Do Tax-Based Proprietary Costs Discourage Public Listing? Evidence from FIN 48

Benjamin P. Yost*
Boston College

First draft: December 2020
Current draft: November 2021

Abstract

This study investigates whether tax-based proprietary costs associated with being a public firm (i.e., potential costs resulting from increased visibility to the tax authority) discourage public listing. I exploit the introduction of a mandatory disclosure requirement (FIN 48) which generated a signal to the government regarding the uncertainty of the taxpayer's position, allowing for more carefully targeted audits of public firms (Mills et al., 2010). I hypothesize and find evidence of an increased propensity to go private among aggressive tax planning firms following the enactment of the new disclosure rule but prior to its adoption. Furthermore, I find that firms filing for IPOs immediately after FIN 48 tend to be less tax aggressive, consistent with the new disclosure requirement discouraging private tax aggressive firms from going public. Overall, my findings suggest that mandatory disclosures giving rise to tax-based proprietary costs may have the unintended consequence of discouraging some firms from operating as public entities.

JEL Codes: G24; G32; G34; G38; H25; H26

Keywords: IRS; proprietary costs; public ownership structure; IPO; FIN 48; Schedule UTP

---

*Corresponding author contact information: 140 Commonwealth Avenue, Chestnut Hill, MA 02467; Phone: (617) 552-8250; email: yostb@bc.edu. The paper has benefited from comments and suggestions received from Andrew Belnap, Travis Chow, Lisa De Simone, Michelle Hanlon, Michelle Hutchens, Becky Lester, Adam Manlove, Gil Manzon, Michelle Mullaney, Frank Murphy, Sonja Rego, Stefan Richter, Casey Schwab, Bridget Stomberg, Aruhn Venkat, Rodrigo Verdi, Brady Williams, Brian Williams, Luo Zuo, and workshop participants at Boston College, Cornell University, University of Texas at Austin, Indiana University Spring Tax Camp, and CUHK Accounting Research Conference. The author gratefully acknowledges financial support from the Boston College Carroll School of Management.

1. Introduction

In this study, I investigate whether tax-based proprietary costs associated with being a public firm discourage public listing.[1] My motivation is from two separate streams of literature. First, prior work suggests that public disclosures can give rise to tax-based proprietary costs insofar as the tax authority uses the information to determine where to allocate scarce enforcement resources and/or to aid in negotiations with taxpayers (Mills 1998; Robinson and Schmidt 2013). Moreover, firms appear to understand the potential for their public disclosures to attract tax authorities' attention, and respond by strategically altering their financial reporting and disclosures to reduce their visibility (e.g., Blouin et al., 2010). Second, recent work finds that firms are willing to incur substantial costs in response to concerns over disclosing proprietary information. For instance, Bernard et al. (2018) find that European private firms sacrifice assets to manage their size downward and thereby fall below size-based disclosure thresholds, whereas Aghamolla and Thakor (2021) find evidence that proprietary costs of disclosure deter biopharmaceutical firms from going public. Taking these two streams of literature together, I hypothesize that tax-based proprietary costs arising from being a public firm discourage public listing.

In my primary setting, I test my prediction by investigating whether the enactment of a disclosure mandate requiring that public firms reveal the strength of their underlying tax positions to the government incentivized going-private transactions. FASB Interpretation No. 48 (FIN 48), *Accounting for Uncertainty in Income Taxes* (FASB 2006a), issued in July 2006, requires firms to disclose a liability for tax benefits claimed on their tax returns that are unlikely to hold up if challenged by the tax authorities.[2] Although the regulations were intended to inform capital market

[1] "Tax-based proprietary costs" refers to potential explicit costs borne by the firm as a result of disclosing information enabling the tax authority to more effectively enforce the tax law (Bozanic et al., 2017).
[2] FIN 48 requirements are codified in Accounting Standards Codification Topic 740-10.

participants, some observers warned that the required disclosures would also serve as a signal to the government about the taxpayer's level of uncertainty about its own tax positions. For instance, in a comment letter to the SEC, Allergan, Inc. argued that the new FIN 48 disclosures would "provide a readily visible red flag to all taxing authorities as to the magnitude of potential audit issues for which the taxing authorities should be looking."[3]

My study draws on analytical work by Mills et al. (2010) who examine how the FIN 48 disclosure mandate affected the strategic interaction between publicly traded corporate taxpayers and the government. Their analysis recognizes that the government is resource-constrained and thus cannot perform audits of all firms, but rather must strategically select which firms to audit based on its belief about the strength of the taxpayer's filing position. The introduction of FIN 48 creates a public signal informing the government of the taxpayer's level of uncertainty about its own tax filing positions, enabling the government to form a more precise belief and revise its audit strategy accordingly. One implication from Mills et al. (2010) is that public taxpayers with weak tax positions were made worse off by FIN 48 due to an increased likelihood of being audited (i.e., a tax-based proprietary cost).[4] I conjecture that tax-based proprietary costs imposed by FIN 48 increased the marginal cost of operating as a public firm, particularly among aggressive tax planning firms. Accordingly, I predict that the enactment of FIN 48 led to an increased propensity to go private among public tax aggressive firms.

