al. [2019]), the IRS should be motivated to direct audit effort toward returns where additional collection of revenue is likely. Firm settlements from FIN48 disclosures have been used to proxy for tax enforcement actions against a firm. For example, Brushwood, Johnston, and Lusch [2018] find tax settlements are associated with more conservative tax reporting. Also, Robinson, Stomberg, and Towery [2016] examine firm changes in ETR upon settlements reported in the UTB balance. Because settlements signal the completion of tax enforcement action against a firm, we examine how customer settlements impact supplier IRS attention.

In addition to settlements in general, we borrow a proxy from Finley [2017] who develops a measure of the unfavorability of a settlement with the IRS using the unexplained

interest and penalties recorded in a firm’s uncertain tax benefits. We argue that if a supplier has a customer with a particularly unfavorable settlement, the IRS may learn from that customer’s settlement and begin evaluating the supplier for potential audit. In the event of joint tax planning, unfavorable settlements by the customer may signal to the IRS a greater likelihood of aggressive and poorly supported positions by the supplier.

Extending our rationale from hypothesis 1 in the context of customer settlements, we hypothesize that customer settlements will increase the amount of IRS attention toward the supplier. Stated formally:

H2: The level of a supplier’s IRS attention is positively associated with customer tax settlements in the prior year.

3. *Methods*

3.1 MODELS

To study our hypothesis that the level of a supplier’s IRS attention during the current year is positively associated with customer IRS attention in the prior year, we specify an OLS model as follows, with subscripts t , s , and c indicating the year, supplier, and customer base, respectively:

$$\begin{aligned} \text{LogSupplierIRSAtt}_{t,s} = & \beta_0 + \beta_1 \text{CustomerIRSAttention}_{t-1,c} \\ & + \beta' \text{Controls}_{t,s} + \text{Industry FE}_s + \text{Year FE}_t + \varepsilon \end{aligned} \quad (1)$$

We measure *CustomerIRSAttention* using both an indicator variable equal to one if any related customer’s Form 10-K is downloaded by the IRS during the prior year (*CustomerHasAttention*) and the log of total number of customer Form 10-K downloads in the prior year (*LogCustomerIRSAtt*). Consistent with Bozanic et al. [2017], we log IRS attention to address right skewness in this measure. We lag the customer IRS attention variables because we

want to capture subsequent IRS attention directed at the supplier rather than the use of supplier information during the course of a tax audit of the customer. We include supplier control variables associated with IRS attention following Bozanic et al. [2017] and Fox and Wilson [2019]. We expect a positive coefficient on β_1 , indicating that prior customer IRS attention is associated with supplier IRS attention in the current period. All variables are defined in Appendix A.

Our second hypothesis considers how customer settlements impact supplier IRS attention.¹² We use two alternative measures to capture prior year customer settlements. First, we define an indicator variable, *CustomerSettlement*, equal to 1 if any of a supplier’s customers reported a settlement with taxing authorities in their uncertain tax benefit reconciliation, and 0 otherwise. We focus on customer settlements (customer audits concluded during the year) because while IRS 10-K downloads are representative of an information gathering activity by the IRS, settlements signal the conclusion of a full formal audit.

Next, we consider whether *unfavorable* customer settlements are particularly associated with supplier IRS attention. To do this, we generate a proxy for unfavorable tax settlements by regressing a customer’s interest and penalties on components of the change in uncertain tax benefits following Finley [2017]:

$$IntPen_{t,c} = \beta_0 + \beta_1 CY_UTB_{t,c} + \beta_2 Open_UTB_{t,c} + \beta_3 Sol_UTB_{t,c} + Industry FE_c + Year FE_t + \varepsilon \quad (2)$$

IntPen is measured as interest and penalties reported in the income tax footnote during the year and must be observable during the firm-year. *CY_UTB* captures the net change in the

¹² We acknowledge that despite the IRS being the primary taxing authority for most of our firms, our data for settlements may be noisy due to inclusion of settlements with other taxing jurisdictions. At a minimum, we expect the likelihood of the existence of an IRS settlement is increasing with the disclosure of a UTB settlement.

uncertain tax benefits balance due to current year tax positions. *Open_UTB* is calculated as the beginning of year uncertain tax benefit balance less those positions effectively settled during the year by statute of limitation expiration, settlement, or updated beliefs on the realizability of that benefit. *Sol_UTB* is the amount of uncertain tax benefits that lapse due to the statute of limitations. The residual of this model measures the increasing unfavorability of a firm's settlement with the IRS. Consistent with Finley [2017], we define an indicator variable, *HighUnfavCustomer*, if any customer is in the top tercile of unfavorable settlements.

We use the following model to test the relation between prior year customer settlements (*CustomerSettlement* and *HighUnfavCustomer* alternatively) and IRS attention toward the supplier:

$$\text{LogSupplierIRSAtt}_{t,s} = \beta_0 + \beta_1 \text{Settlement}_{t-1,c} + \beta' \text{Controls}_{t,s} + \text{Industry FE}_s + \text{Year FE}_t + \varepsilon \quad (3)$$

We expect a positive coefficient on β_1 , consistent with suppliers facing higher IRS attention when a customer has either a settlement, or a relatively large unfavorable settlement in the prior year. We winsorize all continuous variables at 1% and 99%. Industry fixed effects are defined at the two-digit SIC level. Standard errors in all models are clustered by firm.

