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The Effects of Tax Avoidance News on Employee Perceptions of Managers and Firms: Evidence from Glassdoor.com Ratings[1]

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The Effects of Tax Avoidance News on Employee Perceptions of Managers and Firms: Evidence from Glassdoor.com Ratings

ABSTRACT: We examine whether employee perceptions of managers and firms fall following tax avoidance news. Using S&P 500 firms and generalized difference-in-differences specifications, we find that tax avoidance news negatively affects employee perceptions of managers and firms. In cross-sectional tests, we find that (1) firms and managers in consumer-facing industries suffer larger employee-related perception changes from tax avoidance news compared to other firms, and (2) well-performing firms and their managers face smaller perception changes than other firms and managers. Overall, our results are consistent with tax avoidance news negatively affecting employee perceptions of managers and firms.

Keywords: Tax avoidance news, reputation, employee ratings, Glassdoor.

I. INTRODUCTION

We examine whether tax avoidance news negatively affects employee perceptions of managers and firms. Perceptions by employees are the main component of firms' reputation with their employees and are thus important to firms and managers (e.g., Post and Griffin 1997; Chun 2005; Fombrun, Gardberg, and Sever 2000; Fombrun 2012). The extant literature on the reputation effects of taxes does not generally focus on employees (e.g., Hanlon and Slemrod 2009; Gallemore, Maydew, and Thornock 2014; Lanis, Richardson, Liu, and McClure 2018; Chyz and Gaertner 2018; Austin and Wilson 2017; and Graham, Hanlon, Shevlin, and Shroff 2014). However, anecdotal and survey evidence implies that managers are concerned that employees may perceive tax avoidance negatively and that managers care for and are attentive to their reputations with their employees (PwC 2012; EY 2015).[1] We extend prior literature by providing evidence

[1] For example, numerous firms in the S&P 500 release press statements when included in best places to work lists (e.g., 3M, Abbott Laboratories, SalesForce and Ameriprise Financial, among others). A recent media report from the *Wall Street Journal* suggests that firms with poor ratings on employee Glassdoor.com attempt to improve their ratings by encouraging employees to provide high ratings on the site (Winkler and Fuller 2019). In the context of our study, if firms with low ratings resulting from tax avoidance news attempt to manipulate their ratings upwards, this limits our ability to document negative effects. Given our robust results, this issue does not seem to threaten identification.

that media coverage of firms' tax avoidance (hereafter, tax avoidance news or tax news) negatively affects employee perceptions of managers and firms.

We first hypothesize that employees perceive their *senior managers* less favorably following tax avoidance news. Second, we hypothesize that employees perceive their employing *firms* less favorably following tax avoidance news. We differentiate between managers and firms because employees may rate the two differently. Employees react negatively to tax avoidance news because, based on the corporate income tax incidence literature, they do not likely benefit from lower tax payments (e.g., Harberger 1962; Auerbach 2006; Gravelle 2010). Behaviorally, employees prefer to work for socially responsible and "fair" employers (Kim, Lee, Lee. and Kim 2010; Rupp, Ganapathi, Aguilera, and Williams 2006; Collier and Esteban 2007; Turban and Greening 2017; Aguilera, Rupp, Williams, and Ganapathi 2007, Colquitt 2001). Anecdotal evidence and studies in psychology provide evidence that tax avoidance and evasion are perceived as unjust or unfair (Pegg 2017; Elbra and Mikler 2017; Dornstein 1987; Kirchler 1997, Spicer and Becker 1980).

We scrape Glassdoor.com ratings of S&P 500 firms to measure employees' perceptions of senior managers and firms from 2008 (Q1) to 2017 (Q4).[2] To measure media coverage of tax avoidance, we hand-collect tax avoidance news from LexisNexis. We focus on news because we expect that news brings tax planning to the attention of employees (except for accounting employees).[3] Though tax avoidance information is available from financial statements, most

[2] Specifically, we use employee responses to separate questions about their perceptions of senior managers and their employing firms on a scale of one to five. Recent evidence suggests Glassdoor.com does not suffer from a large degree of self-reporting bias (Liu, Makridis, Ouimet, and Simintzi 2018; Marinescu, Klein, Chamberlain, and Smart 2018).
[3] Our measure of tax avoidance news is plausibly exogenous to our models because breaking news on tax avoidance is fairly unpredictable and firms are unlikely to influence the timing of news coverage about their tax avoidance. We have attempted to design our study to rule out confounds to a large extent. For example, if tax avoidance strategies "harm" employees and employees do not recognize the harm until the tax avoidance strategy is covered in the news,

employees do not likely read or understand financial statements or the tax footnote. We implement generalized difference-in-differences regressions using staggered news coverage as our treatment to test our hypotheses. Our main results are consistent with tax avoidance news decreasing employees' perceptions of managers and firms.

In cross-sectional tests, we find results consistent with employees perceiving firms and managers more negatively as the number of tax news articles rises. We also predict and find that employees perceive firms and senior managers more negatively when the firm operates in a consumer-facing industry, compared to firms in other industries (e.g., Hanlon and Slemrod 2009; Austin and Wilson 2017). Next, we predict and find that employees at well-performing firms perceive managers and firms less negatively following tax news compared to other firms and managers. Our results are consistent with strong performance blunting the negative effect of tax avoidance news on employee perceptions.

We plot coefficients and perform placebo tests to provide evidence of pre-treatment parallel trends. We also examine Glassdoor ratings changes arising from product recalls to provide further evidence that the news media is often the source of any reaction. Additionally, we find evidence that accounting employees' perceptions of senior managers fall more than their perceptions of firms following tax news. In an additional test, we find no evidence that employee ratings are affected by cash effective tax rates from financial statements. We also find evidence

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our results may be affected by the "harm" rather than the tax avoidance itself. We expect employees if they are harmed to respond to the "harm" earlier than the media covers the strategy because the effects are likely felt quickly while the media may cover the strategy with delay. Similarly, if managers take on "aggressive" strategies, including aggressive tax planning, that result in unhappy employees, we expect that employee unhappiness would affect their ratings *earlier* than the media covers the tax aggressiveness. However, as with any quasi-experimental study, we cannot rule out *all* possible confounds.

that the number of mentions of "tax" and "taxes" in Glassdoor reviews increase after tax avoidance news.[4]

Our study contributes to the literature on reputation and taxes. Though we focus on employee perceptions, perceptions are the main component in firms' reputation. Prior studies in the reputation and taxes literature suggest non-employee stakeholders react in various ways to tax avoidance and tax avoidance news. Hanlon and Slemrod (2009) find negative market reactions to tax avoidance news about firms' participation in tax shelters but Gallemore et al. (2014) find that the effect identified in Hanlon and Slemrod (2009) reverses in 30 days. Lanis et al. (2018) find that corporate boards seem to reward CEO's for avoiding taxes. Chyz and Gaertner (2018) find results consistent with boards punishing CEOs who engage in too much or too little tax avoidance. Austin and Wilson (2017) find mixed evidence on consumer responses to tax avoidance and Gallemore et al. (2014) find results consistent with consumers not reacting to tax avoidance. Most recently, Dhaliwal, Goodman, Hoffman, and Schwab (2019) find that firm value falls when negative sentiment possibly related to tax avoidance increases. We extend these studies by documenting that another important stakeholder – employees – react negatively to tax avoidance news.

We also contribute to the literature on tax planning and labor. Williams (2019) finds evidence that multinational firms respond to tax incentives in offshoring employees. Gleason, Kieback, Thomsen, and Watrin (2019) examine employee preferences for tax aggressiveness and earnings management using labor representation on corporate boards. They find results consistent

[4] This result helps rule out the alternative explanation that employees are simply reacting to negative media news rather than the tax avoidance news per se within the media article, although we cannot completely rule out this alternative explanation. As further evidence, we also control for contemporaneous media news sentiment in untabulated analyses and find consistent results.

with employees limiting extreme tax planning (tax planning that is either "too" high or "too" low). De Simone, Huang, and Krull (2019) find results consistent with firms locating R&D in low-wage countries to attract highly-skilled, but relatively cheap, labor. We contribute to this literature by providing evidence that, on average, labor perceives tax avoidance negatively.

II. HYPOTHESIS DEVELOPMENT

We examine whether employees perceive their firms and managers negatively following tax avoidance news. Perceptions of firms and managers are closely related to the reputations of firms and managers: As a construct, reputation is measured as the perception of a person or entity (Nock 1993; Chun 2005). Thus, our study provides evidence on employee-induced reputation changes. Prior studies examine whether tax avoidance affects firm and/or managerial reputations (see Wilde and Wilson 2018 for a review). Hanlon and Slemrod (2009) use an event study to document that shareholders react negatively to news about their firms' involvement in tax shelters. They interpret their results as consistent with the costs (including reputation effects) of tax sheltering outweighing the shareholder wealth benefits. Moreover, they find more negative returns in retail firms compared to other firms, consistent with firms with marginally higher reputation effects facing stronger negative reactions to tax sheltering. On the other hand, Gallemore et al. (2014) find that the short-run effect documented in Hanlon and Slemrod (2009) reverses within 30 days. Similarly, Dhaliwal et al. (2019) provide evidence that firm value decreases in periods of negative market sentiment related to tax avoidance.

Other studies examine whether other stakeholders react negatively to tax avoidance and news of tax avoidance. Gallemore et al. (2014) find little evidence that consumers respond negatively to firms' tax shelter news using both sales and sales growth to measure consumer reactions. Similarly, Austin and Wilson (2017) find mixed evidence that firms with strong

consumer brands engage in less tax avoidance. They argue that firms with strong consumer brands are expected to engage in little tax avoidance because they have the most to lose from negative publicity regarding their tax avoidance. Dyreng, Hoopes, and Wilde (2016) use publicity of firms' international tax avoidance to document that firms reduce tax avoidance activities in response to public pressure.

Chyz and Gaertner (2018) and Lanis et al. (2018) examine whether boards respond negatively to tax avoidance. Chyz and Gaertner (2018) hypothesize that "too much" or "too little" tax avoidance (relative to industry peers) contributes to boards' decisions to fire CEOs. By contrast, Lanis et al. (2018) find that CEOs are rewarded for tax avoidance with increased outside board seats. They interpret their results as consistent with tax avoidance enhancing CEO reputations. Gallemore et al. (2014) find no evidence that news about firm participation in tax shelters increases CEO turnover. Collectively, these studies examine whether shareholders, consumers and/or corporate boards impose reputation effects on firms and managers for corporate tax avoidance. Graham et al. (2014) survey tax executives themselves and find that around 70 percent of their survey respondents agree that their firms' reputations weigh on their tax planning choices. To our knowledge, prior studies do not examine whether *employee* perceptions of their firms or managers change following tax news.

We examine the perceptions of *employee* because employees are strategic assets to the firm (e.g., Becker 2002). Recent studies suggest that employee perceptions of firms and managers affect firm value and success.[5] For example, Guiso et al. (2015) find that firm performance is increasing

[5] Gatzert (2015) provides a review of reputation effects on financial performance. Studies in this area include: Maxham, Netemeyer, and Lichtenstein (2008),Mukherjee and He (2008), Stuebs and Sun (2010), Tischer and Hildebrandt (2014), and Melian-Gonzalez and Bulchand-Gidumal (2016).

in employee perceptions of managers as trustworthy and ethical. Edmans (2011) finds that stocks of firms with satisfied employees experience abnormal returns in future periods. Similarly, Gartenberg et al. (2018) find that firms in which employees believe in the purpose of the firm have stronger accounting and stock market performance. Thus, employee perceptions of managers and firms matter for organizational success.

We collect employee perceptions on senior managers and firms from Glassdoor.com. Prior studies use Glassdoor.com ratings in different contexts. Ji, Rozenbaum, and Welch (2017) find that Glasdoor ratings of employers and managers predict financial misreporting. They attribute this relation to employee perceptions representing corporate culture. Thus, poor perceptions imply a "boiler room" culture that leads to excessive financial reporting risk. Luo, Zhou, and Shon (2016) find that employee perceptions (measured using textual analysis of employee reviews from Glasdoor.com) are positively associated with firm performance (measured using Tobin's Q). Similarly, Green, Huang, Wen, and Zhou (2019) and Sheng (2019) find results consistent with Glassdoor.com employee ratings of the firm overall, senior managers and career opportunities (the former study) and of firms' business outlook (the latter study) predicting future return on assets and returns. Green et al. (2019) provide further evidence that their results are driven by employees revealing information about firm fundamentals in their ratings and reviews. Hales, Moon, and Swenson (2018) and Huang, Li, and Markov (2019) also find results consistent with Glassdoor.com employee ratings on business outlook predicting earnings surprises and other income statement information. Similar to our study, Makridis and Zhou (2019) use changes in employee ratings of firms, managers and other variables as a measure of employee perceptions. Their findings are consistent with employees reacting negatively to accounting fraud and negatively perceiving their employing firms.

We hypothesize that employee perceptions of senior managers and firms decrease following corporate tax avoidance news coverage for two reasons. First, employees do not clearly benefit from lower tax payments. Several studies on the incidence of the corporate income tax suggest that employees do not benefit from lower tax payments. In pioneering work, Harberger (1962) posits that shareholders bear the incidence of the corporate income tax, while labor bears little or no incidence. Recent work largely confirms this finding (e.g., Auerbach 2006, Gravelle 2010; Fuest, Peichl, and Siegloch 2018).[6] Nallareddy, Rouen, and Serrato (2018) even find evidence that corporate income tax rate cuts harm rank-and-file employees by exacerbating income inequality. Moreover, employees are fixed claimants to the assets of the firm. As such, they generally do not prefer investments with risky cash flows, such as tax avoidance, which shareholders may prefer (Gleason et al. 2019). Thus, the weight of the evidence is consistent with lower tax payments providing little benefit to employees.