To test my hypothesis, I employ a difference-in-differences (DID) methodology in which I exploit a window of time between FIN 48's enactment and adoption. The FASB issued the final

[3] Anecdotal evidence suggests that Allergan's concern was widespread among corporate taxpayers. Blouin et al. (2007, 2010) report that in a survey conducted during a May 2007 webcast hosted by KPMG, 89% of approximately 4,000 participants responded that they expected FIN 48 disclosures to lead to increased tax audits.

[4] Consistent with these analytical insights, Blouin et al. (2010) find that a group of large firms settled outstanding tax disputes and released reserves for uncertain tax positions following FIN 48 enactment but prior to its adoption, in an effort to reduce visibility to the government.

version of FIN 48 on July 13, 2006, but firms were not required to start making the new disclosures until fiscal years beginning after December 15, 2006.[5] The delay in implementation presented firms with an opportunity to preemptively go private before adopting the new rules and thereby avoid revealing the weakness of their underlying tax positions to the government. I examine the change in firms' propensity to announce a going-private transaction in the quarters between FIN 48 enactment and adoption, and comparing it to the surrounding quarters.[6] Furthermore, I identify treatment intensity using cross-sectional variation in firms' tax planning aggressiveness. Because FIN 48 disclosures reveal taxpayer uncertainty in their positions, more aggressive tax planners are more heavily affected by the regulation. I employ three main proxies for tax aggressiveness: the predicted probability that a firm is engaged in tax sheltering, *Tax Shelter Score* (Wilson 2009); a common factor extracted from three measures of book-tax differences, *BTD Factor* (Kim et al., 2011); and the scaled difference between cash taxes paid and the product of the firm's pre-tax book income and the statutory tax rate, *Cash Tax Diff* (Henry and Sansing 2018). The three proxies are conceptually distinct but significantly positively correlated, providing reassurance that they collectively capture some fundamental element of tax aggressiveness.[7]

In my main tests, I find that tax aggressive firms exhibit an increased propensity to announce a going-private transaction in the quarters between FIN 48 enactment and adoption, relative to non-tax aggressive firms. This effect is economically significant, with a one standard deviation increase in tax aggressiveness leading to a 27.3-50.4% relative increase in going-private

[5] At first blush, the time between FIN 48 enactment and adoption may seem too short to execute a take-private transaction, but the window is longer than it first appears. Although FIN 48 was formally issued on July 13, 2006, the disclosure requirement was announced earlier, on May 10, 2006. In addition, the first FIN 48 disclosures were not required until the quarter ending March 31, 2007 (for firms with December year-ends). Hence, so long as a deal was completed by the end of the firm's first fiscal quarter of 2007, a firm could avoid revealing its uncertain tax positions.
[6] Figure 1 illustrates how the research design incorporates the timing surrounding FIN 48 enactment and adoption.
[7] In untabulated analysis, I find that the Pearson (Spearman) correlations among the three main tax aggressiveness proxies range from 0.46-0.55 (0.55-0.61).

likelihood in the quarters between FIN 48 enactment and adoption. These results are robust to controlling for an array of firm characteristics as well as industry and year-quarter fixed effects.[8] Moreover, I test for and find evidence of parallel trends in going-private propensity among tax aggressive and non-tax aggressive firms in the quarters prior to FIN 48 enactment as well as in the quarters following FIN 48 adoption. This evidence helps to assuage concerns that the main findings simply reflect differential trends for tax aggressive and non-tax aggressive firms.

Next I examine two additional sources of heterogeneity in FIN 48's impact on firms. First, I examine the effect of FIN 48 on firms with primarily domestic operations versus those with significant foreign operations. The IRS will have difficulty using FIN 48 disclosures as a roadmap for firms with extensive foreign operations because reserves for uncertain tax positions in multiple jurisdictions are combined in the FIN 48 disclosure. Consistent with this conjecture, I find that the increased going-private propensity among tax aggressive firms following FIN 48 enactment is concentrated among firms with primarily domestic operations, with no increase among firms with significant foreign operations. Second, I examine the impact of belonging to the IRS's Coordinated Industry Case (CIC) program, under which firms are audited ever year. Since CIC firms are under continuous audit, FIN 48 disclosures are less likely to impose significant tax-based proprietary costs on these firms. Consistent with this argument, I find that the increased going-private propensity in response to FIN 48 is concentrated among non-CIC firms.

To better understand the mechanism behind the going-private decision, I next investigate the different methods by which firms go private. Following Bharath and Dittmar (2010), I classify the sample of going-private transactions into two categories: buyouts by private equity firms

[8] In additional analysis discussed in Section 5.3.4, I find that the results are robust to the inclusion of firm fixed effects to control for unobserved time-invariant firm characteristics as well as industry-year-quarter fixed effects to account for time-varying industry shocks.