3.2 DATA AND SAMPLE

Table 1 details our sample selection process. We begin with all Compustat firms in our sample period of 2008-2014. We begin the sample with 2008 because we require data on uncertain tax benefits after the enactment of FIN48, and we end the sample with 2014 because our IRS attention data ends in this year. We obtain data on customer-supplier relationships using the Supply Chain with IDs database in WRDS' Linking Suite (Cen et al. [2017]; Cohen and

Frazzini [2008]).¹³ We are also grateful for data on annual IRS attention from Jeffrey Hoopes (Bozanic et al. [2017]). We sum IRS attention for all customers for each supplier to obtain an aggregate amount of customer attention for our tests. We require supplier firms to have non-missing financial data to compute control variables. Our sample consists of 2,928 supplier firm-years and 843 unique suppliers. There are 6,534 customer-supplier-year connections and 2,724 unique customers. Of the 6,534 connections, 64.8% provide specific sales percentages for the connection. Connections with nonmissing sales percentages are significant (meet or exceed 10% of suppliers' sales) 89.7% of the time.

Table 2 presents descriptive statistics of our sample. Panel A shows basic descriptive statistics for each unique supplier-year while Panel B shows basic descriptive statistics for each unique customer-year. On average, customers in our sample are larger than our suppliers and have more IRS attention. Our suppliers have their 10-Ks downloaded by the IRS an average of 8.62 times per year (unwinsorized), similar to the mean of 9 times reported by Bozanic et al. [2017]. Our suppliers have 2.23 customers on average, and each customer belongs to an average of 2.4 suppliers.

Table 2, Panel C reports descriptive statistics for each variable in our main analysis. About 85% of our supplier-years have at least one customer with IRS attention in the prior year. Panel D contains descriptive statistics for additional analyses and robustness tests.

4. Empirical Results

Our main findings are shown in Table 3. Columns (1) and (2) show regression results from Equation (1). Consistent with hypothesis 1, we observe a positive association between the

¹³ We consider all customers listed by a supplier in WRDS' Linking Suite, not only those considered a principal customer (>10% of a supplier's sales). In sensitivity analyses (Table 5), we weight each customer's logged IRS attention by the percentage of sales to the supplier.

existence and level of prior year customer IRS attention and the supplier's level of IRS attention in the current year ($\beta = 0.088$, $p = 0.032$ and $\beta = 0.021$, $p = 0.025$, respectively). These results are consistent with the IRS leveraging knowledge gained during the examination of one taxpayer to aid in the selection of another taxpayer for audit.

We present results for testing hypothesis 2 in columns (3) and (4). Column (3) presents results from Equation (3) using customer settlements as our main independent variable. We find that the existence of customer settlements in the prior year (reported in the uncertain tax benefit reconciliation) are positively associated with higher IRS attention directed toward the supplier in the current year ($\beta = 0.058$, $p = 0.083$). Because not all settlements reported in the UTB balance are unfavorable to the firm or indicative of the IRS collecting additional revenue from the customer, we also examine unfavorable customer settlements following Finley [2017]. In Column (4), we show that if a customer reports an unfavorable settlement in the prior year, on average, the IRS downloads the supplier's 10-K more frequently in the current year ($\beta = 0.067$, $p = 0.045$). One interpretation of these results is that, at the conclusion of the customer audit, the IRS shifts its efforts – knowledge, resources, etc. – from the customer to the supplier.

5. *Additional Analyses*

5.1 ACTION AGAINST THE SUPPLIER OR FURTHERANCE OF CUSTOMER AUDIT?

Because we cannot observe the IRS's audit selection process or audit effort directly, we use IRS downloads of 10-K data to proxy for IRS attention. Thus, one interpretation of the positive relation that we document between customer and supplier IRS attention is that the IRS searches for the supplier's information for use against the customer. While this may sometimes occur, we do not believe it is driving our results. For one, our customer settlement results in

Table 3 are inconsistent with this explanation. Customer settlements signal the completion of a customer audit, so subsequent IRS supplier attention is unlikely to occur in furtherance of the customer's IRS audit.

Second, in untabulated analyses, we regress the existence and level of IRS customer attention on IRS supplier attention in the same year. We find weaker results using the level of customer attention and insignificant results using the existence of customer attention. Thus, rather than supporting a story that the IRS downloads supplier 10-Ks in the course of its examination of the customer, our results appear more consistent with the idea that the IRS shifts attention from customers to suppliers, leveraging information gained from one audit to assist in the audit selection process of other firms in the supply chain.

Third, we regress prior year customer IRS attention and customer settlements on current year supplier settlements. Table 3 shows results using supplier IRS attention as the dependent variable. Changing the dependent variable from the supplier IRS attention (Table 3) to supplier settlements (Table 4) further helps mitigate concerns that our results reflect the IRS gathering information about the supplier in support of the audit of the customer. Unlike attention, a settlement captures substantive enforcement action against the supplier. Because some industries perfectly predict settlement outcomes, those observations are dropped, and the number of observations differs from Table 3. In Table 4, Column (1) we find that if any of a supplier's customers have IRS attention in the prior year, the supplier will be more likely to report a settlement in the current year ($\beta = 0.246$, $p = 0.011$). We find similar results in Columns (2), (3), and (4) where we use the level of prior year aggregate customer attention ($\beta = 0.051$, $p = 0.017$), an indicator for the existence of any customer settlements in the prior year ($\beta = 0.127$, $p = 0.080$), or an indicator for the existence of an unfavorable customer settlement in the prior year

($\beta = 0.136$, $p = 0.030$). Taken together, the results in Table 4 are consistent with the IRS taking enforcement actions *against the supplier* after having taken enforcement actions against the customer.¹⁴

5.2 REVERSING THE SUPPLY CHAIN DIRECTION

In our primary analysis we examine IRS attention *up* the supply chain because that is what we can observe. Suppliers disclose their significant customers, but customers are not required to disclose their significant suppliers. Moreover, given the size difference we observe between suppliers and customers, the significance of the relationship is unlikely to be symmetric. For example, if a small manufacturer sells the majority of its product to a single large retailer, the manufacturer would disclose the retailer as a significant customer. However, we cannot assume from this (supplier) disclosure that the manufacturer is significant to the retailer. Similar to prior studies (e.g., Cen et al. [2017, 2019]), our research design, analyses, and inferences are inherently limited by this artifact of the data.