Second, employees likely perceive corporate tax avoidance as unfair and not socially responsible. Anecdotal and survey evidence suggests that corporate tax avoidance is publicly perceived as inequitable and socially irresponsible (Rupp et al. 2006; Dowling 2014; Motel 2015; Pegg 2017; Elbra and Mikler 2017). Moreover, numerous studies in psychology provide evidence that tax avoidance and evasion are considered unfair or unjust, which leads "ordinary people" to desire fewer "loopholes." (Kinsey 1984; Dornstein 1987; Spicer and Becker 1980; quoted language from Song and Yarborough 1978). We expect employees to share that perception because they are exposed to the same information and influences as the public and generally value fairness and social responsibility (Colquitt 2001; Rupp et al. 2006). Thus, our hypotheses are as follows:

[6] Fuest et al. (2018) find evidence that corporate income tax increases are borne by workers but find no effects for decreases.

H1*:* Employee ratings of senior management are negatively related to news about firms' tax avoidance activities.

H2*:* Employee ratings of their employing firms are negatively related to news about these firms' tax avoidance activities.

Employees may perceive tax avoidance news as neutral, or even positively, if they benefit from tax avoidance or believe that the benefits of firm tax avoidance outweigh its costs. For example, high levels of tax avoidance may provide assurances of job security to employees. Moreover, some employees may be involved in tax planning themselves and may therefore approve of the tax planning. For example, Gleason et al. (2019) note that employees on corporate boards may provide operational insight that enhances or facilitates tax planning. Thus, our hypotheses are not without tension.

We separately examine perceptions of managers and firms to allow for the possibility of employees differentiating between the firm and its top managers. Employees may attribute corporate tax avoidance to managers but not firms. Prior studies provide evidence that managerial attributes influence corporate tax avoidance. Dyreng, Hanlon, and Maydew (2010) find evidence that corporate tax avoidance varies with CEO changes. Koester, Shevlin, and Wangerin (2016) find results consistent with corporate tax avoidance increasing in managerial ability. Law and Mills (2017) find results consistent with firms with military veteran CEOs avoiding less taxes than peers. Thus, employees may perceive CEOs/managers as responsible for tax avoidance without blaming their employing firms. Moreover, some studies on reputation and taxes focus on managers (e.g., Chyz and Gaertner 2018; Lanis et al. 2018) while others focus on firms (e.g., Austin and Wilson 2017). We study employee perceptions of both managers and firms to contribute to both strands of the literature.

III. DATA, VARIABLES AND RESEARCH DESIGN

Data, Variables and Sample

We incorporate data from three sources. First, we collect data on employee perceptions of their employing firms and senior management from Glassdoor.com. Glassdoor.com is a website that allows employees to anonymously provide their perceptions of the firm, senior management and various other aspects of working for a firm. We collect all daily ratings for the firms in the 2012 S&P 500. We are unable to identify firm information for five of the firms in the S&P 500 on Glassdoor and thus retain 495 of the 500 firms in the S&P500 in our sample. Our final sample spans all calendar-quarters from January of 2008 (Q1) to December of 2017 (Q4).[7] We focus our collection efforts on employee ratings of their firm and of senior management. We then use the median rating across all employee ratings in a given fiscal quarter, resulting in two variables (*SeniorMgmt* and *Firm*). Both variables range from 1 (the lowest rating) to 5. Decreases in ratings imply reductions in perceptions.

We focus on tax avoidance news as our treatment variable. We focus on *news* rather than tax avoidance itself (e.g. as measured from financial statements) for two reasons. First, we expect that employees are more likely to learn about firms' tax avoidance activities from news and media coverage of tax avoidance than from the financial statements. Although financial statements provide information about tax avoidance, the majority of employees likely do not carefully read nor understand financial statements and the tax footnote. By contrast, tax avoidance news is often presented in a comprehensible way (e.g., Cohen and Saul 2019).

[7] We start our sample in the first quarter of 2008 because that is the first quarter for which Glassdoor.com ratings are available. We end our sample in the last quarter of 2017 because that is the last year of data that we "scraped."

Second, tax avoidance news is likely somewhat "exogenous" to our models because firms do not exercise control over media coverage. Chen, Schuchard, and Stomberg (2019) find that (1) GAAP effective tax rates below 35 percent, (2) brand value, (3) firm size and (4) firms with other news coverage are likely to receive tax news coverage. However, these variables do not clearly bias our estimates. First, it is unclear whether and the direction in which these characteristics affect employee ratings. Second, it is unlikely that they affect employee ratings in the quarter of media coverage. For example, high brand value may lead to more tax news coverage, but high brand value would also have to negatively affect employee ratings in the specific quarter that the firm received tax news coverage to bias our estimates. Thus, it is unlikely that the variables that correlate with tax news coverage also correlate with changes in employee ratings in the quarter of the tax news coverage. Moreover, we incorporate controls for several variables (e.g. size and profitability as these firms may attract more media coverage) which should limit concerns about bias in media coverage.

To measure news coverage of tax avoidance, we hand-collect data on news coverage of S&P 500 firms' tax avoidance activities. We searched for news about "tax evasion," "tax avoidance," "tax haven" and each company's name in LexisNexis. We focus on corporate *income* tax avoidance (see Appendix C for a list of instructions), though we may unintentionally collect other forms of corporate tax avoidance due to human error in hand-collection (e.g., payroll tax avoidance). Our media sources include all worldwide news media sources (e.g., "newspapers," "news," "newsletters") in LexisNexis.[8] We identify the first mention of a firm's tax avoidance

[8] We do not focus on U.S.-only media sources (as in Chen et al. 2019) because employees from across the world provide Glassdoor reviews and we are unable to identify the location of the Glassdoor reviewer using scraped data. Our sample covers prominent media sources such as the *NYTimes* and the *Wall Street Journal* while also covering local and international news sources, political press releases and editorials, among other things. We may occasionally

activities covered in the media.[9] Our broad approach is intended to capture the sort of news that employees may see and react to.[10] In Appendix B, we provide a list of our sample of S&P 500 firms mentioned in the news media for tax avoidance, the quarter they received coverage, and the number of news mentions they received in the month following the first mention. We do not require that the article *focus* on one specific firm's tax avoidance, just that the firm is mentioned in the article as avoiding income taxes, as opposed to sales tax or the CEO avoiding personal income taxes. We use these data to identify the beginning of our treatment period in our difference-in-differences regressions. Specifically, our *TaxNews* variable is coded to 1 in all quarters beginning with the first fiscal quarter we identify news coverage of the firm's tax avoidance activities.[11]

Though we expect that our perception and tax avoidance news measures offer several benefits, we acknowledge that both measures suffer from potential selection bias. However, Marinescu et al. (2018) and Liu et al. (2018) suggest that Glassdoor.com ratings suffer from minimal selection (self-reporting) bias and that reviewers receive salaries representative of the salary distribution of employees in major metropolitan areas. Our tax avoidance news variable may suffer from selection bias if the firms most likely to suffer reputation effects choose not to

identify news sources that are not salient to employees because (1) local news coverage may only be seen by local employees and (2) tax news may cover firms' subsidiaries and employees do not identify with the subsidiary.

[9] We rely on the first mention of firms' tax avoidance because hand-collection of tax news for all periods in our sample is prohibitively onerous. For example, Apple's tax avoidance is covered nearly every quarter in various global media outlets and hand-collecting such news from 2008 to 2017 would be challenging. Moreover, relying on an initial coverage event is consistent with our difference-in-differences strategy which requires a treatment date.

[10] Chen et al. (2019) also hand-collect media mentions of firms' tax avoidance. Our sample differs from their sample primarily because (1) they include small cap firms, (2) they require the company name to be in the headline and (3) they search in: *The Wall Street Journal*, *The New York Times*, *The Washington Post* and *USA Today*, while we search all media (including internet sources such as Bloomberg.com and CNBC.com).

[11] Our coding of *TaxNews* is consistent with the typical coding of treatment variables in difference-in-differences. It does not imply that the firm receives tax avoidance news coverage in every quarter following initial coverage. Rather, it assumes that the initial tax avoidance news results in a lower Glassdoor rating in subsequent periods.

avoid taxes.[12] In this case, firms highlighted by the media for avoiding taxes in our sample are firms who face relatively low reputation effects. Thus, this selection bias in tax avoidance news results in conservative estimates of employee perception changes that form a lower bound.

Finally, we rely on Compustat Quarterly to incorporate financial statement-based controls. Specifically, we control for return on assets, market-to-book, leverage, size, and buy-and-hold returns. Each of these variables are defined in Appendix A. We control for return-on-assets because employee satisfaction may be increasing in firm profitability. Moreover, the media may be more likely to cover profitable firms (e.g. Google or Apple). Thus, controlling for profitability limits bias related to media coverage. We control for market-to-book because employees at non-growth firms may rate their firms lower relative to employees at growth firms. We control for leverage because employees at highly levered firms may rate their firms lower because they are concerned about bankruptcy risks. We control for size because large firms receive more media coverage than small firms. The media may "target" large firms for scrutiny more than other firms because larger firms are more well-known (e.g., Chen et al. 2019). Thus, we limit media coverage bias by controlling for size. Moreover, employees at large firms may rate their employers higher than employees at small firms because their salaries are high and/or their jobs are secure. We control for buy-and-hold returns to control for any public information or sentiment that may influence employee ratings.[13] Return on assets, leverage and size are seasonally lagged to ensure that we do not control for our hypothesized effect. Our results are robust to including lagged (by one quarter)

[12] Graham et al. (2014) make a similar argument about this selection issue.

[13] Williams (2018) finds evidence that tax incentives leads to job offshoring. Thus, employees may respond negatively to tax news because tax news imply job offshoring and domestic job loss. To ensure our results aren't driven by offshoring, we incorporate a control for offshoring using Hoberg and Moon's offshoring data (available at http://www-bcf.usc.edu/~hoberg/HobergMoonDataSite/index.html). Our main analyses are robust to including this control. However, the results are generally weaker (though still significant at conventional levels) likely because the offshoring data ends in 2015 and thus reduces our sample by roughly 20 percent which reduces the power of our tests.

and contemporaneous forms of these variables. We use quarterly data to maximize the number of time-series observations in our sample.

Our final samples vary in size based on data availability of our dependent variables. We drop all missing observations with missing control variables. Our baseline regressions are performed on 14,840 firm-quarter observations when *SeniorMgmt* is the variable. When *Firm* is our dependent variable, we have 14,977 firm-quarter observations.

Empirical Design

To test our hypotheses, we perform generalized difference-in-differences regressions with staggered treatment. The generalized difference-in-differences approach replaces the post and treatment main effect variables (as would be used in a traditional difference-in-differences regression) with unit and time fixed effects. We use generalized difference-in-differences because our treatment is staggered. In an additional test, we use a propensity-score matched sample.

In our context, we use the following specification to test whether employee ratings decrease after tax avoidance news (*H1* and *H2*, respectively):

$$Rating_{it} = \alpha + \beta_1 TaxNews + \sum \beta_k Controls + \gamma_i + \delta_t + \epsilon_{it} \quad (1)$$

In this equation, *Rating* is (1) median employee ratings of senior management (*SeniorMgmt*) or (2) median employee ratings of the firm (*Firm*) in a given quarter.[14] *TaxNews* takes a value of 1 in the first quarter we identify tax avoidance news for firm *i* and in all subsequent quarters. All other quarters are coded to 0.[15] This variable is equivalent to a post variable interacted with a treatment variable in a traditional difference-in-differences strategy. Our control group

[14] Our main results are robust to using mean values of these variables. We do not tabulate these results for parsimony.
[15] For the treated firms, the average number of pre- and post-treatment periods are 15 quarters and 22 quarters, respectively. In tests reported below, we also restrict the pre-post period to *t*-5 to *t*+5 with unchanged inferences.

observations comprise (1) firm-quarters prior to the first quarter in which firm *i* receives coverage for tax avoidance and (2) firm-quarters for firms that never receive media attention for tax avoidance. γ_i represents firm fixed effects and δ_t represents fiscal-quarter fixed effects, as are required by a generalized difference-in-differences strategy. This design is consistent with other studies that implement staggered difference-in-differences (e.g. Bertrand and Mullainathan 2003; Giroud and Mueller 2010). *Controls* is a vector of firm-specific controls. In our baseline specifications, *Controls* is an empty set (i.e. we assume treatment is exogenous). Our unit of measurement is at the firm-quarter level. We predict that β_1 is negative and significant, consistent with employee ratings of senior management and firms falling following tax avoidance news (*H1* and *H2*, respectively).

IV. RESULTS

Descriptive Statistics and Correlations

In Table 1, we provide the number of companies receiving tax avoidance news coverage for the first time in our sample period. We break down the list by calendar-quarter to demonstrate the dispersion of our treatment observations across time. For example, in the second calendar quarter of 2011, seven separate firms' tax avoidance was covered in the media for the first time in our sample period. In total, 143 of the 495 firms in our sample receive tax avoidance news coverage at some point in our sample. Overall, tax avoidance news coverage is fairly dispersed across time.