(including those with management involvement), and buyouts by private third-party operating firms. If managers are responding to the impending FIN 48 disclosure requirements, private equity offers several advantages. First, private equity buyers can typically act faster than private operating buyers because of their streamlined evaluation process. Second, private equity deals are less likely to attract regulatory scrutiny over antitrust concerns, which can slow the deal process and increase the risk of non-consummation. Third, private equity buyers are more likely to retain incumbent management to manage the firm following the transaction. Consistent with these arguments, I find that the increase in going-private transactions among tax aggressive firms between FIN 48 enactment and adoption is driven by private equity buyers.

I perform several additional analyses to further solidify the link between tax-based proprietary costs and going-private decisions. First, I exploit the feature that the first FIN 48 disclosures occurred earlier for some firms than for others. Since FIN 48 took effect for fiscal years beginning after December 15, 2006, December year-end firms were the first to be impacted by the mandate, and therefore faced greater time pressure than non-December year-end firms. This feature is relevant because conducting a thorough search for prospective buyers and negotiating an agreement can be a time-consuming process. Examining the two groups separately, I find an increased propensity to announce going-private transactions in 2006Q3-Q4 among tax aggressive firms with December year-ends, but do not observe an increase in going-private announcements by non-December year-end firms until later, in 2007Q1-Q2. These findings are consistent with tax aggressive firms responding to the timing of their first required FIN 48 disclosures.

Next, I validate an implicit assumption underlying my study – that the FIN 48 disclosures attract increased IRS scrutiny of tax aggressive firms.[9] Employing IRS downloads of firms' SEC

[9] More specifically, my assumption is that firms *perceived* that the mandated disclosures would attract increased IRS scrutiny of tax aggressive firms. Although it is difficult to ascertain perceptions at the time of FIN 48 enactment, the

10-K and 10-Q filings (Bozanic et al., 2017), I find a dramatic increase in IRS downloads of tax aggressive firms' financial statements in 2007 and 2008, after observing no systematic differences in downloads for tax aggressive and non-tax aggressive firms in 2004-2006. This finding is consistent with FIN 48 disclosures providing information useful to the tax authority in helping them select which firms to target.

Next, I perform a battery of robustness tests. First, I ensure that my main findings are robust to the use of several alternative proxies for tax aggressiveness, including industry-adjusted cash and GAAP effective tax rates. Second, I employ alternative benchmark periods around FIN 48. Third, to rule out concerns relating to non-accelerated filers anticipating compliance with Sarbanes-Oxley Section 404 (SOX 404), I exclude firms with less than $75 million in market capitalization (the upper limit to qualify for non-accelerated filer status). Last, I include firm and industry-year-quarter fixed effects to control for unobservable firm characteristics and time-varying industry shocks. In all cases I find that my main inferences are unchanged.

In my final analysis, I extend my investigation in two ways. First, I study whether FIN 48 may have discouraged some tax aggressive private firms from undertaking an IPO. Empirically this is a difficult question to answer without access to private company data, because I am unable to observe firms that may have gone public but opted to remain private in response to FIN 48. However, I indirectly test for this possibility by comparing the pre-IPO tax aggressiveness of firms that go public before and after the enactment of FIN 48 (from 2004 to 2009). I find that following FIN 48 enactment, IPO firms exhibit lower tax aggressiveness in their pre-IPO filings, consistent with FIN 48 deterring some tax aggressive firms from undertaking IPOs.

anecdotes cited earlier in the introduction as well as those below in Section 2.1 suggest that firms, regulators, and knowledgeable observers viewed the regulation as being a potentially game-changing tax enforcement tool.

As a second extension, I examine whether the introduction of IRS Schedule UTP beginning in 2010 mitigated the impact of FIN 48 on public firms. Schedule UTP required all firms (public and private) to report information to the IRS that previously was only available in firms' public financial statements, and prior work finds that IRS attention to firms' public financial statements declined after its implementation (Bozanic et al., 2017). Consequently, the tax-based proprietary costs of the public FIN 48 disclosures were mitigated because the IRS was provided with similar information regardless of whether the firm was public or private. Extending my sample of IPOs through 2013, I find that IPO firms exhibit increased tax aggressiveness in their pre-IPO filings following the introduction of Schedule UTP, consistent with more tax aggressive firms undertaking IPOs in response to reduced tax-based proprietary costs.

This study's findings contribute to several streams of literature. First, they provide evidence of an important real effect resulting from an often-overlooked relationship between firms' public disclosures and the tax authority. Prior work examining tax-based proprietary costs focuses primarily on the question of whether taxpayers respond to perceived proprietary costs by altering their financial reporting (Blouin et al., 2010) and/or tax-related disclosures (Robinson and Schmidt, 2013; Bozanic et al., 2017; Deng et al., 2021). One exception is Hope et al. (2013) who find that corporate tax avoidance increases after firms discontinue geographic earnings disclosures, arguing that non-disclosure helps to mask tax avoidance activity from the government. I extend the literature on the effects of tax-based proprietary costs by providing evidence that some firms respond to their imposition by eschewing the public market altogether.