Keeping in mind the limitations of the data – a supplier may not be significant to a particular customer – in untabulated analyses, we reverse the direction of our main analysis and examine whether prior year supplier IRS attention is associated with current customer IRS attention. Not too surprisingly, we find considerably weaker results in these analyses, with some coefficients of interest falling below traditional levels of statistical significance. Given the data we can observe, we conclude that our findings are not symmetric; we find evidence that the IRS directs attention from customers to suppliers but not vice versa.

¹⁴ Using UTB settlement data introduces some measurement error due to non-IRS specific settlements. However, if anything, this measurement error likely leads to an understatement of the magnitude of the effects we document.

6. Robustness Tests

6.1 WEIGHTED CUSTOMER ATTENTION

To alleviate concerns that our results are driven by large customers that the supplier may not heavily depend on, we recalculate our measure of *CustomerIRSAttention* in Equation (1) by weighting each customer's logged IRS attention by the amount of sales from the customer to that supplier divided by the supplier's total sales. We then sum each customer's weighted IRS attention to create *WeightCustIRSAtt*. We repeat the analysis in Table 3, Column (2) using the new weighted customer base IRS attention. Because some suppliers disclose customer names without sales amounts, our sample size differs from that in Table 3. Table 5 shows results consistent with our main analysis – customer IRS attention weighted by the percentage sales to the supplier is associated with future supplier IRS attention ($\beta = 0.056$, $p = 0.033$).

Similarly, instead of using the aggregate customer base, in Table 6 we recalculate *CustomerIRSAttention* and *Settlement* from Equations (1) and (3) using only the customer with the greatest amount of sales to the supplier. Our results are shown in Table 6. In Columns (1), (2), and (3) we find similar results ($\beta = 0.261$, $p < 0.001$, $\beta = 0.029$, $p = 0.027$, and $\beta = 0.090$, $p = 0.024$, respectively) however our findings become insignificant when we use the unfavorable customer settlement measure in Column (4) ($\beta = 0.043$, $p = 0.188$). Sample attrition reflects instances where we did not have IRS attention data for the largest customer.

6.2 CHANGES MODEL

To further explore whether customer IRS attention affects supplier IRS attention, we specify a changes model as follows:

$$\text{ChgIRSAttention}_{t,i} = \beta_0 + \beta_1 \text{ChgCustomerAttention}_{t,i} + \beta_x \text{ChgControls}_{t,i} + \varepsilon \quad (4)$$

Variables in Equation (4) are defined as the difference between the current and prior year value for all variables in Equation (1). We do not include industry and year fixed effects in this model consistent with Amir et al. [2016].¹⁵

Table 7 presents the results. We find that an increase in a customer's IRS attention is positively associated with an increase in the supplier's IRS attention, consistent with the inferences from H1 ($\beta = 0.081$, $p < 0.001$).

6.3 PLACEBO TEST

To alleviate concerns that our results simply reflect IRS emphasis on specific industries or transactions common in specific industries rather than a true customer-supplier effect, we perform a placebo test. We replace each disclosed customer with a placebo customer based on its closest match in total assets and four-digit SIC. The placebo customer is in the same industry as the supplier but cannot be another disclosed customer of the supplier. We reproduce Table 3 with the new placebo customer base. All variable definitions remain the same, however, we use the placebo customer's data in place of the actual customer's data.¹⁶ Because these are not the actual disclosed customers of the supplier, we expect to see no relationship between their IRS activity and the supplier's IRS attention. Table 8 presents our results. We find no association between the placebo customer's IRS interactions and their assigned supplier's IRS attention. This provides further support that it is the *customer-supplier relationship* driving the IRS to download the supplier's 10-K rather than the IRS auditing firms in the same industry or with similar transactions common to specific industries.

¹⁵ The authors show that specifying a model where the dependent and independent variables are the difference between the lagged and current values allows for omission of fixed effects from the model (Amir et al. [2016]). Nevertheless, our results are qualitatively similar when including year and industry fixed effects.

¹⁶ Some customers were unmatched, thus the number of observations differs slightly between Table 3 and Table 8.

7. *Conclusions*

Customers and suppliers share tax strategies (Cen et al. [2019]), but our study shows they also share an unintended consequence of IRS attention. Specifically, we show suppliers face IRS attention in the current year when their customer(s) faced IRS attention in the prior year. Recent studies use data on settlements disclosed in the uncertain tax benefit reconciliation to proxy for tax enforcement action against the firm (e.g., Brushwood et al [2018], Robinson et al. [2016]). Following these studies, we likewise use customer settlement data to capture customer interactions with the IRS. We find that a customer reporting UTB settlements or an unfavorable settlement (Finley [2017]) in the prior year is associated with supplier IRS 10-K downloads. Overall, we provide consistent evidence that IRS attention flows up the supply chain.

To bolster our main analyses and better understand our results, we conduct a series of additional analyses. First, we drill down on the timing of our identified effect. In our main analysis, we find that customer settlements, which signal the conclusion of an enforcement activity, are associated with supplier IRS 10-K downloads in the subsequent period. We interpret these results as evidence that the IRS shifts its attention from the customer to the supplier. In additional analyses, we find that suppliers are more likely to report a settlement in the current year if their customers had IRS attention, reported settlements, or had unfavorable settlements in the prior year. While the IRS may search for the supplier's 10-K in furtherance of its audit against the customer, our supplier settlement results are more consistent with the IRS shifting their focus to examine the supplier.