Descriptive statistics and correlations are reported in Table 2. In Panel A, we report descriptive statistics for variables used in our analyses. *SeniorMgmt* has a mean value of 2.989 and a median value of 3. These values suggest employees are fairly neutral towards senior management on average. *Firm* has a mean (median) value of around 3.402 (3.5), which suggest employees hold slightly positive perceptions of their firms on average. *TaxNews*, our binary regressor of interest,

has a mean value of .203. Thus, 20.3 percent of firm-quarters are treated observations.[16] *ln(AT)* has a mean (median) value of 9.747 (9.620), which suggest that firms in our sample are generally large, as expected of S&P 500 firms. *MTB* has a mean (median) value of 3.806 (2.722), respectively. *Leverage* takes a mean (median) value of .234 (.212), which is roughly 23 percent of seasonally lagged total assets on average in our sample. We find that average *ROA* is around .041 and median *ROA* is around .037, suggesting that firms in our sample are generally profitable, as expected of S&P 500 firms. Average and median *BHR* are 13.2 percent and 12.4 percent, respectively.

In Panel B, we report descriptive statistics on our Glassdoor.com ratings to describe the characteristics of employee raters in our sample. *Num_Reviews* is the number of reviews of a given firm in a given quarter. On average, firms receive 64 ratings per quarter. Median *Num_Reviews* is around 18 on average. We find that 82 percent of employee-raters are full-time employees (*%FullTime*) for an average firm-quarter. 59 percent of employee-raters are current employees of the firm they rate (*%Current*) in an average firm-quarter. We find that average tenure (*Tenure*) across our employee-raters at their current employer is around 2.5 years. We find that the average number of tax-related reviews in a given firm-quarter is .085. In Panel C, we report our correlation matrix. We find that *TaxNews* is positively and significantly (at the 10 percent level) related to both *SeniorMgmt* and *Firm.* However, the correlation coefficients are close to zero.

Coefficient Plots

[16] We also examined the descriptive statistics associated with a variable coded to 1 in only the first quarter firm *i* receives tax avoidance news and 0 otherwise. Thus, it is not coded to 1 in quarters subsequent to the quarter firm *i* receives its first tax avoidance news. Its mean is .008, which implies that in .8 percent of total quarters, a firm receives its first tax avoidance news coverage. This variable is not used in our analyses.

We begin by assessing whether pre-treatment trends are parallel. We plot the coefficients for the four quarters prior to treatment.[17] We obtain these coefficients from regressions of our *SeniorMgmt* and *Firm* on separate binary variables coded to 1 for treated firms in quarter *t*-4 *to t*-1 and 0 otherwise. We include firm-level controls, as per our main regression equation. The coefficients on these variables represent the difference between the control sample and treatment sample ratings in particular periods relative to treatment. Consistent with parallel trends, we expect that these coefficients are not increasing or decreasing in the pre-treatment period.

Our results are reported in Figure 1. In Panel A, we use *SeniorMgmt* as our dependent variable. In the four quarters prior to treatment, the plotted coefficients do not appear to be increasing or decreasing prior to treatment. In Panel B, we use *Firm* as our dependent variable. Again, we discern no trend in the pre-treatment period, consistent with Glassdoor ratings of treated and control firms evolving in parallel in the pre-treatment period.

Difference-in-Differences Estimates

In Panel A of Table 3, we report the results of estimating the effect of tax avoidance news on senior management and firm reputation using generalized difference-in-differences. Unless otherwise noted, in all remaining tables, in Columns (1) and (2) we use senior managements as our dependent variable and in Columns (3) and (4) we use firm ratings as our dependent variable. Similarly, unless otherwise noted, in Columns (1) and (3) we use a baseline specification without controls. In Columns (2) and (4), we incorporate firm-specific controls. We find that the coefficient on *TaxNews* is negative and significant at the 1 percent level across both Columns (1) and (2). In Columns (3) and (4), we find that the coefficient on *TaxNews* is negative and significant at the 5

[17] In untabulated analyses, we plot coefficients for all periods in our sample and continue to find evidence of parallel trends.

percent level. Overall, these results are consistent with employee perceptions of their senior management and their firms decreasing following tax avoidance news, consistent with *H1* and *H2*.[18]

Treatment Intensity

Next, we replace our binary treatment variable with a continuous measure of treatment. This test is intended to demonstrate that more media coverage (i.e. more articles) is associated with more negative ratings (i.e. larger perception changes). To capture coverage intensity, we count the number of media sources covering the news about firm *i*'s tax avoidance in the month following the initial news.[19] We identify all media articles that mentioned firm *i*'s tax avoidance in the month following initial media coverage. We sort the number of media articles identified into deciles.[20] We term this variable, *Num_mention* and use it as our treatment variable in our specifications (see e.g. Acemoglu, Autor, and Lyle 2004 for an approach that uses a continuous treatment in a difference-in-differences design). Our results are reported in Panel B of Table 3. Across all columns, we find that the coefficient on *Num_mention* is negative and significant at the 1 percent level. These results are consistent with media coverage intensity increasing perception changes on senior managers and firms following tax avoidance news.

V. ADDITIONAL ANALYSES AND ROBUSTNESS TESTS

[18] Makridis and Zhou (2019) find that Glassdoor ratings fall by roughly .3 following accounting fraud. We find that *Firm* falls by by .07 and .073 and *SeniorMgmt* falls by .09 and .086 following tax avoidance news. Their results are much larger than ours likely because accounting fraud is well-covered by the media and is also illegal and generates much more substantial fines and penalties than news coverage of low tax payments.

[19] We do not extend our collection beyond one month because hand-collection and hand-coding are onerous and time-consuming.

[20] Our inferences are unchanged if we use (1) a continuous measure of the number of mentions, (2) quintiles or (3) terciles.

Cross-Sectional Analyses

Consumer-Facing Industries

In our first cross-sectional test, we examine whether employees in consumer-facing industries react more negatively to tax avoidance news compared to other employees. Hanlon and Slemrod (2009) and Gallemore et al. (2014) perform similar cross-sectional tests. We expect consumer-facing firms to be more susceptible to being publicly negatively perceived and penalized for being socially irresponsible. Employees of these firms could expect to face backlash from the news and react more negatively to the news (Bhattacharya and Sen 2003). Moreover, consumer-facing firms likely employ more employees that do not understand the benefits of tax avoidance to the firm (e.g. store clerks, warehouse workers, etc.)

We use two measures of consumer-facing industries. First, we identify consumer-facing industries using Fama and French's 12-industry classification system. We code the "Consumer Nondurables" and "Consumer Durables" industries as consumer-facing. We create a dummy variable (*Consumer*) coded to 1 if firm *i* is included in either of these two industries in year *t* and 0 if firm *i* is not. Second, we identify retail firms using two-digit SIC codes. *Retail* takes a value of 1 if firm *i* is included in the retail industry (two-digit SIC codes between 52 and 59) in quarter *t* and 0 otherwise. We interact both of these measures with *TaxNews* in each of our specifications to test this hypothesis. The main effects of *Consumer* and *Retail* are dropped from the results because they are subsumed by our firm fixed effects.

Our results are reported in Panels A and B of Table 4. In Panel A, we use *Consumer* as our measure of consumer-facing firms. In Columns (1), (2) and (3), we find that the coefficient on $TaxNews \times Consumer$ is negative and significant at the 1 percent level. In Column (4), we find that the same coefficient is negative and significant at the 5 percent level. In Panel B, we use *Retail*

as our measure of consumer-facing industries. In Columns (1) and (2) ((3) and (4)), we find that the coefficient on $TaxNews \times Retail$ is negative and significant at the 10 percent (5 percent) level. Overall, these results are consistent with firms and their senior management in consumer-facing industries facing larger decreases in employee perceptions compared to firms in other industries.

Firm Performance

Next, we examine whether employees at well-performing firms react less negatively to tax avoidance news compared to other employees. We hypothesize that employees at firms that are performing well react less negatively than other employees because strong performance mitigates the negative reaction to tax avoidance news. Employees at well-performing companies likely have more secure jobs, higher pay and better job prospects compared to other employees. Moreover, prior evidence is consistent with firm performance increasing employee satisfaction (Edmans 2011; Luo et al. 2016).

We use (1) buy-and-hold abnormal returns (*BHAR*) and (2) sales margins (*SM*) to measure firm performance. Buy-and-hold abnormal returns are measured in the six months preceding the quarter *t.* We partition this variable into terciles. We replace *BHR* as a control with *BHAR*, our cross-sectional variable. We measure sales margin (*SM*) as the difference between sales and cost of goods sold divided by sales. Similar to *BHAR*, we partition this variable into terciles. We interact *BHAR* and *SM* with *TaxNews* in each of our specifications to test this hypothesis.

Our results are reported in Panel C and D of Table 4. In Panel C, we use *BHAR* as our measure of firm performance. In Columns (1) and (2) ((3) and (4)), the coefficient on $BHAR \times TaxNews$ is positive and significant at the 5 percent (1 percent) level. In Panel D, we use *SM* as our measure of firm performance. In Columns (1) and (2) ((3) and (4)), we find that the

coefficient on $SM \times TaxNews$ is positive and significant at the 1 percent (5 percent) level. These results are consistent with employees at well-performing firms perceiving their senior managers and firms less negatively following tax avoidance news compared to other employees.

Examining the Textual Content of Reviews

Next, we directly examine the textual content of reviews to determine whether tax news increases the discussion of taxes. We directly examine employee reviews to provide further evidence that employees are concerned about their employers' tax avoidance activities. In other words, this test provides further evidence that employees are not just reacting negatively to media coverage generally. We count the number of Glassdoor reviews mentioning "tax" or "taxes" in the Cons and Advice to Management sections of the reviews. We form a variable equal to the natural log of 1 plus the number of reviews mentioning these two words in every firm-quarter and use it as our dependent variable. We acknowledge that the content of reviews may suffer from selection bias because reviews are voluntary. Our results are reported in Table 5.

In Columns (1) and (2), we use our baseline and secondary specifications. In Columns (3) and (4), we add log of the number of Glassdoor reviews as a control variable. Across all specifications, we find evidence that tax news increases the number of mentions of taxes in the negative section of employee reviews. Specifically, the coefficient on *TaxNews* is positive and significant at the 1 percent level across all Columns. Thus, these results provide evidence that tax

avoidance news increases employees' concern about taxes, measured using the number of reviews mentioning taxes.[21, 22]

Cash ETR as an Independent Variable

In this additional test, we replace our tax news variable with cash effective tax rates from firms' financial statements. This test provides evidence that tax news is more likely to elicit a response from employees compared to tax information from financial statements. We expect that tax information from financial statements does not elicit a reaction because employees are not likely interested enough in firms' tax avoidance to retrieve financial statements or sophisticated enough to examine and understand the tax footnote. Ample evidence suggests that individual taxpayers struggle to determine their own tax liability (Slemrod 2010) and often confuse effective tax rates with marginal tax rates (e.g. De Bartolome 1995; Liebman and Zeckhauser 2004; Rupert and Wright 1998). Thus, it is unlikely that they would comprehend their employing firms' effective tax rates. Moreover, by using financial statement data, we also provide evidence that the underlying tax avoidance itself does not elicit employee responses. Rather, they are more likely to respond to public media attention which raises the salience of the firm's tax avoidance activities.[23]

We use quarterly cash effective tax rates as our variable of interest. We calculate cash effective tax rates as year-to-date cash taxes paid (TXPDY) scaled by year-to-date pre-tax income

[21] In untabulated analyses, we find evidence that the natural log of the number of *times* the word "tax" or "taxes" is used in reviews significantly increases following tax news. We also find evidence that employees who cite "tax" or "taxes" in reviews rate firms and managers more negatively following tax news relative to other employees.

[22] In untabulated analyses, we control for overall news sentiment using the Ravenpack database and find that all of our results are robust to inclusion of this variable. This result also mitigates concern with the alternative explanation that employees are simply reacting to news coverage, not news coverage about tax avoidance.

[23] We acknowledge that the results of this test viewed in isolation might lead to the interpretation of our main results as employees reacting to news coverage in general rather than news coverage about tax avoidance. As noted, our tests in the prior section examining employee mention of taxes in their reviews, along with untabulated tests that include media sentiment as a control, help rule out this alternative explanation.

(PIY) less year-to-date special items (SPIY) following prior studies in tax avoidance (see e.g. Cook, Huston, and Omer 2008 and Bratten, Gleason, Larocque, and Mills 2016 for studies using the same measure).[24] We require pre-tax income less special items to be positive. We use a measure that is truncated to 0 and 1 ($CETR_{trunc}$) and a separate measure winsorized to 0 and 1 ($CETR_{win}$). Notably, our regressions are no longer difference-in-differences because we do not have a treatment event.

Our results are reported in Table 5. In Columns (1) and (3), we use $CETR_{trunc}$ as our independent variable of interest. In Columns (2) and (4), we use $CETR_{win}$ as our independent variable of interest. In Columns (1) and (2), we use *SeniorMgmt* as our dependent variable and in Columns (3) and (4), we use *Firm* as our dependent variable. Across all specifications, the coefficient on *CETR* is non-significant at conventional levels. These results are consistent with employees not reacting to tax avoidance from financial statements.[25]

Comparison to Product Recall News

Next, we compare our effects to the change in Glassdoor ratings resulting from product recall announcements to provide further evidence on the importance of using news coverage in assessing employee responses. All else equal, employees are likely to respond negatively to product recalls because it implies that the company will suffer poor performance in the future. For example, the company will have to address the fallout from the recall and will likely suffer from

[24] In untabulated analyses, we perform similar tests at the annual level. We aggregate Glassdoor ratings to the annual level and use annual and three-year cash ETRs as our independent variables (in separate analyses). The coefficients on our ETR measures are not significant across all specifications.