Second, my findings extend our understanding of the factors that influence firms' decisions regarding whether to operate as public entities. Numerous academic and media articles have documented the "U.S. listing gap" – the phenomenon that in recent decades the number of U.S.

listed firms has declined relative to other countries (e.g., Doidge et al., 2017).[10] Several explanations have been proposed for the listing gap, including that U.S. public firms face an increasing regulatory burden from developments such as the Sarbanes-Oxley Act of 2002 (Engel et al., 2007; Leuz et al., 2008). My study suggests that some firms view tax-based proprietary costs as another potential burden of public listing. As discussed in Section 2.2, this idea has been alluded to by prior literature but has not been explicitly examined (Pagano et al., 1998).[11]

Finally, the findings inform our understanding regarding the effects of mandatory disclosure regulations. It is vital to be cognizant of the various stakeholders who will observe mandatory disclosures, and to consider the possible implications. Moreover, recent surveys by Leuz and Wysocki (2016) and Dyreng and Maydew (2018) emphasize the need for more evidence on the real and indirect effects of disclosure regulations on corporate behavior.[12] My study addresses these calls by providing evidence that the FIN 48 disclosure mandate had the unintended consequence of discouraging some firms from operating as public entities.

2. Background and Hypothesis Development

2.1 FIN 48

On July 13, 2006, the FASB issued FIN 48 in an effort to standardize the measurement, recognition, and disclosures surrounding firms' uncertain tax benefits. Prior to FIN 48, wide variation existed in how companies reported liabilities related to uncertain tax benefits. Although many firms applied SFAS No. 5, *Accounting for Contingencies* (FASB 1975), they often employed

[10] See the media articles "Wall Street's dead end" *The New York Times* (February 13, 2011), "Missing: Public companies – Why is the number of publicly traded companies in the US declining?" *CFO Magazine* (March 22, 2011), and "The endangered public company: The big engine that couldn't" *The Economist* (May 19, 2012).

[11] In concurrent work, Dobridge et al. (2021) examine how going public affects firms' tax obligations and tax planning. The authors find that upon IPO completion, firms are more likely to pay taxes and pay higher U.S. taxes as a share of sales and income, consistent with firms facing a tax cost by choosing to list publicly.

[12] Dyreng and Maydew (2018) argue that "little is known about how public disclosure of tax information affects behavior of the firm, its competitors, and the state."

different thresholds to determine whether potential losses related to uncertain tax benefits were considered probable and estimable (Blouin et al., 2010). Furthermore, recorded liabilities related to uncertain tax positions were typically not visible to financial statement users, but rather aggregated with items such as environmental, legal, or deferred tax liabilities (Mills et al., 2010). FIN 48 established new rules governing measurement and recognition of uncertain tax benefits, as well as new disclosure requirements to improve transparency to financial statement users.

Under FIN 48, firms are required to evaluate each tax position using a two-step process. First, the company determines whether it is "more likely than not" that a tax position will be sustained upon examination based on the technical merits of the position.[13] Second, if a tax position meets the "more likely than not" threshold, the firm will recognize a tax benefit equal to the largest amount that is greater than 50 percent likely to be realized upon settlement. The amount of uncertain tax benefit that fails to clear the above thresholds is to be recorded as a liability on the firm's financial statements. In addition to the new measurement and recognition rules, FIN 48 required enhanced disclosures specifically related to uncertain tax positions.[14]

Although FIN 48 was intended to assist financial statement users by improving the accounting for tax uncertainty (FASB 2006a), observers noted the potential for the new disclosures to inform the government of the taxpayer's uncertainty about their own tax filing positions. Chief Economist and Director of the Office of Economic Analysis for the SEC, Chester Spatt, worried that FIN 48 could provide "a roadmap for the tax authority that undercuts the firm's bargaining power in the associated tax disputes" (Spatt 2007). Similarly, upon reviewing the final version of

[13] In addition to establishing clearly defined thresholds for measurement and recognition, FIN 48 also required firms to assume the tax authority has full knowledge of any uncertain tax position (i.e., detection risk cannot be considered).
[14] The new disclosures include: (i) a reconciliation of the beginning and ending balance of uncertain tax benefits, (ii) the amount of unrecognized tax benefits that would impact the effective tax rate if recognized, (iii) the amount of accrued interest and penalties arising from the unrecognized tax benefits, (iv) a brief description of open tax years by major jurisdiction, and (v) a discussion of whether the firm expects any changes to the unrecognized tax benefit balance within the next twelve months.

the new regulations, tax accounting expert Robert Willens commented, "FIN 48 may prove to be one of the most significant enforcement tools that the IRS has been presented within recent years" (Willens 2006). Taxpayers noticed the potential for increased scrutiny by the tax authority as well. During a KPMG webcast in May 2007 in which participants were asked the question, "Is FIN 48 likely to increase audits by tax enforcers?" 89 percent of approximately 4,000 participants responded that it was either "likely" or "very likely" (Blouin et al., 2007, 2010).