Our results are robust to weighting customer logged IRS attention by the percentage of the supplier's sales to that customer or only using the customer that generates the largest percentage of the supplier's sales. In sensitivity analyses, we show changes in supplier IRS

attention correspond with changes in customer IRS attention. We also provide additional evidence that it is the *customer-supplier relationship* driving this association by performing our analyses with a placebo customer base, matching the supplier's disclosed customers to firms with the closest number of assets in the same industry, and find no association between the placebo customer base and the supplier's IRS attention.

Using non-proprietary data, we provide evidence of a supply-chain effect in corporate tax enforcement activity. Our findings contribute to extant literature examining IRS attention (Bozanic et al. [2017], Fox and Wilson [2019]) as well as to the literature on tax effects in the supply chain (Cen et al. [2017, 2019]). We also respond to the call in Slemrod [2019] for more research into network effects in tax enforcement. Our results are of interest to future research examining tax enforcement and the IRS audit selection process, as well as to firms that may face additional consequences from selecting supply chain partners that are facing off with tax enforcement agencies.

Appendix A

Supplier Variables	
<i>LogSupplierIRSAtt</i>	The log of the number of times the IRS has downloaded the supplier's Form 10-K from EDGAR during the year.
<i>SupplierUTBSettlement</i>	Takes the value of 1 if the supplier reports a settlement in its income tax footnote (TXTUBSETTLE), 0 otherwise.
<i>ChgSupplierIRSAtt</i>	The change in <i>LogSupplierIRSAtt</i> between t and t-1 ($LogSupplierIRSAtt_t - LogSupplierIRSAtt_{t-1}$)
Customer Variables	
<i>CustomerHasAttention</i>	Takes the value of 1 if any disclosed customer's Form 10-K has been downloaded by the IRS during the year, 0 otherwise.
<i>LogCustomerIRSAtt</i>	The log of the number of times the IRS has downloaded the aggregate customer base's Form 10-K from EDGAR during the year.
<i>CustomerSettlement</i>	Takes the value of 1 if any disclosed customer reports a settlement in its income tax footnote (TXTUBSETTLE), 0 otherwise.
<i>HighUnfavCustomer</i>	Takes the value of 1 if any of the supplier's disclosed customers reported a settlement with the IRS in the highest tercile of unexpected interest and penalties following Finley [2017]; 0 otherwise
<i>LogWeightCustomerIRSAtt</i>	The sum of the log of each customer's IRS attention multiplied by the sales to that customer (SALECS) divided by the supplier's total sales (SALE).
<i>DependentCustomerHasAttention</i>	<i>CustomerHasAttention</i> , recalculated using only the customer with the highest percentage sales from the supplier.
<i>LogDependentCustomerIRSAtt</i>	<i>LogCustomerIRSAtt</i> , recalculated using only the customer with the highest percentage sales from the supplier.
<i>DependentCustomerSettlement</i>	<i>CustomerSettlement</i> , recalculated using only the customer with the highest percentage sales from the supplier.
<i>HighUnfavDependentCustomer</i>	<i>HighUnfavCustomer</i> , recalculated using only the customer with the highest percentage sales from the supplier.
<i>ChgCustomerAttention</i>	The change in <i>LogCustomerIRSAtt</i> between t and t-1 ($LogCustomerIRSAtt_t - LogCustomerIRSAtt_{t-1}$)

<i>PlaceboHasAttention</i>	Takes the value of 1 if any placebo customer's Form 10-K has been downloaded by the IRS during the year, 0 otherwise.
<i>LogPlaceboIRSAtt</i>	The log of the number of times the IRS has downloaded the aggregate placebo customer base's Form 10-K from EDGAR during the year.
<i>PlaceboSettlement</i>	Takes the value of 1 if any placebo customer reports a settlement in its income tax footnote (TXTUBSETTLE), 0 otherwise.
<i>HighUnfavPlacebo</i>	Takes the value of 1 if any of the supplier's placebo customers reported a settlement with the IRS in the highest tercile of unexpected interest and penalties following Finley [2017]; 0 otherwise
<i>Control Variables</i>	
<i>BTD</i>	Pretax book income (PI) less the sum of federal taxes paid (TXFED) and foreign taxes (TXFO) paid grossed up by the statutory rate (35%) less the change in NOL (TLCF), scaled by lagged total assets (AT)
<i>Cash ETR</i>	Cash taxes paid (TXPD) scaled by pretax book income less special items (PI-SPI)
<i>GAAP ETR</i>	Tax expense (TXT) scaled by pretax book income less special items (PI-SPI)
<i>DTA</i>	Deferred tax assets (TXNDBA) scaled by lagged total assets (AT)
<i>DTL</i>	Deferred tax liabilities (TXNDBL) scaled by lagged total assets (AT)
<i>Size</i>	Log of total assets (AT)
<i>MTB</i>	Common stock share price (PRCC_F) multiplied by the number of common shares outstanding (CSHO), scaled by common equity (CEQ)
<i>MNE</i>	Takes the value of 1 if foreign income (PIFO) is non-negative; 0 otherwise
<i>Leverage</i>	Long term liabilities (DLTT) scaled by lagged total assets (AT)
<i>R&D Intensity</i>	Research and development expense (XRD) scaled by sales; set to 0 if missing
<i>Inventory Intensity</i>	Inventory (INVT) scaled by lagged total assets (AT)
<i>Capital Intensity</i>	Property, plant, and equipment (PPENT) scaled by lagged total assets (AT)
<i>ROA</i>	Pretax book income (PI) scaled by lagged total assets (AT)