[25] Quarterly cash effective tax rates may be "noisy" for at least two reasons. First, they often contain non-recurring, discrete items under the integral method (e.g. foreign earnings repatriations). As such, prior evidence finds that they add complexity to tax disclosures and are not easily predicted (Bratten et al. 2016; Donelson, Koutney, and Mills 2020). Second, quarterly ETRs are based on unaudited financial statement information. However, we do not expect that our non-significant results are driven by low power tests because our tests rely on around 8,000 observations. Thus, our tests should be high-powered enough to detect small effects.

lower revenues and loss of consumer confidence. However, if such news is not communicated to the employees effectively (such as through news media), employees may not strongly respond. We collect product recall data from the Consumer Product Safety Commission (CPSC) following Lee, Hutton, and Shu (2015). These data cover government announcements of product recalls. The CPSC release such announcements to major media outlets but they are not always covered (Lee et al. 2015). As such, we expect that Glassdoor employee ratings are not highly responsive to product recalls because recalls are not always covered in media outlets.

We create two new treatment variables. First, we code a new independent variable (*Prod_Recall_1)* to 1 if firm *i* had a first product recalled in quarter *t* and in all subsequent quarter and 0 otherwise. Second, we code *Prod_Recall_2* to 1 if firm *i* had a second product recalled by quarter *t* and in all subsequent quarter and 0 otherwise. We use the same dependent variables in our specifications.

Results are reported in Table 6. In Panel A, we use *Prod_Recall_1* as our independent variable of interest. Across all specifications and dependent variables, we find that the coefficient on *Prod_Recall_1* is not significant at conventional levels. These results provide evidence that Glassdoor ratings fall more following tax news compared to product recalls. In Panel B, we use *Prod_Recall_2*. Across all columns, we find that the coefficient on our treatment variable is negative and significant at conventional levels. We find that the economic magnitudes of these effects are marginally larger than the economic magnitudes when *TaxNews* is our independent variable. Specifically, *Firm* falls by .104 and .109 following two product recalls but by .07 and .073 following tax avoidance news. *SeniorMgmt* falls by .088 and .098 following product recall news and by .09 and .086 following tax avoidance news. These results are consistent with *two* product recalls eliciting marginally stronger reactions than tax avoidance news coverage because

two product recalls likely attract media attention or otherwise capture the attention of employees more than a single tax news event.

Job Functions Sub-Samples

Next, we examine the effects of tax avoidance news on Glassdoor ratings among accounting and finance employees (hereafter accounting employees) separately from other employees (non-accounting employees). *Ex ante,* it is unclear whether accounting employee ratings will fall following tax news. Accounting employees may have prior knowledge about the firms' tax avoidance and thus may not learn anything new from tax news. In this case, they may not respond to tax avoidance news. Alternatively, they may "blame" managers more than firms for getting caught because they interact with managers and thus differentiate between firms and managers. Non-accounting employees likely respond negatively because they are learning about tax avoidance for the first time through the news and do not differentiate between firms and managers.

We note that these tests may suffer from low power. Glassdoor raters are not required to disclose their job functions. Thus, job function data may be noisy and suffer from selection issues. Moreover, we used discretion in classifying employees as accounting employees or non-accounting employees. To identify accounting employees, we searched for terms such as "accountant" or "finance" or "treasury," among others. To the extent there is error in this process, we expect our estimates may be somewhat noisy. We split our sample into accounting related and non-accounting related sub-samples. We perform our main analyses in each of these sub-samples. Results are reported in Table 7.

In Panel A, we use senior management Glassdoor ratings as our dependent variables. In Columns (1) and (2), we report results using our baseline specifications. Columns (3) and (4)

provide results using secondary specifications. Columns (1) and (3) report results from the accounting related sub-sample and Columns (2) and (4) report results from the non-accounting related sub-sample. In Panel A, we find that the coefficient on *TaxNews* is negative and significant across all sub-samples and using both specifications. These results are consistent with both accounting and non-accounting related employees perceiving senior managers negatively following tax avoidance news.

In Panel B, we report results using firm ratings as our dependent variables. In Columns (1) and (3), the coefficient on *TaxNews* is negative but not significant. In Columns (2) and (4), these same coefficients are negative and significant at conventional levels. These results provide evidence that non-accounting employees' perceptions of firms fall following tax news. We also find that accounting employees perceive senior managers significantly more negatively than they perceive firms following tax news (F statistics of 5.52 and 5.11 with p-values of .02 in both specifications). F tests on non-accounting employees-sample reveal weak or no statistically significant difference in the negative ratings between senior managers and firms following tax news (F statistics of 2.89 and 2.56 with p-values of .09 and .11, respectively). Thus, we find evidence that accounting employees perceive senior managers significantly more negatively than firms following tax news. However, non-accounting employees do not seem to differentiate between their senior managers and firms in attributing blame for tax news.

Placebo and Falsification Tests

In this section, we perform placebo tests and falsification tests to ensure that our identified effects are not driven by random differences or spurious trends.[26] In our placebo tests, we "turn

[26] In untabulated analyses, we perform a placebo test by randomizing treatment quarters but retain the same distribution of treated quarters (as in Cornaggia, Mao, Tian, and Wolfe 2015). Our inferences are unchanged.

on" treatment in various periods during which treated firms did not actually receive tax avoidance news coverage. We should find non-significant results on the coefficients of our "placebo" treatments because these periods were not actually treated. We begin by seeding treatment in pre-treatment periods. We limit our discretion by choosing several different "placebo" treatment periods. Specifically, we use the 1) middle of the sample period remaining after removing treatment periods and 2) three quarters prior to treatment (t-3) as our placebo treatment periods. We omit (retain) all firm-quarter observations that are treated (not treated including those firm-quarters for the treated firms before they receive treatment) in these tests because including treated observations in placebo tests pollutes the post-placebo treatment estimates. In other words, the estimate on the placebo treatment variable will be significant because many of the post-placebo treatment observations are actual treated firm-quarter observations.

Our results are reported in Table 9. In Panel A, we use the middle of the treatment period remaining after removing treatment periods as the date of "placebo" treatment. Across all columns, the coefficient on *TaxNews{Mid}* is non-significant. In Panel B, we use three quarters prior to actual treatment as our "placebo" treatment. Again, the coefficients of interest are non-significant across all columns. Taken together, our placebo tests are consistent with our identified effects being driven by tax avoidance news rather than spurious trends or random effects.

Next, we use dependent variables that should not be affected by tax avoidance news to provide evidence that our main results are not spurious. We use Glassdoor ratings for work/life balance (*WorkLife*) and career opportunities (*CareerOpp*). By using variables drawn from Glassdoor, we provide evidence that our results are not driven by spurious correlations among Glassdoor variables in addition to other spurious correlations. We do not expect that employees perceive their work/life balance or career opportunities are affected by tax news. Consistent with

our theory and expectations, we do not find any relation between tax news and the two Glassdoor variables. In Columns (1) and (2) of Panel C, we use *WorkLife* as our dependent variable and we find that the coefficient on *TaxNews* is non-significant at conventional levels. We reach the same inference when we use *CareerOpp* as our dependent variable in Columns (3) and (4).

Robustness Tests

Restricting Pre-Treatment and Post-Treatment Periods

In this section, we restrict our treatment period for treatment firms for robustness.[27] Our treatment period spans five quarters prior to tax avoidance news coverage and five quarters following tax avoidance news coverage. In other words, our new independent variable of interest (*TaxNews{-5,5}*) takes a value of 1 for the five quarters following tax avoidance news coverage, 0 for firms that are never treated and 0 in the five quarters prior to treatment for treated firms. Our results are reported in Table 10, Panel A. Across all four columns, we find that the coefficient on *TaxNews{-5,5}* is negative and significant at the 5 percent level Taken together, these results suggest our main findings are robust to restricting the period of treatment.

Propensity Score Matched Sample

Next, we use propensity score matching (PSM) to construct our control sample. [28] We model treatment propensity as a function of all firm-level covariates used as control variables in our main tests. We require common support (i.e. that treatment and control observations are matched on propensity score) but results are robust to relaxing this constraint. The matching is

[27] We do not restrict our treatment periods in our main analyses to avoid loss of power (McKenzie 2012; Gibson and McKenzie 2010).

[28] Our matching approach provides stronger evidence that the control sample is an appropriate counterfactual. In our main tests, we used a pooled approach to limit researcher discretion while maximizing the number of observations. However, control observations may provide a poor counterfactual to treatment if treated and control observations differ in relevant dimensions.

conducted for every treated firm-quarter. We use one-to-one matching, though results are robust to using one-to-many matching. We match with replacement, though results are robust to matching without replacement. Results using the propensity-matched sample are reported in Table 10, Panel B. The coefficient on *TaxNews* is negative and significant across all columns.[29]

VI. UNTABULATED ANALYSES

We perform several untabulated analyses. First, we find evidence that the proportion of raters who approve of their CEO's performance falls following tax avoidance news. We also find that our inferences are unchanged after omitting observations following CEO turnover. Additionally, following Bourveau, Lou, and Wang (2018), we examine parallel trends by regressing our dependent variables on treatment variables for the periods *t*-1, *t*-0, as well as post-treatment periods. We find that the coefficient on the *t*-1 variable is not significantly different from 0. We find that our inferences are unchanged when using a sample of ratings provided only by current employees of the company.

Next, we provide evidence that our results are not substantially affected by tax news that occurred prior to our sample period using three approaches. First, we limit our sample to the news events identified by Chen et al. (2019) in the S&P 250 to provide a benchmark and also to provide evidence that our results are not sensitive to our identified tax avoidance news. Second, we find that our results are robust after dropping firms that received tax news coverage in the three years prior to our sample period (2005-2007) (see Appendix A in Chen et al. 2019). Last, we find evidence that our results are robust to explicitly controlling for prior tax news based on the Chen et al. (2019) sample.

[29] In untabulated analyses, we use coarsened exact matching to provide a matched control group (e.g., Gallemore, Gipper, and Maydew 2019). Results are consistent with our main results.

VII. CONCLUSION

In this study, we examine whether employee perceptions of managers and firms decrease following media coverage of tax avoidance. We posit that employees perceive tax avoidance news negatively because they do not clearly benefit from decreased tax payments and they perceive it as unfair and/or socially irresponsible. We use employee ratings data from Glassdoor.com to measure changes in employee perceptions of managers and firms. We use news coverage of firms' tax avoidance as our treatment events.

We find that employee ratings of both S&P 500 senior managers and firms decrease following tax avoidance news using generalized difference-in-differences. In addition, we find results consistent with senior manager and firm ratings decreasing in media coverage intensity. We provide evidence that perceptions of managers and firms fall more when the firm is in a consumer-facing industry compared to when it is not. Next, we find evidence that employees at high-performing firms react less negatively to tax avoidance news compared to other firms. We perform numerous additional tests, placebo tests, and falsification tests. However, as with any quasi-experimental study, we cannot rule out *all* possible confounds.

Our study contributes to the literature on taxes and reputation. We extend prior studies by examining whether tax avoidance news decreases *employee* perceptions of their managers and firms, rather than focusing on shareholders or other stakeholders, as prior studies do. We also contribute to the literature identifying the effects of tax avoidance and tax incentives on labor by providing evidence that employees perceive tax planning negatively and rate firms and managers lower following tax news.

REFERENCES

Acemoglu, D., D. Autor, and D. Lyle. 2004. Women, war, and wages: The effect of female labor supply on the wage structure at midcentury. *Journal of Political Economy* 112 (3): 497-551.

Aguilera, R., D. Rupp, C. Williams, and J. Ganapathi. 2007. Putting the S back in CSR: A multi-level theory of social change in organizations. *Academy of Management Review* 32 (4): 836-863.

Auerbach, A. 2006. Who bears the corporate tax? A review of what we know. *Tax Policy and the Economy* 20: 1-40.

Austin, C. R., and R. J. Wilson. 2017. An examination of reputational costs and tax avoidance: Evidence from firms with valuable consumer brands. *The Journal of the American Taxation Association*: 39 (1): 67-93.

Becker, G. S. 2002. The age of human capital. Education in the 21st Century. Hoover Institution Press Publication.

Bertrand, M., and S. Mullainathan. 2003. Enjoying the quiet life? Corporate governance and managerial preferences. *Journal of Political Economy* 111 (5): 1043-1075.

Bhattacharya, C., and S. Sen. 2003. Consumer-company identification: A framework for understanding consumers' relationships with companies. *Journal of Marketing Research* 67 (2): 76-88.

Bourveau, T., Y. Lou, and R. Wang. 2018. Shareholder litigation and corporate disclosure: Evidence from derivative lawsuits. *Journal of Accounting Research* 56 (3): 797-842.

Bratten, B., C. A. Gleason, S. A. Larocque, and L. F. Mills. 2016. Forecasting taxes: new evidence from analysts. *The Accounting Review* 92 (3): 1-29.