Prior research examining the effects of FIN 48 has focused primarily on whether firms responded by changing their financial disclosures or their tax planning behavior to accommodate the heightened visibility to the government. Blouin et al. (2010) find that some large firms responded to FIN 48 enactment by preemptively settling outstanding tax disputes and decreasing tax reserves (liabilities related to uncertain tax positions) prior to implementing the new disclosures to reduce subsequent visibility to the tax authority. Gupta et al. (2014) and Henry et al. (2016) find evidence that FIN 48 adoption was followed by a reduction in corporate tax planning, consistent with firms viewing tax avoidance as a higher risk investment under the new regime.[15]

My study examines a previously unconsidered response to FIN 48: the possibility that some firms chose to exit the public market rather than reveal the weakness of their tax positions to the government. My hypothesis is based on the analytical framework in Mills et al. (2010), who provide evidence that the new FIN 48 disclosures were most costly for taxpayers with more uncertain tax positions because they improved the government's ability to use its limited resources to target these firms. As Mills et al. (2010) show, taxpayers with weaker positions may respond to the new disclosure requirements by reducing the aggressiveness of their tax planning, or by incurring more frequent audits. I posit that firms may additionally respond by going private and

[15] More recently, Williams and Williams (2021) find evidence suggesting that the financial reporting changes effected by FIN 48 weakened firms' responsiveness to tax incentives, leading to reduced investment in innovation.

thereby opting out of the disclosure requirements altogether. Moreover, I predict that the choice to go private in response to FIN 48 is more likely among tax aggressive firms (i.e., firms with higher tax-based proprietary costs) because the value of these firms should be more adversely impacted by increased scrutiny from the tax authority.

2.2 Tax-based proprietary costs and the decision to list publicly

Proprietary costs are considered to be an important friction to disclosure (Verrecchia, 1983), and are usually thought of in the context of revealing sensitive information to competitors. However, a handful of recent studies have begun to explicitly consider proprietary costs in the context of the tax authority. For instance, both Robinson and Schmidt (2013) and Deng et al. (2021) find that more tax aggressive firms (i.e., those with higher proprietary costs) provide lower quality disclosures due to concerns that they will be used by tax authorities. In related work, Hope et al. (2013) find an increase in corporate tax avoidance among firms that discontinue geographic earnings disclosures, arguing that non-disclosure helps to hide tax avoidance activity from the government. Bozanic et al. (2017) provide credence to the notion of tax-based proprietary costs by showing that the IRS routinely downloads public firms' financial statement filings. Taken together, these studies suggest that operating as a public firm may entail a substantial cost in the form of increased visibility to the tax authority.

Two additional studies in this area examine tax payments around IPOs. Pagano et al. (1998) find that a sample of 40 newly public firms in Italy pay an average of 2 percent more in taxes in the year after their IPO as compared to the previous year. The authors attribute this finding to firms' greater visibility to tax authorities following the IPO. Furthermore, a concurrent study by Dobridge et al. (2021) performs a more extensive analysis of tax payments among U.S. IPOs, finding that immediately after going public, firms are more likely to make tax payments, and pay

higher taxes as a share of sales and income. Although the findings in both studies are suggestive of a tax cost to being a publicly listed firm, they do not directly test whether tax-based proprietary costs discourage public listing.

2.3 Private equity and the going-private decision

Private equity funds offer several advantages to public firms interested in undertaking public-to-private transactions. The first advantage is speed. Private equity buyouts can be executed relatively quickly due to streamlined investment committee vetting processes, allowing for a swift investment decision. The second advantage is a high certainty of completion. Private equity buyers are traditionally less likely to face regulatory delays or blocks due to antitrust concerns, as compared to operating firm buyers (Keyte and Schwartz 2016). Finally, private equity buyers typically allow the incumbent management to continue to manage the firm and profit from further growth in company value (Fidrmuc et al., 2012). Collectively, these factors make private equity an appealing option for managers of public firms seeking to go private.

An anecdote can help to highlight these considerations and illustrate the typical timeline in a going-private transaction. Sabre Holdings Corporation ("Sabre"), a travel technology company, was acquired by two private equity firms – Texas Pacific Group ("TPG") and Silver Lake Partners ("Silver Lake") – in a transaction executed between FIN 48 enactment and adoption.[16] In the summer of 2006, shortly after the FASB issued FIN 48, Sabre began a "re-examination of strategic options…including an acquisition by private equity firms in a transaction often referred to as a take-private transaction." Following these discussions, Sabre identified qualified private equity firms willing to take the company private, and over the next three months, Sabre's management

[16] Details are obtained from the "Background of the Merger" section of Sabre's DEFM 14A SEC filing. It is worth noting that Sabre was a relatively aggressive tax planner prior to FIN 48, with values for the tax aggressiveness proxies used in this study in the top quartile of firms. More details of the transaction timeline are presented in Appendix B.

engaged in formal talks with a select group of prospective acquirers. In November 2006, Sabre's management and board discussed the initial proposals and expressed support for a private equity deal due to "the relatively high level of deal certainty and relatively short time required for closing." After answering diligence questions from the bidding groups, Sabre received two formal bids on Dec. 8th, at which time the board emphasized the "importance of proceeding quickly…to minimize the risks associated with delay." On Dec. 11th, the board unanimously approved the merger agreement. The take-private transaction was consummated on Mar. 30th, 2007, one day before the end of Sabre's first fiscal quarter for which the FIN 48 disclosures were to take effect.