<i>ChgNOL</i>	Current tax loss carryforward (TLCF) less the prior year's tax loss carryforward scaled by lagged total assets (AT)
<i>Cash</i>	Cash balance (CH) scaled by lagged total assets (AT)
<i>SalesGrowth</i>	Current sales (SALE) less lagged sales, scaled by lagged sales
<i>Intangible Intensity</i>	Intangible assets (INTAN) scaled by lagged total assets (AT), set to 0 if missing
<i>UTB</i>	End of year uncertain tax benefits balance (TXTUBEND) scaled by total assets (AT)
<i>IntPen</i>	Interest and penalties reported in the income tax footnote (TXTUBXINTIS) scaled by lagged total assets
<i>CY_UTB</i>	Net change in uncertain tax benefits balance due to current year tax positions (TXTUBPOSINC – TXTUBPOSDEC) scaled by lagged total assets
<i>Open_UTB</i>	Beginning of year uncertain tax benefits balance (TXTUBBEGIN) less uncertain tax benefits effectively settled during the year (TXTUBPOSPDEC + TXTUBSETTLE + TXTUBSOFLIMIT) scaled by lagged total assets
<i>Sol_UTB</i>	Uncertain tax benefit balance that lapses due to the statute of limitations (TXTUBSOFLIMIT) scaled by lagged total assets

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TABLE 1
Sample Selection

All WRDS Supply Chain Link Firms from 2008-2014	9,456
Less: Firms missing IRS Attention data	(1,164)
Less: Firms missing control variables	(5,364)
IRS Attention Sample	2,928

TABLE 2
Descriptive Statistics

	N (1)	Mean (2)	Median (3)	SD (4)
Panel A: Unique supplier-year descriptives				
<i>Supplier Assets (Raw)</i>	2,928	4,090	562	22,425
<i>Supplier IRS Attention (Raw)</i>	2,928	8.621	3.000	21.002
<i>Total Customers</i>	2,928	2.234	2.000	2.249
Panel B: Unique customer-year descriptives				
<i>Customer Assets (Raw)</i>	2,707	74,112	15,474	246,944
<i>Customer IRS Attention (Raw)</i>	2,724	18.121	5.000	38.864
<i>Total Suppliers</i>	2,724	2.399	1.000	3.756
Panel C: Regression variables				
Dependent Variables:				
<i>LogSupplierIRSAtt</i>	2,928	1.534	1.386	1.019
Independent Variables:				
<i>Lag_CustomerHasAttention</i>	2,928	0.851	1.000	0.356
<i>Lag_LogCustomerIRSAtt</i>	2,928	3.060	3.497	1.692
<i>Lag_CustomerSettlement</i>	2,928	0.671	1.000	0.470
<i>Lag_HighUnfavCustomer</i>	2,928	0.292	0.000	0.455
Control Variables:				
<i>BTD</i>	2,928	-0.155	0.004	0.562
<i>Cash ETR</i>	2,928	0.257	0.164	0.314
<i>GAAP ETR</i>	2,928	0.214	0.217	0.213
<i>DTA</i>	2,928	0.050	0.038	0.054
<i>DTL</i>	2,928	0.048	0.029	0.057
<i>Size</i>	2,928	6.365	6.334	1.878
<i>MTB</i>	2,928	2.999	1.965	5.480
<i>MNE</i>	2,928	0.493	0.000	0.500
<i>Leverage</i>	2,928	0.194	0.116	0.252
<i>R&D Intensity</i>	2,928	0.287	0.026	0.994
<i>Inventory Intensity</i>	2,928	0.105	0.075	0.117
<i>Capital Intensity</i>	2,928	0.225	0.135	0.257
<i>ROA</i>	2,928	-0.029	0.043	0.275
<i>ChgNOL</i>	2,928	0.085	0.001	0.368
<i>Cash</i>	2,928	0.202	0.128	0.247
<i>SalesGrowth</i>	2,928	0.134	0.061	0.502
<i>Intangible Intensity</i>	2,928	0.211	0.128	0.247
<i>UTB</i>	2,928	0.019	0.006	0.076

Panel D: Additional analysis variables				
<i>SupplierUTBSettlement</i>	2,860	0.298	0.000	0.457
<i>Lag_LogWeightCustomerIRSAtt</i>	2,220	0.851	0.631	0.735
<i>Lag_DependentCustomerHasAttention</i>	2,372	0.932	1.000	0.252
<i>Lag_LogDependentCustomerIRSAtt</i>	2,372	2.885	2.996	0.139
<i>Lag_DependentCustomerSettlement</i>	2,372	0.641	1.000	0.480
<i>Lag_HighUnfavDependentCustomer</i>	2,372	0.200	0.000	0.400
<i>ChgSupplierIRSAttention</i>	1,983	0.165	0.154	1.047
<i>ChgCustomerAttention</i>	1,983	0.112	0.064	1.183
<i>Lag_PlaceboHasAttention</i>	2,806	0.694	1.000	0.461
<i>Lag_LogPlaceboIRSAtt</i>	2,806	2.134	2.197	1.789
<i>Lag_PlaceboSettlement</i>	2,806	0.522	1.000	0.500
<i>Lag_HighUnfavPlacebo</i>	2,806	0.211	0.000	0.408

This table shows basic descriptive statistics for unique supplier-years (Panel A) as well as unique customer-years (Panel B). Panel C presents descriptive statistics for variables in our main analyses, and Panel D reports descriptive statistics for variables in our additional analyses and sensitivity tests. Our sample period ranges from 2008 through 2014.