Chen, S., K. Schuchard, and B. Stomberg. 2019. Media coverage of corporate taxes. *The Accounting Review*. Forthcoming.

Chyz, J., and F. Gaertner. 2018. Can paying "too much" or "too little" tax contribute to forced CEO turnover? *The Accounting Review* 93 (1): 103-130.

Chun, R. 2005. Corporate reputation: Meaning and measurement. *International Journal of Management Reviews* 7 (2): 91-109.

Cohen, P., and S. Saul. 2019. Profitable giants like Amazon pay $0 in corporate taxes. Some voters are sick of it. *New York Times*(April 19). Available at: https://www.nytimes.com/2019/04/29/us/politics/democrats-taxes-2020.html

Collier, J., and R. Esteban. 2007. Corporate social responsibility and employee commitment. *Business Ethics: A European Review* 16 (1): 19-33.

Colquitt, J. 2001. On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology* 86 (3): 386-400.

Cook, K., G. R. Huston, and T. Omer. 2008. Earnings management through effective tax rates: The effects of tax-planning investment and the Sarbanes-Oxley Act of 2002. *Contemporary Accounting Research* 25 (2): 447-471.

Cornaggia, J., Y. Mao, X. Tian, and B. Wolfe. 2015. Does banking competition affect innovation? *Journal of Financial Economics* 115 (1): 189-209.

De Bartolome, C. 1995. Which tax rate do people use: Average or marginal? *Journal of Public Economics* 56 (1): 79-96.

De Simone, L., J. Huang, and L. Krull. 2019. *R&D and the rising foreign profitability of U.S. multinational corporations*. Working paper, Stanford University, Virginia Tech and University of Oregon.

Dhaliwal, D., T. Goodman, P. J. Hoffman, and C. Schwab. 2019. *The incidence, valuation, and management of tax-related reputational costs: Evidence from the Occupy Wall Street movement*. Working paper, Indiana University, Purdue University and University of Arizona.

Donelson, D., C. Koutney, and L. Mills. 2020. *Nonrecurring income taxes: Highly predictable only during tax reform*. Working paper, the University of Texas at Austin and George Mason University.

Dornstein, M. 1987. Taxes: Attitudes and perceptions and their social bases. *Journal of Economic Psychology*. 8 (1): 55-76.

Dowling, G. R. 2014. The curious case of corporate tax avoidance: Is it socially irresponsible? *Journal of Business Ethics* 124 (1): 173-184.

Dyreng, S. D., M. Hanlon, and E. L. Maydew. 2010. The effects of executives on corporate tax avoidance. *The Accounting Review* 85 (4): 1163-1189.

Dyreng, S., J. L. Hoopes, and J. Wilde. 2016. Public pressure and corporate tax behavior. *Journal of Accounting Research* 54 (1): 147-185.

Edmans, A. 2011. Does the stock market fully value intangibles? Employee satisfaction and equity prices. *Journal of Financial Economics* 101 (1): 621-640.

Elbra, A., and J. Mikler. 2017. Paying a 'fair share': multinational corporations' perspectives on taxation. *Global Policy* 8 (2): 181-190.

EY. 2015. A new mountain to climb. Tax reputation risk, growing transparency demands and the importance of data readiness. Available at: https://www.ey.com/Publication/vwLUAssets/ey-managing-tax-transparency-and-reputation-risk/$FILE/ey-managing-tax-transparency-and-reputation-risk.pdf

Fombrun, C. J. 2012. The building blocks of corporate reputation: Definitions, antecedents, consequences. In *The Oxford Handbook of Corporate Reputation*, edited by M. L. Barnett, and T. G. Pollock, 94-113.. Oxford: Oxford University Press.

Fombrun, C., N. Gardberg, and J. Sever. 2000. The reputation quotient SM: A multi-stakeholder measure of corporate reputation. *Journal of Brand Management* 7 (4): 241-255.

Fuest, C., A. Peichl, and S. Siegloch. 2018. Do higher corporate taxes reduce wages? Micro evidence from Germany. *American Economic Review* 108 (2): 393-418.

Gallemore, J., B. Gipper, and E. Maydew. 2019. Banks as tax planning intermediaries. *Journal of Accounting Research* 57 (1): 169-209.

Gallemore, J., E. Maydew, and J. Thornock. 2014. The reputational costs of tax avoidance. *Contemporary Accounting Research* 31 (4): 1103-1133.

Gartenberg, C., A. Prat, and G. Serafeim. 2018. Corporate purpose and financial performance. *Organization Science* 30 (1): 1-18.

Gatzert, N. 2015. The impact of corporate reputation and reputation damaging events on financial performance: Empirical evidence from the literature. *European Management Journal* 33 (6): 485-499.

Gibson, J., and D. McKenzie. 2010. *The development impact of New Zealand's RSE worker policy*. Working paper, World Bank.

Giroud, X., and H. M. Mueller. 2010. Does corporate governance matter in competitive industries? *Journal of Financial Economics* 95 (3): 312-331.

Gleason, C., S. Kieback, M. Thomsen, and C. Watrin. 2019. *Monitoring or payroll maximization? What happens when workers enter the boardroom?* Working paper, University of Iowa and University of Muenster.

Graham, J., M. Hanlon, T. Shevlin, and N. Shroff. 2014. Incentives for tax planning and avoidance: Evidence from the field. *The Accounting Review* 89 (3): 991-1023.

Graham, J. and A. Tucker. 2006. Tax shelters and corporate debt policy. *Journal of Financial Economics* 81 (3): 563-594.

Gravelle, J. 2010. Corporate tax incidence: A review of general equilibrium estimates and analysis. Working Paper Series. Congressional Budget Office.

Green, T. C., R. Huang, Q. Wen, and D. Zhou. 2019. Crowdsourced employer reviews and stock returns. *Journal of Financial Economics* 134 (1): 236-251.

Guiso, L., P. Sapienza, and L. Zingales. 2015. The value of corporate culture. *Journal of Financial Economics* 117 (1): 60-76.

Hales, J., J. Moon, and L. Swenson. 2018. A new era of voluntary disclosure? Empirical evidence on how employee postings on social media relate to future corporate disclosures. *Accounting, Organizations and Society* 68-69: 88-108.

Hanlon, M., and J. Slemrod. 2009. What does tax aggressiveness signal? Evidence from stock price reactions to news about tax shelter involvement. *Journal of Public Economics* 93 (1-2): 126-141.

Harberger, A. 1962. The incidence of the corporate income tax. *Journal of Political Economy* 70 (3): 215-241.

Huang, K., M. Li, and S. Markov. 2019. What do employees know? Evidence from a social media platform. *The Accounting Review*. Forthcoming.

Ji, Y., O. Rozenbaum, and K. Welch. 2017. *Corporate culture and financial reporting risk: Looking through the Glassdoor.* Working paper, HKUST and The George Washington University.

Kim, H., M. Lee, H. Lee, and N. Kim. 2010. Corporate social responsibility and employee-company identification. *Journal of Business Ethics* 95 (4): 557-569.

Kinsey, K. A. 1984. *Survey data on tax compliance: A compendium and review.* Working paper, American Bar Association.

Kirchler, E. 1997. The burden of new taxes: acceptance of taxes as a function of affectedness and egoistic versus altruistic orientation. *The Journal of Socio-Economics*. 26 (4): 421-437.

Koester, A., T. Shevlin, and D. Wangerin. 2016. The role of managerial ability in corporate tax avoidance. *Management Science* 63 (10): 3285-3310.

Lanis, R., G. Richardson, C. Liu, and R. McClure. 2018. The impact of corporate tax avoidance on board of directors and CEO reputation. *Journal of Business Ethics.* Forthcoming.

Law, K., and L. Mills. 2017. Military experience and corporate tax avoidance. *Review of Accounting Studies* 22 (1): 141-184.

Lee, L., A. Hutton, and S. Shu. 2015. The role of social media in the capital market: Evidence from consumer product recalls. *Journal of Accounting Research* 53 (2): 367-404.

Liebman, J., and R. Zeckhauser. 2004. *Schmeduling*. Working paper, Harvard University.

Liu, T., C. Makridis, P. Ouimet, and E. Simintzi. 2018. *Why firms offer non-wage compensation and the implications for shareholder value*. Working paper, University of North Carolina at Chapel Hill and Massachusetts Institute of Technology.

Luo, N., Y. Zhou, and J. Shon. 2016. *Employee satisfaction and firm performance: Mining employee reviews on Glassdoor.com*. Working paper, Fordham University.

Makridis, C., and Y. Zhou. 2019. *Firm reputation following accounting frauds: Evidence from employee ratings*. Working paper, MIT and UCLA.

Marinescu, I., , N. KleinA. Chamberlain, and M. Smart. 2018. *Incentives can reduce bias in online reviews*. Working paper, National Bureau of Economics.

Maxham, J., R. Netemeyer, and D. Lichtenstein. 2008. The retail value chain: Linking employee perceptions to employee performance, customer evaluations, and store performance. *Marketing Science* 27 (2):147-167

McKenzie, D. 2012. Beyond baseline and follow-up: The case for more T in experiments. *Journal of Development Economics* 99 (2): 210-221.

Melián-González, S., and J. Bulchand-Gidumal. 2016. Worker word of mouth on the internet. *International Journal of Manpower* 37 (4): 709-723.

Motel, S. 2015. 5 facts on how Americans view taxes. Pew Research Center (April 10). Available at: https://www.pewresearch.org/fact-tank/2015/04/10/5-facts-on-how-americans-view-taxes/

Mukherjee, A., and H. He. 2008. Company identity and marketing: An integrative framework. *Journal of Marketing Theory and Practice* 16 (2): 111-125.

Nallareddy, S., E. Rouen, and J. C. S. Serrato. 2018. *Corporate tax cuts increase income inequality*. Working paper, Duke University and Harvard University.

Nock, S. 1993. The costs of privacy: Surveillance and reputation in America. Aldine de Gruyter Publishing.

Pegg, D. 2017. The tech giants will never pay their fair share of taxes - unless we make them. *The Guardian Online* (Decenber 11). Available at: https://www.theguardian.com/commentisfree/2017/dec/11/tech-giants-taxes-apple-paradise-corporation-avoidance

Post, J. E., and J. J. Griffin. 1997. Corporate reputation and external affairs management. *Corporate Reputation Review* 1 (1/2): 165–171.

PwC. 2012. Tax strategy and corporate reputation: A business issue. Available at: https://www.pwc.com/gx/en/tax/publications/assets/pwc-tax-strategy-and-corporate-reputation-a-tax-issue-a-business-issue.pdf

Rupert, T. J., and A. M. Wright. 1998. The use of marginal tax rates in decision making: The impact of tax rate visibility. *The Journal of the American Taxation Association* 20 (2): 83-99.

Rupp, D. J. Ganapathi, R. Aguilera, and C. Williams. 2006. Employee reactions to corporate social responsibility: An organizational justice framework. *Journal of Organizational Behavior* 27 (4): 537-543.

Sheng, J. 2019. *Asset pricing in the Information Age: Employee expectations and stock returns*. Working Paper, UC Irvine.

Slemrod, J. 2010. Old George Orwell got it backward: Some thoughts on behavioral tax economics. *FinanzArchiv/Public Finance Analysis* 66 (1): 15-33.

Song, Y. D., and T. E. Yarborough. 1978. Tax ethics and taxpayer attitude: A survey. *Public Administration Review* 38 (5): 442-452.

Spicer, M. W., and L. A. Becker. 1980. Fiscal inequity and tax evasion: An experimental approach. *National Tax Journal* 33 (2): 171.

Stuebs, M., and L. Sun 2010. Business reputation and labor efficiency, productivity, and cost. *Journal of Business Ethics* 96 (2): 265-283.

Tischer, S., and L. Hildebrandt. 2014. Linking corporate reputation and shareholder value using the publication of reputation rankings. *Journal of Business Research* 67 (5): 1007-1017.

Turban, B., and D. Greening 2017. Corporate social performance and organizational attractiveness to prospective employees. *Academy of Management Journal* 40 (3): 658-672.

Wilde, H., and R. Wilson. 2018. Perspectives on corporate tax planning: Observations from the past decade. *The Journal of the American Taxation Association* 40 (2): 63-81.

Williams, B. 2018. Multinational tax incentives and offshored U.S. jobs. *The Accounting Review* 93 (5): 293-324.