2.4 Hypothesis

My central hypothesis is rooted in the idea that the FIN 48 mandated disclosure requirements were expected to increase the visibility of public taxpayers' uncertain tax positions to the government, allowing the government to use its scarce resources to more accurately target taxpayers with weaker positions. The anticipated increase in scrutiny by the tax authority effectively increased the cost of operating as a public firm, particularly for firms with more aggressive tax positions. Since the final FIN 48 regulations were issued in July 2006 but did not take effect until fiscal years beginning after December 15, 2006, firms had a window of time during which they could go private preemptively and thereby avoid revealing the weakness of their underlying tax positions to the government. Thus, my hypothesis is as follows:

H: *Tax aggressive firms exhibit an increased propensity to go private between FIN 48 enactment and adoption, compared to non-tax aggressive firms.*

Notwithstanding the above discussion, there are reasons I may not observe the predicted outcome. For instance, the IRS already possesses a rich source of information about a firm's potential tax avoidance in the tax return itself, making it unclear whether public financial statements provide meaningful incremental information. As FASB board member Katherine

Schipper stated in one board meeting, "the IRS has a far more detailed and effective 'roadmap' in its schedule M-3 than it would be provided by any disclosure in the final interpretation" (FASB 2006b). Moreover, even if firms perceive the prospect of increased governmental scrutiny arising from FIN 48 disclosures as costly, the costs may not be sufficient to drive a firm private and thus surrender the benefits of being publicly traded, such as the ability to more easily raise capital, the use of the firm's own stock as currency for acquisitions, and a liquid market for the firm's shares.

3. Sample and Data

3.1 Sample Description

Table 1 Panel A outlines the selection process to obtain the sample of going-private events. Drawing from Thomson Reuters's Securities Data Company Platinum database (SDC), I start with all acquisitions of U.S. public targets announced between January 1, 2005 and June 30, 2008.[17] I exclude exchange offers, spinoffs, recapitalizations, and repurchases, and limit the sample to deals in which the buyer owns 100 percent of the target upon the deal's completion. I classify an acquirer as private when both it and its ultimate parents are private (Kamar et al., 2008). To ensure the deals are completed, I exclude target firms without a match in the CRSP delisting file, or that do not have SEC Form 15 or Form 25 filings.[18] Financial services and utilities firms (SIC codes 4900-4999 and 6000-6999) are excluded as well as transactions resulting from the target's bankruptcy or debt restructuring, or transactions missing the necessary data to construct the primary tax aggressiveness proxies and control variables. These restrictions yield 213 total going-private transactions. Throughout my analysis, I additionally exclude three deals that are announced after FIN 48 enactment but which are not completed until after the target firm files its first quarterly

[17] Note that I focus on the announcement date of the transaction rather than the effective date in order to approximate as closely as possible the date on which the firm makes the decision to go private.
[18] SEC Forms 15 and 25 pertain to termination of security registration. Prior studies on going-private transactions use these filings to verify that the deal is completed (Engel et al., 2007; Leuz et al., 2008; Bharath and Dittmar, 2010).

disclosures containing FIN 48 information.[19] As shown in Table 1, Panel B, the sample of going-private transactions is merged with the CRSP-Compustat database to construct a panel of firm calendar quarters, in which firm characteristics are calculated using values as of the end of the most recent fiscal year. The final panel comprises 60,496 calendar firm-quarters during the sample period, 210 of which represent quarters in which the firm announces a going-private transaction.

3.2 Variable Measurement

3.2.1 Going-private transaction types

Public firms can go private through various methods. Following Bharath and Dittmar (2010), I sort the sample of going-private firms into two categories: buyouts by private equity firms (which sometimes include management involvement as well), and buyouts by private operating firms.[20] I categorize each transaction based on the details provided in SDC's synopsis about the deal. If the SDC detail is missing or unclear, I manually inspect the target firm's SEC filings to verify the nature of the transaction. Based on this process, I find that of the 213 total going-private transactions announced during my sample period, 145 are due to buyouts by private equity firms and 68 are due to buyouts by private third party operating firms.

3.2.2 Tax aggressiveness proxies

Hanlon and Heitzman (2010) emphasize that researchers must carefully consider whether their measure of tax avoidance is appropriate for their particular research question. Because my research question relates to firms disclosing the riskiness of their underlying tax positions, my aim is to capture activities on the aggressive end of the spectrum. At the same time, I want to ensure

[19] In untabulated analysis I find that my inferences are unchanged if I retain the deals which are announced after FIN 48 enactment but not completed until after the target firms make their first FIN 48 disclosures.