TABLE 3

Effect of Prior Year Customer Attention or Settlement on Supplier IRS Attention

	Dependent Variable: <i>LogSupplierIRSAtt</i>			
	(1)	(2)	(3)	(4)
<i>Lag_CustomerHasAttention</i>	0.088* (0.05)			
<i>Lag_LogCustomerIRSAtt</i>		0.021** (0.01)		
<i>Lag_CustomerSettlement</i>			0.058* (0.04)	
<i>Lag_HighUnfavCustomer</i>				0.067** (0.04)
<i>BTD</i>	-0.161* (0.09)	-0.157* (0.09)	-0.160* (0.09)	-0.156* (0.09)
<i>Cash ETR</i>	-0.015 (0.05)	-0.016 (0.05)	-0.018 (0.05)	-0.018 (0.05)
<i>GAAP ETR</i>	0.059 (0.09)	0.060 (0.09)	0.059 (0.09)	0.061 (0.09)
<i>DTA</i>	0.355 (0.36)	0.339 (0.35)	0.359 (0.35)	0.346 (0.36)
<i>DTL</i>	-0.870* (0.52)	-0.867* (0.52)	-0.875* (0.52)	-0.864* (0.52)
<i>Size</i>	0.223*** (0.02)	0.222*** (0.02)	0.224*** (0.02)	0.224*** (0.02)
<i>MTB</i>	0.001 (0.00)	0.001 (0.00)	0.002 (0.00)	0.002 (0.00)
<i>MNE</i>	0.060 (0.04)	0.059 (0.04)	0.057 (0.04)	0.057 (0.04)
<i>Leverage</i>	-0.264*** (0.09)	-0.260*** (0.09)	-0.259*** (0.09)	-0.263*** (0.09)
<i>R&D Intensity</i>	-0.067*** (0.02)	-0.065*** (0.02)	-0.068*** (0.02)	-0.068*** (0.02)
<i>Inventory Intensity</i>	-0.148 (0.24)	-0.150 (0.24)	-0.167 (0.24)	-0.170 (0.24)
<i>Capital Intensity</i>	-0.287** (0.13)	-0.283** (0.13)	-0.295** (0.13)	-0.292** (0.13)
<i>ROA</i>	0.031 (0.14)	0.030 (0.14)	0.030 (0.14)	0.027 (0.14)
<i>ChgNOL</i>	-0.048 (0.09)	-0.047 (0.09)	-0.048 (0.09)	-0.045 (0.09)
<i>Cash</i>	-0.367*** (0.07)	-0.366*** (0.07)	-0.368*** (0.07)	-0.369*** (0.07)
<i>Sales Growth</i>	-0.031 (0.04)	-0.030 (0.04)	-0.030 (0.04)	-0.033 (0.04)

<i>Intangible Intensity</i>	-0.010 (0.11)	-0.012 (0.10)	-0.010 (0.10)	-0.006 (0.11)
<i>UTB</i>	0.284* (0.16)	0.285* (0.16)	0.291* (0.16)	0.295* (0.16)
Observations	2,928	2,928	2,928	2,928
Industry FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

This table presents results of OLS regression of equation (1) and equation (3). The dependent variable in all columns is *LogSupplierIRSAtt*, the log of the number of times the IRS downloaded the firm's 10-K during the year. Standard errors clustered by firm in parentheses. ***, **, and * denote significance at the $p < 0.01$, $p < 0.05$, and $p < 0.1$, respectively. One-tailed tests were used for variables with a prediction.

TABLE 4

Effect of Prior Year Customer Attention or Settlements on Supplier UTB Settlements

Dependent Variable: <i>SupplierUTBSettlement</i>				
VARIABLES	(1)	(2)	(3)	(4)
<i>Lag_CustomerHasAttention</i>	0.246** (0.11)			
<i>Lag_LogCustomerIRSAtt</i>		0.051** (0.02)		
<i>Lag_CustomerSettlement</i>			0.127* (0.09)	
<i>Lag_HighUnfavCustomer</i>				0.136** (0.07)
<i>BTD</i>	-0.501** (0.23)	-0.487** (0.24)	-0.499** (0.23)	-0.489** (0.23)
<i>Cash ETR</i>	0.055 (0.11)	0.049 (0.11)	0.041 (0.11)	0.037 (0.12)
<i>GAAP ETR</i>	0.360** (0.16)	0.365** (0.16)	0.358** (0.16)	0.359** (0.16)
<i>DTA</i>	1.292* (0.70)	1.234* (0.70)	1.286* (0.70)	1.307* (0.70)
<i>DTL</i>	-1.067 (0.95)	-1.062 (0.96)	-1.103 (0.96)	-1.064 (0.96)
<i>Size</i>	0.398*** (0.03)	0.396*** (0.03)	0.400*** (0.03)	0.401*** (0.03)
<i>MTB</i>	0.003 (0.01)	0.003 (0.01)	0.003 (0.01)	0.003 (0.01)
<i>MNE</i>	0.308*** (0.08)	0.305*** (0.08)	0.299*** (0.08)	0.303*** (0.08)
<i>Leverage</i>	-0.324* (0.18)	-0.316* (0.18)	-0.309* (0.18)	-0.319* (0.18)
<i>R&D Intensity</i>	-0.076 (0.09)	-0.073 (0.09)	-0.079 (0.09)	-0.078 (0.09)
<i>Inventory Intensity</i>	-0.532 (0.48)	-0.543 (0.48)	-0.607 (0.48)	-0.601 (0.48)
<i>Capital Intensity</i>	-0.020 (0.27)	-0.018 (0.27)	-0.057 (0.27)	-0.064 (0.27)
<i>ROA</i>	0.773* (0.40)	0.772* (0.41)	0.775* (0.41)	0.770* (0.41)
<i>ChgNOL</i>	-0.333 (0.27)	-0.326 (0.28)	-0.335 (0.27)	-0.334 (0.27)
<i>Cash</i>	-0.241 (0.25)	-0.246 (0.25)	-0.249 (0.25)	-0.252 (0.25)
<i>Sales Growth</i>	-0.499*** (0.16)	-0.497*** (0.16)	-0.502*** (0.16)	-0.506*** (0.16)
<i>Intangible Intensity</i>	-0.002	-0.005	0.012	0.016

	(0.22)	(0.22)	(0.22)	(0.22)
<i>UTB</i>	-0.038	-0.022	-0.064	-0.044
	(0.51)	(0.50)	(0.59)	(0.57)
Observations	2,860	2,860	2,860	2,860
Industry FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

This table presents results of probit regression of supplier settlements on customer IRS attention and customer settlements. The dependent variable in both columns is *SupplierUTBSettlement*, which takes the value of 1 if the supplier reported a settlement in their UTB reconciliation during the year, and 0 otherwise. Standard errors clustered by firm in parentheses. ***, **, and * denote significance at the $p < 0.01$, $p < 0.05$, and $p < 0.1$, respectively. One-tailed tests were used for variables with a prediction.