Winkler, R., and A. Fuller. 2019. "How companies secretly boost their Glassdoor ratings." *Wall Street Journal Online.* Available at: https://www.wsj.com/articles/companies-manipulate-glassdoor-by-inflating-rankings-and-pressuring-employees-11548171977?mod=hp_lead_pos5

APPENDIX A

Variable Definitions

Dependent Variables	
Firm	Median of employees' overall rating of employer. Ranked on a five-point scale, with one being unfavorable and five being favorable.
SeniorMgmt	Median of employees' rating of senior management. Ranked on a five-point scale, with one being unfavorable and five being favorable.
Log(#TaxReviews)	Natural log of 1 plus the number of reviews containing the words "tax" or "taxes" in the Cons and Advice to Management section of Glassdoor reviews.
Independent Variables	
TaxNews	Takes a value of 1 in the first quarter we identify tax avoidance news for firm *i* and in all subsequent quarters, and 0 otherwise.
Num_Mention	Equals the decile rank of the number of mentions of firm *i*'s tax avoidance in the media in the month immediately following initial disclosure multiplied by *TaxNews*, and 0 otherwise.
$CETR_{trunc}$	Year-to-date income taxes paid (TXPDY) divided by year-to-date pretax income less year-to-date special items (PIY – SPIY), truncated at 0 and 1. We restrict pre-tax income less special items to be positive.
$CETR_{win}$	Year-to-date income taxes paid (TXPDY) divided by year-to-date pretax income less year-to-date special items (PIY – SPIY), winsorized at 0 and 1. We restrict pre-tax income less special items to be positive.
Controls	
ln(AT)	The natural logarithm of total assets (ATQ).
MTB	Market value of equity (PRCC_F*CSHO) divided by book value of common equity (CEQ).
Lev	Long term debt (DLTTQ) scaled by seasonally lagged total assets (ATQ).
ROA	Operating earnings before depreciation scaled by seasonally lagged total assets (ATQ).
BHR	Buy-and-hold return over 12 months preceding quarter *t* (CRSP).
Cross-sectional Variables	

Consumer	Takes a value of 1 if firm *i* is in either the "Consumer Nondurables" or "Consumer Durables" industries based on Fama-French's 12-industry classification in quarter *t* and 0 otherwise.
Retail	Takes a value of 1 if firm *i* is in the retail industry (based on two-digit SIC code between 52 and 59) in quarter *t* and 0 otherwise.
BHAR	Market adjusted buy-and-hold return over six months preceding quarter *t* (CRSP), split into terciles.
SM	Sales margin is calculated as sales minus cost of goods sold divided by sales, split into terciles.
Glassdoor Variables	
Num_Reviews	The number of employee reviews of firm *i* posted in quarter *t*.
%Fulltime	The percent of employee reviews of firm *i* posted by full-time employees in quarter *t*.
%Current	The percent of employee reviews of firm *i* posted by current employees in quarter *t*.
Tenure	The average tenure (in years) of employees who post reviews of firm *i* in quarter *t*.
Other Variables	
Prod_Recall_1	Takes a value of 1 if a firm had a first product recalled in current quarter or a prior quarter in the sample.
Prod_Recall_2	Takes a value of 1 if a firm had a second product recalled in current quarter or a prior quarter in the sample.
WorkLife	Median of employees' rating of work-life balance. Ranked on a five-point scale, with one being unfavorable and five being favorable.
CareerOpp	Median of employees' rating of career opportunities. Ranked on a five-point scale, with one being unfavorable and five being favorable.

APPENDIX B

Treated Firms with Tax News Coverage

Company	Year-Qtr of First Tax News	# of News Mentions in First Month
HALLIBURTON CO	2008Q1	10
COLGATE-PALMOLIVE CO	2008Q1	2
EOG RESOURCES INC	2008Q1	1
BROADCOM CORP	2008Q2	9
SMUCKER (JM) CO	2008Q2	1
ENTERGY CORP	2008Q3	2
CITIGROUP INC	2008Q3	15
EBAY INC	2008Q4	5
BANK OF AMERICA CORP	2009Q1	23
AON PLC	2009Q1	2
COVIDIEN PLC	2009Q1	2
COCA-COLA CO	2009Q1	9
PEPSICO INC	2009Q1	9
BANK OF NEW YORK MELLON CORP	2009Q1	3
KEYCORP	2009Q1	2
DOWDUPONT INC	2009Q1	4
ORACLE CORP	2009Q1	11
PFIZER INC	2009Q1	10
AMERICAN INTERNATIONAL GROUP	2009Q1	8
BB&T CORP	2009Q1	4
MICROSOFT CORP	2009Q2	34
MERCK & CO	2009Q2	1
ALPHABET INC	2009Q2	25
JOHNSON & JOHNSON	2009Q2	5
CISCO SYSTEMS INC	2009Q2	4
SEAGATE TECHNOLOGY PLC	2009Q2	1
SYMANTEC CORP	2009Q2	1
CATERPILLAR INC	2009Q2	5
CHEVRON CORP	2009Q2	4
ACCENTURE PLC	2009Q2	6
XILINX INC	2009Q2	2
TEXTRON INC	2009Q3	1
VERIZON COMMUNICATIONS INC	2009Q4	5
FRONTIER COMMUNICATIONS CORP	2009Q4	4
GOLDMAN SACHS GROUP INC	2009Q4	3
NEWS CORP	2009Q4	3

JUNIPER NETWORKS INC	2010Q1	2
XL GROUP LTD	2010Q1	7
INGERSOLL-RAND PLC	2010Q1	3
NOBLE ENERGY INC	2010Q1	1
INTL BUSINESS MACHINES CORP	2010Q1	7
EXXON MOBIL CORP	2010Q2	6
FOREST LABORATORIES	2010Q2	2
GARMIN LTD	2010Q2	1
E TRADE FINANCIAL CORP	2010Q2	2
TRANSOCEAN LTD	2010Q2	19
ILLINOIS TOOL WORKS	2010Q3	1
KRAFT FOODS GROUP INC	2011Q1	6
CARNIVAL CORP/PLC (USA)	2011Q1	1
EMERSON ELECTRIC CO	2011Q1	3
GENERAL MILLS INC	2011Q1	1
COMCAST CORP	2011Q2	6
NVIDIA CORP	2011Q2	1
GENERAL ELECTRIC CO	2011Q2	7
HASBRO INC	2011Q2	2
AMERICAN EXPRESS CO	2011Q2	4
RANGE RESOURCES CORP	2011Q2	4
GOODYEAR TIRE & RUBBER CO	2011Q2	1
COGNIZANT TECH SOLUTIONS	2011Q3	3
AMERIPRISE FINANCIAL INC	2011Q3	2
ELECTRONIC ARTS INC	2011Q3	1
NORDSTROM INC	2011Q4	2
UNITED STATES STEEL CORP	2011Q4	2
MEDTRONIC PLC	2011Q4	2
WELLS FARGO & CO	2012Q1	10
MARRIOTT INTL INC	2012Q1	1
LILLY (ELI) & CO	2012Q1	1
EXPEDIA GROUP INC	2012Q1	2
APPLE INC	2012Q2	22
HP INC	2012Q2	3
ECOLAB INC	2012Q2	1
PROCTER & GAMBLE CO	2012Q2	5
CONAGRA BRANDS INC	2012Q2	1
CHESAPEAKE ENERGY CORP	2012Q3	1
BIOGEN INC	2012Q3	1
INTL FLAVORS & FRAGRANCES	2012Q3	1
WALMART INC	2012Q3	26
AT&T INC	2012Q3	22

FACEBOOK INC	2012Q4	12
STARBUCKS CORP	2012Q4	316
MONSANTO CO	2012Q4	1
MONDELEZ INTERNATIONAL INC	2012Q4	4
EXELON CORP	2013Q1	1
BEST BUY CO INC	2013Q1	1
ABBOTT LABORATORIES	2013Q1	5
TEXAS INSTRUMENTS INC	2013Q1	3
MORGAN STANLEY	2013Q1	8
FLUOR CORP	2013Q2	1
SCHLUMBERGER LTD	2013Q2	1
BRISTOL-MYERS SQUIBB CO	2013Q2	10
NEXTERA ENERGY INC	2013Q2	2
INTEL CORP	2013Q2	7
ARCHER-DANIELS-MIDLAND CO	2013Q3	15
BOSTON SCIENTIFIC CORP	2013Q3	5
OMNICOM GROUP	2013Q3	4
PERRIGO CO PLC	2013Q3	2
HONEYWELL INTERNATIONAL INC	2013Q3	2
3M CO	2013Q3	1
AMAZON.COM INC	2013Q3	21
FISERV INC	2013Q3	8
APPLIED MATERIALS INC	2013Q4	5
WALGREENS BOOTS ALLIANCE INC	2013Q4	2
MOLSON COORS BREWING CO	2013Q4	2
YUM BRANDS INC	2013Q4	1
MOTOROLA SOLUTIONS INC	2013Q4	1
JPMORGAN CHASE & CO	2013Q4	16
MCDONALD'S CORP	2014Q1	1
U S BANCORP	2014Q1	1
ALEXION PHARMACEUTICALS INC	2014Q1	1
MCCORMICK & CO INC	2014Q1	1
REGENERON PHARMACEUTICALS	2014Q1	1
ALLERGAN INC	2014Q2	8
BOOKING HOLDINGS INC	2014Q2	1
APACHE CORP	2014Q2	1
ROWAN COMPANIES PLC	2014Q2	3
GILEAD SCIENCES INC	2014Q2	1
NIKE INC	2014Q3	3
ABBVIE INC	2014Q3	62
MYLAN NV	2014Q3	16
HOSPIRA INC	2014Q3	5

BERKSHIRE HATHAWAY	2014Q3	16
APTIV PLC	2014Q3	1
TWENTY-FIRST CENTURY FOX INC	2014Q3	11
DISNEY (WALT) CO	2014Q4	6
CVS HEALTH CORP	2015Q1	3
ALLEGHENY TECHNOLOGIES INC	2015Q1	18
BALL CORP	2015Q1	6
KELLOGG CO	2015Q2	23
NETFLIX INC	2015Q2	36
DUN & BRADSTREET CORP	2015Q2	2
COSTCO WHOLESALE CORP	2015Q3	1
CF INDUSTRIES HOLDINGS INC	2015Q3	5
CAMPBELL SOUP CO	2015Q4	3
VIACOM INC	2016Q1	9
JOHNSON CONTROLS INTL PLC	2016Q1	21
TYCO INTERNATIONAL PLC	2016Q1	19
MASTERCARD INC	2016Q1	6
ALCOA INC	2016Q2	3
CBRE GROUP INC	2016Q2	1
PRINCIPAL FINANCIAL GRP INC	2016Q2	1
FORD MOTOR CO	2016Q3	2
KINDER MORGAN INC	2016Q4	1
CHIPOTLE MEXICAN GRILL INC	2017Q1	1

Note: This appendix provides the list of firms covered by the news for tax avoidance for the first time in our sample period of 2008-2017. We collect the tax news data from LexisNexis using our search keywords, as outlined in Appendix C.

APPENDIX C

Instructions for Hand-Collection of Tax Avoidance News Coverage

LNSV Hand Collection

Source: Lexis Nexis Uni

1. Access UCI VPN
    1. Go to: *https://www.oit.uci.edu/help/vpn/*
    2. Click on WebVPN
    3. Log-in (*Please keep confidential)*
        1. username: ***omitted***
        2. password: ***omitted***
2. Input Lexis Nexis Search into search bar *(https://guides.lib.uci.edu/business/databases* → "*Nexis Uni*"*)*
    1. Terms: ("tax avoidance" or "tax evasion" or "tax haven") & *"Company_Name"*
3. Time period: January 1st, 2008 to January 1st, 2018 (ten years)
4. Sort: oldest to newest
5. Publication type
    1. All with the word "news" in them (e.g. "news" "newspaper" "newsletter")
6. Count number of mentions about the tax avoidance issue over the next month
    1. Focus on corporate income tax avoidance
    2. NOT: executive-based tax avoidance or tax evasion of executives or sales tax
7. Tips (check each of these after each search because they reset)
    1. Check that sort is oldest to newest (default is set to "Relevant")
    2. Check that search years are correct
    3. Check that publication types are correct

Note: This appendix contains the instructions provided to our research assistant for hand-collecting tax avoidance news coverage from Lexis Nexis Uni.

APPENDIX D

Examples of Glassdoor Reviews Mentioning "Tax" or "Taxes"

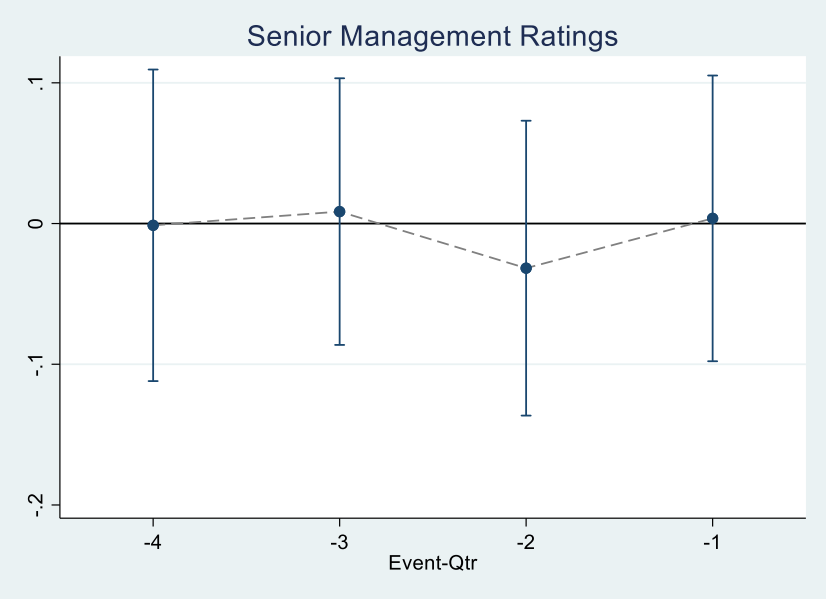
Company	Excerpts from Cons and Advice to Management Section of Reviews
AMERICAN INTERNATIONAL GROUP	Don't rip off the tax payers
VERIZON COMMUNICATIONS INC	we want a fair contract they paid no taxes on 26 billion in 2011
WALMART INC	evil, terrible company with bad attitude go away, leeching of public money, avoiding taxes, living off others hard work ... dirt bags, go to the landfill where you came from.
STARBUCKS CORP	Pay your taxes!
ALPHABET INC	Difficult to buy into fiscal policy of not paying taxes locally
ALPHABET INC	People now associate it as much with Tax issues as with solving the world's problems.
APPLE INC	Tax avoidance is probably their biggest issue.
ABBVIE INC	It was disconcerting when they attempted a tax inversion
XL GROUP LTD	Parent company ships all funds from US operations offshore to avoid taxes.
GENERAL ELECTRIC CO	The corporation made $14 billion dollar profit last year, but did not pay taxes ... what is the deal? why? I pay my taxes ...
GENERAL ELECTRIC CO	a large, profitable company that does not pay taxes-
CISCO SYSTEMS INC	John Chambers, pay the taxes! You built your nut on the INET. Pay it back!
CISCO SYSTEMS INC	It may be legal to avoid taxes but it isn't moral anymore
NIKE INC	There is no statute of limitations on tax evasion for hiding earned income.
PFIZER INC	Pay your fare share of US taxes or trade your stock in some other market.
MYLAN NV	Company uses controversial practices to avoid taxes.
AMAZON.COM INC	No good reputation when trying to cheat national law about taxes.
INTEL CORP	It's matter of symbol and should not be governed by corporate tax evasions..
JOHNSON & JOHNSON	I wonder how JNJ practices such as Johnson & Johnson have been moving ownership of patents and trademarks to subsidiaries in low- or no-tax countries. This has allowed drug companies, as well as businesses in several other industries, to skirt paying U.S. taxes on sales of those products unless the money is returned home.
CATERPILLAR INC	Pay higher taxes.