[20] Bharath and Dittmar (2010) also include a third category of going-private transactions for management buyouts. However, during my sample period nearly all going-private transactions involving management also involve private equity buyers. As a result, I consider transactions involving private equity buyers and those involving management as one group, consistent with much prior literature (Lehn and Poulsen, 1989; Denis, 1992; Bharath and Dittmar, 2010).

my findings are robust to an array of plausible proxies. With these goals in mind, I employ three commonly used proxies for tax aggressiveness and use all three throughout my analysis.[21]

My first measure of tax aggressiveness is Wilson's (2009) predicted probability of engaging in tax shelters (*Tax Shelter Score*). Prior research has found that the tax benefits of tax shelters account for a large proportion of aggregate FIN 48 tax reserves (Lisowsky et al., 2013), suggesting a tight link between tax shelters and information to be revealed in the new disclosure mandate.[22] The *Tax Shelter Score* is constructed as a predicted value between zero and one based on firm characteristics including size, performance, foreign income, and R&D, among others.[23]

My second measure of tax aggressiveness is based on the firm's book-tax differences (BTDs), which refers to the difference between income reported to the capital market and that reported to the tax authorities. For parsimony, I follow Kim et al. (2011) and use factor analysis to extract a common factor (*BTD Factor*) from three frequently used measures: total book-tax differences (*Total BTD*); abnormal total book-tax differences (*Abnormal BTD*); and the ETR differential (*ETR Differential*). *Total BTD* equals pre-tax book income less estimated taxable income. *Abnormal BTD* is the residual book-tax difference from a firm fixed effects regression of total book-tax differences on total accruals (Desai and Dharmapala 2006). *ETR Differential* equals the total book-tax difference less the temporary book-tax difference.[24]

My third measure of tax aggressiveness comes from Henry and Sansing (2018), and aims to capture the extent of corporate cash tax avoidance (*Cash Tax Diff*). The measure is estimated as the difference between cash taxes paid and the product of the firm's pre-tax book income and the

[21] In additional analysis contained in Section 5.3.1, I test the robustness of my main findings to the use of several additional tax aggressiveness proxies employed in other studies.
[22] Lisowsky et al. (2013) find that the tax benefits of tax shelters account for up to 48% of the aggregate FIN 48 tax reserves in their sample of public firms.
[23] Details on variable construction are contained in Appendix A.
[24] The common factor obtained from factor analysis of these three measures has an eigenvalue of 2.324, whereas the other factors have eigenvalues of less than 0.607, in line with the findings in Kim et al. (2011).

statutory tax rate, scaled by lagged total assets. In my construction, I multiply the result by negative one such that a higher value of *Cash Tax Diff* indicates more aggressive tax planning.

Although each of the three proxies captures a somewhat different aspect of tax aggressiveness, they are significantly positively correlated, with Pearson (Spearman) correlations among the three proxies ranging from 0.46-0.55 (0.55-0.61). The correlation suggests that despite their differences, the proxies capture some common underlying element of tax aggressiveness.

3.2.3 Period between FIN 48 enactment and adoption

I construct an indicator variable, *FIN48*, to capture calendar quarters between FIN 48 enactment and adoption. FIN 48 was enacted in July 2006 and effective for fiscal years beginning after December 15, 2006. Hence, for firms with December fiscal year-ends (FYEs), I set *FIN48* equal to one for calendar quarters 2006Q3-Q4, and zero otherwise. Since firms with non-December FYEs have later effective dates, I extend the period for which *FIN48* is equal to one based on fiscal year-end. For firms with FYEs from January through May (June through November), *FIN48* is set equal to one for calendar quarters 2006Q3-2007Q1 (2006Q3-2007Q2), and zero otherwise.

3.2.4 Control variables

I follow prior literature and control for a number of factors shown to be associated with the decision to go private or to be acquired. To start, I control for firm characteristics such as size, book-to-market value of equity, past performance, leverage, liquidity, the presence of net operating loss carryforwards, past return, and firm age (Jenter and Lewellen 2015; Doidge et al., 2017; Hanlon et al., 2021). I also control for potential outside influences on the firm's decision to delist such as the percentage of the firm's stock owned by institutional investors and the amount of analyst coverage received by the firm (e.g., Bharath and Dittmar, 2010). In addition, I control for the firm's contemporaneous level of market attention, measured as total downloads of a firm's

SEC EDGAR filings, to reduce concerns that going-private decisions are being made in response to a failure to attract financial visibility and investor interest (e.g., Mehran and Peristiani, 2010).

3.3 Descriptive statistics

Table 2 Panel A presents summary statistics for the sample covering 2005Q1-2008Q2. The mean probability that a firm goes private in any given quarter (*Go Private*) is 0.35 percent.[25] Similarly, the mean quarterly probability that a firm goes private in a transaction involving a private equity-led (private operating firm) buyout is 0.24 (0.11) percent. The mean values of *Tax Shelter Score* and *BTD Factor* are 0.47 and 0.24, comparable to the respective figures (0.48 and 0.16) in Kim et al. (2011). The mean value of *Cash Tax Diff* is -0.02, similar to the corresponding figure in Henry and Sansing (2018) of 0.015, noting that I multiply their measure by negative one such that higher values indicate more tax aggressive firms.