TABLE 5
*Effect of Prior Weighted Customer IRS Attention on
Supplier IRS Attention*

Dependent Variable: <i>LogSupplierIRSAtt</i>	
VARIABLES	(1)
<i>Lag_LogWeightCustomerIRSAtt</i>	0.056** (0.03)
<i>BTD</i>	-0.173 (0.12)
<i>Cash ETR</i>	-0.008 (0.06)
<i>GAAP ETR</i>	-0.024 (0.10)
<i>DTA</i>	0.653 (0.43)
<i>DTL</i>	-0.970 (0.61)
<i>Size</i>	0.233*** (0.02)
<i>MTB</i>	0.002 (0.00)
<i>MNE</i>	0.063 (0.05)
<i>Leverage</i>	-0.317*** (0.11)
<i>R&D Intensity</i>	-0.059** (0.03)
<i>Inventory Intensity</i>	0.343 (0.27)
<i>Capital Intensity</i>	-0.436*** (0.16)
<i>ROA</i>	0.061 (0.18)
<i>ChgNOL</i>	-0.031 (0.12)
<i>Cash</i>	-0.363*** (0.09)
<i>Sales Growth</i>	-0.036 (0.05)
<i>Intangible Intensity</i>	0.052 (0.12)
<i>UTB</i>	0.299* (0.17)
Observations	2,220

Industry FE	YES
Year FE	YES

This table presents results of OLS regression of equation (1). The customer base variable, *Lag_LogWeightCustomerIRSAtt*, is the sum of the log of each customer's IRS attention multiplied by the percentage sales by the supplier to that customer. The dependent variable in both columns is *LogSupplierIRSAtt*, the log of the number of times the IRS downloaded the firm's 10-K during the year. Standard errors clustered by firm in parentheses. ***, **, and * denote significance at the $p < 0.01$, $p < 0.05$, and $p < 0.1$, respectively. One-tailed tests were used for variables with a prediction.

TABLE 6
Effect of Customer Dependency on Supplier IRS Attention

Dependent Variable: <i>LogSupplierIRSAtt</i>				
VARIABLES	(1)	(2)	(3)	(4)
<i>Lag_DependentCustomerHasAttention</i>	0.261*** (0.07)			
<i>Lag_LogDependentCustomerIRSAtt</i>		0.029** (0.02)		
<i>Lag_DependentCustomerSettlement</i>			0.090** (0.05)	
<i>Lag_HighUnfavDependentCustomer</i>				0.043 (0.05)
<i>BTD</i>	-0.180* (0.11)	-0.175 (0.11)	-0.180* (0.11)	-0.182* (0.11)
<i>Cash ETR</i>	-0.028 (0.06)	-0.026 (0.06)	-0.023 (0.06)	-0.027 (0.06)
<i>GAAP ETR</i>	0.023 (0.10)	0.019 (0.10)	0.024 (0.10)	0.020 (0.10)
<i>DTA</i>	0.623 (0.40)	0.644 (0.41)	0.659 (0.40)	0.637 (0.41)
<i>DTL</i>	-0.987 (0.60)	-1.070* (0.60)	-1.108* (0.60)	-1.079* (0.60)
<i>Size</i>	0.227*** (0.02)	0.227*** (0.02)	0.227*** (0.02)	0.228*** (0.02)
<i>MTB</i>	0.003 (0.00)	0.003 (0.00)	0.004 (0.00)	0.003 (0.00)
<i>MNE</i>	0.052 (0.05)	0.051 (0.05)	0.049 (0.05)	0.053 (0.05)
<i>Leverage</i>	-0.333*** (0.11)	-0.323*** (0.11)	-0.325*** (0.11)	-0.325*** (0.11)
<i>R&D Intensity</i>	-0.049* (0.03)	-0.051* (0.03)	-0.054** (0.03)	-0.053** (0.03)
<i>Inventory Intensity</i>	0.152 (0.26)	0.152 (0.26)	0.128 (0.26)	0.141 (0.26)
<i>Capital Intensity</i>	-0.310** (0.15)	-0.305** (0.15)	-0.313** (0.15)	-0.318** (0.15)
<i>ROA</i>	0.040 (0.16)	0.031 (0.16)	0.038 (0.16)	0.040 (0.16)
<i>ChgNOL</i>	-0.063 (0.11)	-0.067 (0.11)	-0.065 (0.11)	-0.072 (0.11)
<i>Cash</i>	-0.368*** (0.08)	-0.367*** (0.08)	-0.366*** (0.08)	-0.366*** (0.08)
<i>Sales Growth</i>	-0.053 (0.04)	-0.054 (0.04)	-0.055 (0.04)	-0.057 (0.04)
<i>Intangible Intensity</i>	0.045	0.053	0.057	0.058

	(0.12)	(0.12)	(0.12)	(0.12)
<i>UTB</i>	0.283*	0.295*	0.299*	0.296*
	(0.17)	(0.17)	(0.17)	(0.17)
Observations	2,372	2,372	2,372	2,372
Industry FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

This table presents results of OLS regression of equation (1) and equation (3). Only the customer with the highest percentage sales from the supplier is retained. The dependent variable in all columns is *LogSupplierIRSAtt*, the log of the number of times the IRS downloaded the firm's 10-K during the year. Standard errors clustered by firm in parentheses. ***, **, and * denote significance at the $p < 0.01$, $p < 0.05$, and $p < 0.1$, respectively. One-tailed tests were used for variables with a prediction.