Note: This appendix provides excerpts from Glassdoor reviews that mention "tax" or "taxes" in the Cons and Advice to Management section of the review. The reviews are taken from firms that had previously received news coverage on its tax avoidance activities.

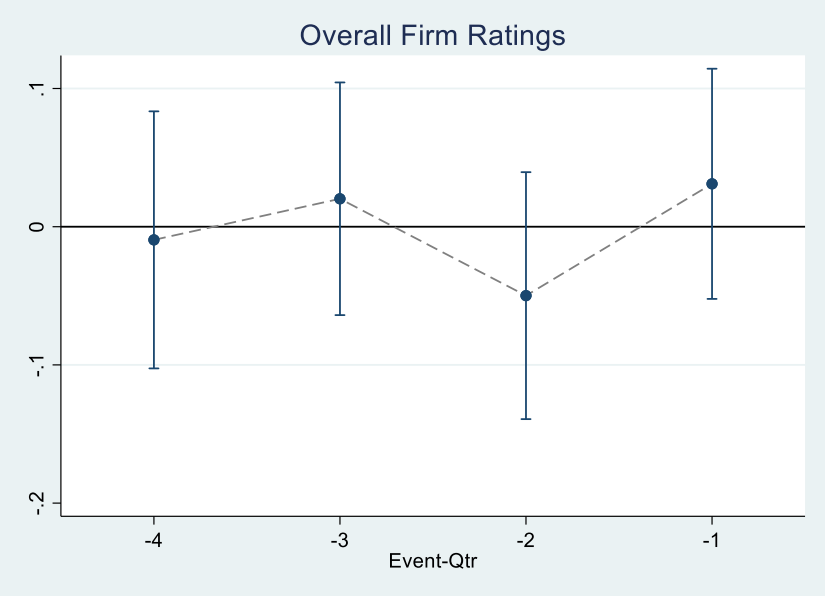
FIGURE 1

Coefficient Plots

Panel A: Coefficient Plot Using Senior Management Ratings (*SeniorMgmt*)



Panel B: Coefficient Plot using Firm Ratings (*Firm*)



Note: In this figure, we plot coefficients with standard error bars for the four quarters prior to treatment. We obtain these coefficients from regressions of our *SeniorMgmt* (Panel A) and *Firm* (Panel B) on binary variables coded to 1 for quarter *t*-4 to *t-1* and 0 otherwise. We include firm-level controls. We overlay 90 percent confidence intervals on estimated effects.

TABLE 1

Tax Avoidance News by Calendar-Quarter

Calendar quarter	Number of firms	Calendar quarter	Number of firms
2008Q1	3	2013Q1	5
2008Q2	2	2013Q2	5
2008Q3	2	2013Q3	8
2008Q4	1	2013Q4	6
2009Q1	12	2014Q1	5
2009Q2	11	2014Q2	5
2009Q3	1	2014Q3	7
2009Q4	4	2014Q4	1
2010Q1	5	2015Q1	3
2010Q2	5	2015Q2	3
2010Q3	1	2015Q3	2
2010Q4	0	2015Q4	1
2011Q1	4	2016Q1	4
2011Q2	7	2016Q2	3
2011Q3	3	2016Q3	1
2011Q4	3	2016Q4	1
2012Q1	4	2017Q1	1
2012Q2	5	2017Q2	0
2012Q3	5	2017Q3	0
2012Q4	4	2017Q4	0

Note: This table presents the number of firms covered by the news for tax avoidance for the first time in our sample. We present the number of firms by calendar-quarter to demonstrate the temporal dispersion of our treatment. For example, in the 3rd calendar-quarter of 2014, seven firms received tax avoidance news coverage for the first time in our sample period.

TABLE 2

Sample Characteristics

Panel A: Descriptive Statistics of Regression Variables								
VARIABLES	N	Mean	Median	SD	Min	25th	75th	Max
SeniorMgmt	14840	2.989	3.000	0.779	1.000	2.500	3.500	5.000
Firm	14977	3.402	3.500	0.742	1.000	3.000	4.000	5.000
TaxNews	14977	0.203	0.000	0.402	0.000	0.000	0.000	1.000
Num_Mention	14977	1.157	0.000	3.663	0.000	0.000	0.000	23.000
$CETR_{trunc}$	8053	0.228	0.217	0.153	0.000	0.115	0.314	1.000
$CETR_{win}$	8709	0.224	0.206	0.180	0.000	0.091	0.311	1.000
ln(AT)	14977	9.747	9.620	1.331	7.274	8.775	10.569	14.015
MTB	14977	3.806	2.722	6.030	-19.784	1.594	4.522	39.616
Lev	14977	0.234	0.212	0.170	0.000	0.113	0.322	0.852
ROA	14977	0.041	0.037	0.027	-0.017	0.023	0.054	0.138
BHR	14977	0.132	0.124	0.315	-0.629	-0.052	0.301	1.179
Consumer	14977	0.091	0.000	0.288	0.000	0.000	0.000	1.000
Retail	14977	0.088	0.000	0.283	0.000	0.000	0.000	1.000
BHAR	14977	0.015	0.014	0.182	-0.482	-0.093	0.121	0.574
SM	14961	0.445	0.418	0.232	-0.066	0.269	0.601	0.951
Panel B: Descriptive Statistics of Glassdoor Variables								
VARIABLES	N	Mean	Median	SD	Min	25th	75th	Max
Num_Reviews	14977	64.218	18.000	162.351	1.000	6.000	54.000	2581.0
%FullTime	9427	0.820	0.862	0.177	0.000	0.750	0.949	1.000
%Current	14977	0.585	0.583	0.223	0.000	0.481	0.707	1.000
Tenure	9373	2.523	2.451	0.845	1.000	2.059	2.895	8.000
#TaxReviews	14977	0.085	0	0.326	0	0	0	2
log(#TaxReviews)	14977	0.055	0	0.204	0	0	0	1.099

TABLE 2 (Continued)

Panel C: Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) SeniorMgmt	1	**0.65**	**0.07**	**0.07**	**0.08**	**0.06**	**-0.07**	0.01	**0.03**
(2) Firm	**0.67**	1	**0.13**	**0.13**	**0.08**	**0.10**	**-0.03**	0.01	**0.03**
(3) TaxNews	**0.07**	**0.13**	1	**0.99**	**0.28**	0.01	**-0.02**	**-0.04**	**0.02**
(4) Num_Mention	**0.05**	**0.09**	**0.63**	1	**0.30**	0.01	**-0.02**	**-0.04**	**0.02**
(5) ln(AT)	**0.08**	**0.09**	**0.32**	**0.35**	1	**-0.36**	0.00	**-0.42**	**-0.05**
(6) MTB	**0.04**	**0.06**	0.00	**0.03**	**-0.16**	1	**0.05**	**0.52**	**-0.04**
(7) Lev	**-0.07**	**-0.03**	**-0.03**	**-0.04**	**-0.04**	**0.05**	1	**0.03**	0.00
(8) ROA	**0.02**	**0.02**	**-0.04**	0.01	**-0.41**	**0.24**	**0.06**	1	-0.01
(9) BHR	**0.03**	**0.03**	**0.02**	0.01	**-0.06**	-0.01	-0.01	**-0.01**	1

Note: Our sample period spans 2008 to 2017. All continuous variables are winsorized at the 1st and 99th percentiles to mitigate the effect of outliers. Panel C presents the Pearson's (below) and Spearman's (above) correlation matrices among dependent variables and independent variables. We bold all correlations that are statistically significant at 0.10 level or better (two-tailed). All variables are defined in Appendix A.

TABLE 3

The Effect of Firms' Tax Avoidance News on Employee Perceptions of Senior Managers and Firms

Panel A: Difference-in-Differences Estimates

		(1)	(2)	(3)	(4)
VARIABLES	Pred	*SeniorMgmt*	*SeniorMgmt*	*Firm*	*Firm*
TaxNews	-	-0.090***	-0.086***	-0.074**	-0.073**
		(-2.51)	(-2.45)	(-2.31)	(-2.29)
ROA	+		1.361***		1.179***
			(2.81)		(2.90)
MTB	+		0.002		0.001
			(1.40)		(0.44)
Lev	-		0.107		-0.007
			(1.19)		(-0.09)
ln(AT)	+		-0.088***		-0.003
			(-2.62)		(-0.09)
BHR	+		0.088***		0.057***
			(3.17)		(2.36)
Observations		14,840	14,840	14,977	14,977
Adjusted R-squared		0.231	0.234	0.310	0.311
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes

Panel B: Treatment Intensity

		(1)	(2)	(3)	(4)
VARIABLES	Pred	*SeniorMgmt*	*SeniorMgmt*	*Firm*	*Firm*
Num_Mention	-	-0.011***	-0.010***	-0.009***	-0.009***
		(-2.44)	(-2.37)	(-2.37)	(-2.35)
ROA	+		1.358***		1.176***
			(2.80)		(2.90)
MTB	+		0.002		0.001
			(1.41)		(0.45)
Lev	-		0.107		-0.007
			(1.19)		(-0.09)
ln(AT)	+		-0.088***		-0.003
			(-2.62)		(-0.09)
BHR	+		0.087***		0.057***
			(3.17)		(2.36)
Observations		14,840	14,840	14,977	14,977
Adjusted R-squared		0.231	0.233	0.310	0.311

Firm FE	Yes	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes	Yes

Notes: Panel A provides estimates of difference-in-differences regressions of senior management and firm ratings on tax news disclosure. Panel B provides estimates of difference-in-differences regressions of senior management and firm ratings on decile ranks based on the number of media mentions of tax avoidance following the first mention. Columns (1) and (2) use senior management ratings as the dependent variable and Columns (3) and (4) use firm ratings as the dependent variable. Columns (1) and (3) are baseline specifications and Columns (2) and (4) incorporate firm-specific controls. All variables are defined in Appendix A. Standard errors are robust to heteroscedasticity and clustered at the firm level. ***, **, * denote statistical significance at the 1 percent, 5 percent and 10 percent levels, respectively. We conduct one-sided statistical test for our regressor of interest. All other significance levels are estimated using two-sided statistical tests.

TABLE 4

Cross-Sectional Tests

Panel A: Consumer Durables & Non-Durables (Fama-French 12 Industry Classification)					
		(1)	(2)	(3)	(4)
VARIABLES	Pred	*SeniorMgmt*	*SeniorMgmt*	*Firm*	*Firm*
TaxNews	-	-0.058*	-0.053*	-0.051*	-0.050*
		(-1.59)	(-1.50)	(-1.54)	(-1.54)
*TaxNews*Consumer*	-	-0.301***	-0.307***	-0.216***	-0.212**
		(-2.66)	(-2.71)	(-2.38)	(-2.32)
Observations		14,840	14,840	14,977	14,977
Adj. R-squared		0.232	0.235	0.311	0.311
Controls		Yes	Yes	Yes	Yes
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes
Panel B: Retail Industry					
		(1)	(2)	(3)	(4)
VARIABLES	Pred	*SeniorMgmt*	*SeniorMgmt*	*Firm*	*Firm*
TaxNews	-	-0.081**	-0.077**	-0.060**	-0.059**
		(-2.09)	(-2.04)	(-1.74)	(-1.71)
*TaxNews*Retail*	-	-0.095*	-0.092*	-0.131**	-0.133**
		(-1.43)	(-1.50)	(-1.91)	(-1.90)
Observations		14,840	14,840	14,977	14,977
Adj. R-squared		0.231	0.234	0.310	0.311
Controls		No	Yes	No	Yes
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes
Panel C: Buy and Hold Abnormal Returns over the Past Six Months					
		(1)	(2)	(3)	(4)
VARIABLES	Pred	*SeniorMgmt*	*SeniorMgmt*	*Firm*	*Firm*
TaxNews	-	-0.123***	-0.118***	-0.112***	-0.109***
		(-3.15)	(-3.03)	(-3.33)	(-3.25)
BHAR	+	0.014*	0.013*	0.000	0.002
		(1.51)	(1.46)	(0.04)	(0.19)
TaxNews BHAR*	+	0.032**	0.033**	0.038***	0.037***
		(1.79)	(1.81)	(2.68)	(2.65)
Observations		14,840	14,840	14,977	14,977
Adj. R-squared		0.232	0.233	0.311	0.311

Controls		No	Yes	No	Yes
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes
Panel D: Sales Margins					
		(1)	(2)	(3)	(4)
VARIABLES	Pred	*SeniorMgmt*	*SeniorMgmt*	*Firm*	*Firm*
TaxNews	-	-0.196***	-0.197***	-0.139***	-0.141***
		(-4.71)	(-4.86)	(-3.44)	(-3.46)
SM	+	0.022	0.007	0.004	-0.008
		(0.90)	(0.28)	(0.18)	(-0.31)
TaxNews SM*	+	0.097***	0.102***	0.059**	0.062**
		(2.92)	(3.17)	(2.04)	(2.13)
Observations		14,824	14,824	14,961	14,961
Adj. R-squared		0.232	0.234	0.310	0.311
Controls		No	Yes	No	Yes
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes

Notes: Panels A and B provide estimates of difference-in-differences regressions of senior management and firm ratings on the interaction between binary variables capturing consumer-facing firms and tax news disclosure. In Panel A, we define consumer-facing firms as firms in the "Consumer Nondurables" and "Consumer Durables" industries using Fama-French 12 industry classification. In Panel B, we define consumer-facing firms as firms in the Retail industry, following Graham, Hanlon, Shevlin, and Shroff (2014). Panels C and D provide estimates of difference-in-differences regressions of senior management and firm ratings on the interaction between firm performance and tax news disclosure. Panel C (Panel D) uses buy and hold abnormal returns over the past six months (sales margins) as the cross-sectional variable. Columns (1) and (2) use senior management ratings as the dependent variable and Columns (3) and (4) use firm ratings as the dependent variable. Columns (1) and (3) are baseline specifications and Columns (2) and (4) incorporate firm-specific controls. All variables are defined in Appendix A. Standard errors are robust to heteroscedasticity and clustered at the firm level. ***, **, * denote statistical significance at the 1 percent, 5 percent and 10 percent levels, respectively. We conduct one-sided statistical tests for our regressors of interest. All other significance levels are estimated using two-sided statistical tests.

TABLE 5

Textual Analyses of Employee Glassdoor Reviews

VARIABLES	Pred	(1) *log(#TaxReviews)*	(2) *log(#TaxReviews)*	(3) *log(#TaxReviews)*	(4) *log(#TaxReviews)*
TaxNews	+	0.032***	0.033***	0.030***	0.031***
		(2.69)	(2.76)	(2.63)	(2.72)
ROA	+		0.079		0.064
			(0.74)		(0.62)
MTB	+		0.001**		0.001**
			(2.21)		(2.39)
Lev	-		0.000		0.002
			(0.02)		(0.09)
ln(AT)	+		0.009		0.001
			(0.86)		(0.09)
BHR	+		-0.006		-0.003
			(-1.18)		(-0.63)
log(#GDReviews)	+			0.036***	0.036***
				(8.94)	(9.08)
Observations		14,977	14,977	14,977	14,977
Adj. R-squared		0.264	0.265	0.269	0.270
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes

Notes: This table presents results of estimating whether the number of Glassdoor reviews containing the words "tax" or "taxes" in the Cons and Advice to Management section of the reviews increases following tax avoidance news. In Columns (3) and (4), we include the number of reviews as a control. In Columns (1) and (3), we report baseline specifications. In Columns (2) and (4), we include firm-level covariates. All variables are defined in Appendix A. Standard errors are robust to heteroscedasticity and clustered at the firm level. ***, **, * denote statistical significance at the 1 percent, 5 percent and 10 percent levels, respectively. We conduct one-sided statistical test for our regressor of interest. All other significance levels are estimated using two-sided statistical tests.

TABLE 6

Cash ETR as a Measure of Tax Avoidance

		(1)	(2)	(3)	(4)
		SeniorMgmt		*Firm*	
VARIABLES	Pred	$CETR_{trunc}$	$CETR_{win}$	$CETR_{trunc}$	$CETR_{win}$
CETR	+	-0.032	-0.046	-0.013	0.008
		(-0.42)	(-0.76)	(-0.19)	(0.15)
ROA	+	1.631**	1.604**	1.879***	1.603***
		(2.36)	(2.49)	(3.23)	(2.87)
MTB	+	0.001	0.001	-0.001	-0.001
		(0.63)	(0.71)	(-0.52)	(-0.50)
Lev	-	0.112	0.068	-0.079	-0.068
		(1.00)	(0.64)	(-0.86)	(-0.77)
ln(AT)	+	-0.100**	-0.100**	-0.010	-0.009
		(-2.35)	(-2.48)	(-0.21)	(-0.20)
BHR	+	0.059*	0.051	0.088***	0.076***
		(1.72)	(1.55)	(2.90)	(2.66)
Observations		7,962	8,616	8,053	8,709
Adj. R-squared		0.253	0.246	0.333	0.327
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes

Notes: This table provides estimates of OLS regressions on senior management and firm ratings on quarterly cash effective tax rates. Columns (1) and (2) use senior management ratings as the dependent variable and Columns (3) and (4) use firm ratings as the dependent variable. The cash ETR measure used in Columns (1) and (3) is truncated at 0 and 1 and the measure in Columns (2) and (4) is winsorized at 0 and 1. All variables are defined in Appendix A. Standard errors are robust to heteroscedasticity and clustered at the firm level. ***, **, * denote statistical significance at the 1 percent, 5 percent and 10 percent levels, respectively. We conduct one-sided statistical test for our regressor of interest. All other significance levels are estimated using two-sided statistical tests.

TABLE 7

Product Recalls as a Benchmark

Panel A: First Product Recall					
VARIABLES	Pred	(1) *SeniorMgmt*	(2) *SeniorMgmt*	(3) *Firm*	(4) *Firm*
Prod_Recall_1	-	0.074	0.070	0.001	-0.003
		(1.28)	(1.22)	(0.01)	(-0.05)
Observations		14,840	14,840	14,977	14,977
Adj. R-squared		0.231	0.233	0.310	0.311
Controls		No	Yes	No	Yes
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes
Panel B: Second Product Recall					
VARIABLES	Pred	(1) *SeniorMgmt*	(2) *SeniorMgmt*	(3) *Firm*	(4) *Firm*
Prod_Recall_2	-	-0.088*	-0.098*	-0.104*	-0.109*
		(-1.42)	(-1.57)	(-1.49)	(-1.57)
Observations		14,840	14,840	14,977	14,977
Adj. R-squared		0.231	0.233	0.310	0.311
Controls		No	Yes	No	Yes
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes

Notes: This table presents results of using product recalls as our treatment event. In Panel A, we use the first product recall as our treatment event. In Panel B, we use the second product recall as our treatment event. Columns (1) and (2) use senior management ratings as the dependent variable and Columns (3) and (4) use firm ratings as the dependent variable. Columns (1) and (3) are baseline specifications and Columns (2) and (4) incorporate firm-specific controls. All variables are defined in Appendix A. Standard errors are robust to heteroscedasticity and clustered at the firm level. ***, **, * denote statistical significance at the 1 percent, 5 percent and 10 percent levels, respectively. We conduct one-sided statistical test for our regressor of interest. All other significance levels are estimated using two-sided statistical tests.

TABLE 8

Job Functions

Panel A: Senior Management Rating as Dependent Variable					
		(1)	(2)	(3)	(4)
VARIABLES	Pred	*ACCTG*	*Non-ACCTG*	*ACCTG*	*Non-ACCTG*
TaxNews	-	-0.139**	-0.081**	-0.127**	-0.077**
		(-1.95)	(-2.24)	(-1.79)	(-2.19)
Observations		5,302	14,798	5,302	14,798
Adj. R-squared		0.126	0.232	0.127	0.234
Controls		No	No	Yes	Yes
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes
Panel B: Firm Rating as Dependent Variable					
		(1)	(2)	(3)	(4)
VARIABLES	Pred	*ACCTG*	*Non-ACCTG*	*ACCTG*	*Non-ACCTG*
TaxNews	-	-0.021	-0.070**	-0.012	-0.069**
		(-0.32)	(-2.16)	(-0.18)	(-2.14)
Observations		5,431	14,936	5,431	14,936
Adj. R-squared		0.146	0.310	0.146	0.310
Controls		No	No	Yes	Yes
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes

Notes: This table presents results of estimating our specifications in sub-samples based on job function. In Panel A, we use senior management ratings as our dependent variable. In Panel B, we use firm ratings as our dependent variables. In Columns (1) and (3), we use accounting-related job functions as our sub-sample and in Columns (2) and (4), we use other job functions as our sub-sample. Columns (1) and (2) present baseline specifications. Columns (3) and (4) include covariates. All variables are defined in Appendix A. Standard errors are robust to heteroscedasticity and clustered at the firm level. ***, **, * denote statistical significance at the 1 percent, 5 percent and 10 percent levels, respectively. We conduct one-sided statistical test for our regressor of interest. All other significance levels are estimated using two-sided statistical tests.

TABLE 9

Placebo Tests

Panel A: Pseudo *TaxNews* Event in the Middle of Untreated Period					
		(1)	(2)	(3)	(4)
VARIABLES	Pred	*SeniorMgmt*	*SeniorMgmt*	*Firm*	*Firm*
TaxNews{Mid}	?	-0.024	-0.024	-0.039	-0.039
		(-0.53)	(-0.54)	(-0.97)	(-0.99)
Observations		11,817	11,817	11,939	11,939
Adj. R-squared		0.216	0.218	0.281	0.282
Controls		No	Yes	No	Yes
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes
Panel B: Pseudo *TaxNews* Event Occurs Three Quarters before Actual Treatment					
		(1)	(2)	(3)	(4)
VARIABLES	Pred	*SeniorMgmt*	*SeniorMgmt*	*Firm*	*Firm*
TaxNews{t-3}	?	-0.062	-0.063	-0.037	-0.039
		(-1.19)	(-1.23)	(-0.95)	(-1.01)
Observations		11,817	11,817	11,939	11,939
Adjusted R-squared		0.216	0.218	0.281	0.282
Controls		No	Yes	No	Yes
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes
Panel C: Falsification Tests					
		(1)	(2)	(3)	(4)
VARIABLES	Pred	*WorkLife*	*WorkLife*	*CareerOpp*	*CareerOpp*
TaxNews	?	-0.044	-0.043	-0.009	-0.008
		(-1.57)	(-1.54)	(-0.31)	(-0.27)
Observations		14,844	14,844	14,844	14,844
Adj. R-squared		0.306	0.306	0.220	0.221
Controls		No	Yes	No	Yes
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes

Notes: This table provides estimates of placebo and falsification difference-in-differences regressions. In Panels A and B, we regress senior management and firm ratings on pseudo-tax-news disclosure. In Panel

A, the pseudo tax news disclosure occurs in the middle of untreated period for treated firms and in Panel B, the pseudo tax news disclosure occurs three quarters before the actual tax news disclosure. In Panel C, we use dependent variables that should not be affected by tax news (*WorkLife* and *CareerOpp*). Both dependent variables are drawn from Glassdoor.com. Columns (1) and (3) are baseline specifications and Columns (2) and (4) incorporate firm-specific controls. All variables are defined in Appendix A. Standard errors are robust to heteroscedasticity and clustered at the firm level. ***, **, * denote statistical significance at the 1 percent, 5 percent and 10 percent levels, respectively. We conduct one-sided statistical test for our regressor of interest. All other significance levels are estimated using two-sided statistical tests.

TABLE 10

Robustness Tests

Panel A: Restricting Pre- and Post-Treatment Periods					
		(1)	(2)	(3)	(4)
VARIABLES	Pred	*SeniorMgmt*	*SeniorMgmt*	*Firm*	*Firm*
TaxNews{-5,5}	-	-0.071**	-0.067**	-0.077**	-0.074**
		(-1.86)	(-1.77)	(-2.23)	(-2.14)
Observations		11,406	11,406	11,513	11,513
Adj. R-squared		0.213	0.215	0.291	0.292
Controls		No	Yes	No	Yes
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes
Panel B: Propensity Score Matching (PSM)					
		(1)	(2)	(3)	(4)
VARIABLES	Pred	*SeniorMgmt*	*SeniorMgmt*	*Firm*	*Firm*
TaxNews	-	-0.066**	-0.065**	-0.085***	-0.085***
		(-1.73)	(-1.75)	(-2.48)	(-2.52)
Observations		7,418	7,418	7,481	7,481
Adj. R-squared		0.269	0.272	0.360	0.360
Controls		No	Yes	No	Yes
Firm FE		Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes

Notes: This table provides estimates of various robustness tests. In Panel A, we restrict the sample period for treated firms to five quarters prior to and following tax news disclosure. In Panel B, we use a propensity-score matched control sample. All variables are defined in Appendix A. Standard errors are robust to heteroscedasticity and clustered at the firm level. ***, **, * denote statistical significance at the 1 percent, 5 percent and 10 percent levels, respectively. We conduct one-sided statistical test for our regressor of interest. All other significance levels are estimated using two-sided statistical tests.