TABLE 7
*Effect of Changes in Customer Attention on
 Changes in Supplier Attention*

Dependent Variable: <i>ChgSupplierIRSAtt</i>	
VARIABLES	(1)
<i>ChgCustomerAttention</i>	0.081*** (0.02)
<i>ChgBTD</i>	0.282* (0.17)
<i>ChgCash ETR</i>	0.000*** (0.00)
<i>ChgGAAP ETR</i>	0.004*** (0.00)
<i>ChgDTA</i>	-0.361 (0.71)
<i>ChgDTL</i>	-0.448 (1.08)
<i>ChgSize</i>	-0.247** (0.12)
<i>ChgMTB</i>	-0.007* (0.00)
<i>ChgMNE</i>	-0.041 (0.07)
<i>ChgLeverage</i>	0.550*** (0.19)
<i>ChgR&D Intensity</i>	0.220** (0.09)
<i>ChgInventory Intensity</i>	-1.362** (0.54)
<i>ChgCapital Intensity</i>	-0.660** (0.32)
<i>ChgROA</i>	-0.341 (0.22)
<i>ChgChgNOL</i>	0.401** (0.16)
<i>ChgCash</i>	0.070 (0.18)
<i>ChgSalesGrowth</i>	0.031 (0.05)
<i>ChgIntangible Intensity</i>	-0.001 (0.22)
<i>ChgUTB</i>	1.018 (0.69)
Constant	0.163*** (0.02)

Observations	1,983
Industry FE	NO
Year FE	NO

This table presents results of OLS regression of equation (4). The dependent variable is *ChgSupplierIRSAtt*, the change in the log of the number of times the IRS downloaded the supplier's 10-K from t-1 to t. Standard errors clustered by firm in parentheses. ***, **, and * denote significance at the $p < 0.01$, $p < 0.05$, and $p < 0.1$, respectively. One-tailed tests were used for variables with a prediction.

TABLE 8
Placebo Test

Dependent Variable: <i>LogSupplierIRSAtt</i>				
VARIABLES	(1)	(2)	(3)	(4)
<i>Lag_PlaceboHasAttention</i>	-0.010 (0.04)			
<i>Lag_LogPlaceboIRSAtt</i>		-0.008 (0.01)		
<i>Lag_PlaceboSettlement</i>			0.034 (0.03)	
<i>Lag_HighUnfavPlacebo</i>				-0.014 (0.04)
<i>BTD</i>	-0.236*** (0.09)	-0.235*** (0.09)	-0.236*** (0.09)	-0.238*** (0.09)
<i>Cash ETR</i>	-0.014 (0.06)	-0.014 (0.06)	-0.014 (0.06)	-0.013 (0.06)
<i>GAAP ETR</i>	0.007 (0.09)	0.005 (0.09)	0.010 (0.09)	0.007 (0.09)
<i>DTA</i>	0.381 (0.36)	0.383 (0.36)	0.380 (0.36)	0.382 (0.36)
<i>DTL</i>	-1.202** (0.52)	-1.199** (0.52)	-1.211** (0.52)	-1.202** (0.52)
<i>Size</i>	0.223*** (0.02)	0.224*** (0.02)	0.223*** (0.02)	0.223*** (0.02)
<i>MTB</i>	0.003 (0.00)	0.003 (0.00)	0.003 (0.00)	0.003 (0.00)
<i>MNE</i>	0.054 (0.04)	0.054 (0.04)	0.054 (0.04)	0.054 (0.04)
<i>Leverage</i>	-0.338*** (0.09)	-0.339*** (0.09)	-0.338*** (0.09)	-0.337*** (0.09)
<i>R&D Intensity</i>	-0.072*** (0.02)	-0.072*** (0.02)	-0.071*** (0.02)	-0.072*** (0.02)
<i>Inventory Intensity</i>	-0.137 (0.24)	-0.139 (0.24)	-0.140 (0.24)	-0.137 (0.24)
<i>Capital Intensity</i>	-0.229* (0.12)	-0.230* (0.12)	-0.223* (0.12)	-0.228* (0.12)
<i>ROA</i>	0.135 (0.14)	0.133 (0.14)	0.133 (0.14)	0.138 (0.14)
<i>ChgNOL</i>	-0.115 (0.09)	-0.115 (0.09)	-0.115 (0.09)	-0.116 (0.09)
<i>Cash</i>	-0.405*** (0.07)	-0.405*** (0.07)	-0.406*** (0.07)	-0.406*** (0.07)
<i>Sales Growth</i>	-0.025 (0.04)	-0.026 (0.04)	-0.024 (0.04)	-0.025 (0.04)
<i>Intangible Intensity</i>	0.042	0.043	0.040	0.041

	(0.10)	(0.10)	(0.10)	(0.10)
<i>UTB</i>	0.236	0.237	0.233	0.236
	(0.16)	(0.17)	(0.16)	(0.16)
Observations	2,806	2,806	2,806	2,806
Industry FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

This table presents results of OLS regression of equation (1) and equation (3) with the supplier's original customer base replaced with a placebo customer base matched on size and industry. The dependent variable in all columns is *LogSupplierIRSAtt*, the log of the number of times the IRS downloaded the firm's 10-K during the year. Standard errors clustered by firm in parentheses. ***, **, and * denote significance at the $p < 0.01$, $p < 0.05$, and $p < 0.1$, respectively. One-tailed tests were used for variables with a prediction.