Table 2 Panel B displays the quarterly number of going-private transactions announced in total, and by transaction type, for the sample period. The table reveals that out of 213 total going-private transactions announced, the majority (145) are executed as private equity-led buyouts, and the remainder (68) are acquisitions by private operating firms. Moreover, the number of private equity-led transaction announcements spikes from 8 events in 2006Q2 to 20 in 2006Q3, and remains elevated through 2007Q2 before declining back to previous levels in subsequent quarters.

Table 2 Panel C presents mean values for key variables across three subsamples of firms: firms that announce a going-private transaction in the quarters between FIN 48 enactment and adoption (i.e., when *FIN 48* = 1, column 1); firms that announce a going-private transaction in outside quarters (column 2); and firms that do not announce a going-private transaction during the sample period (column 3). The last two columns show a comparison of the mean values for firms

[25] The indicator variables *Go Private*, *Go Private - PE & Mgmt*, and *Go Private - Operating* are multiplied by 100 (and are therefore expressed as percentages) to ease interpretation of the coefficients when used in regressions.

that announce going-private transactions when *FIN 48* = 1 and the other two groups, including the results of *t*-tests for statistical significance of the differences between groups. The panel reveals that firms making going-private announcements when *FIN 48* = 1 are more tax aggressive (across all three proxies for tax aggressiveness) compared to firms in the other groups, in addition to being somewhat better-performing, and receiving more market attention.

3.4 Research design

To explore the impact of FIN 48 on firms' propensity to go private, I examine two dimensions of variation. First, I exploit the timing between FIN 48 enactment and adoption. Although FIN 48 was enacted on July 13, 2006, it was not made effective until fiscal years beginning after December 15, 2006. Consequently, the first financial statements to contain FIN 48 disclosures were those reporting the results of fiscal 2007Q1. Thus, firms were provided with a window after FIN 48 enactment in which they could preemptively go private to avoid making the new disclosures. I exploit this feature of the regulation by focusing on the propensity to announce a going-private transaction between FIN 48 enactment and adoption, and comparing it to the surrounding quarters. For instance, for firms with December fiscal year-ends, I compare the going-private propensity during the two quarters between FIN 48 enactment and adoption (2006Q3-Q4) to the six quarters prior to FIN 48 enactment (2005Q1-2006Q2) and the six quarters following FIN 48 adoption (2007Q1-2008Q2). Figure 1 provides an illustration of how the research design incorporates the timing surrounding FIN 48 enactment and adoption.

The second dimension of variation is within-industry heterogeneity across firms based on exposure to the FIN 48 disclosures. Because FIN 48 mandates that tax positions more likely than not to be overturned upon challenge must be disclosed, I construct a continuous treatment variable that measures tax aggressiveness immediately prior to the FIN 48 enactment. The idea is that firms

with more aggressive tax positions will be more affected by FIN 48, and thus have stronger incentives to go private prior to adopting FIN 48.

To test my prediction, I estimate the following linear probability difference-in-differences (DID) regression at the firm-quarter level:

$$Go\ Private_{i,t} = \alpha + \beta_1 FIN48_t + \beta_2 FIN48_t \times TaxAggressive_i + \beta_3 TaxAggressive_i + \beta_k Controls_{i,t} + \alpha_{ind} + \gamma_t + \epsilon_{i,t} \quad (1)$$

In the equation above, *i* and *t* index firms and calendar year-quarters, respectively. The dependent variable, *Go Private* is an indicator variable equal to one if firm *i* announces a going-private transaction in quarter *t* (multiplied by 100 to ease interpretation of the coefficients), and zero otherwise.[26] *FIN48* is an indicator variable that takes a value of one if quarter *t* occurs between FIN 48 enactment and adoption, and zero otherwise. *TaxAggressive* is a measure of the firm's tax aggressiveness as of the end of the fiscal year prior to FIN 48 enactment, proxied by *Tax Shelter Score*, *BTD Factor*, and *Cash Tax Diff*. The interaction between these two variables is the DID estimator, and the β_2 coefficient gives the marginal impact of a change in a firm's tax aggressiveness between FIN 48 enactment and adoption, relative to the surrounding quarters. *Controls* represents the vector of control variables described above, whereas α_{ind} and γ_t represent SIC 2-digit industry fixed effects and calendar year-quarter fixed effects, respectively.

My prediction is that firms anticipating greater impact from the FIN 48 disclosure regulations are more likely to go private between its enactment and adoption, since they will be forced to reveal the underlying weakness of their tax positions to the IRS. Specifically, I predict that $\beta_2 > 0$, denoting that firms with more aggressive underlying tax positions exhibit a larger

[26] I use a linear probability model, rather than a probit or logit specification, due to the fact that marginal effects for interaction terms do not have a clear interpretation in such nonlinear models. Moreover, with the inclusion of fixed effects, these terms may not be feasibly computed (e.g., Ai and Norton, 2003; Greene, 2010). Nonetheless, in untabulated analyses I find that my inferences are unchanged when estimating probit and logit specifications.

increase in the propensity to go private between FIN 48 enactment and adoption, compared to firms with less aggressive tax positions.

4. Main Results

4.1 Propensity to go private between FIN 48 enactment and adoption

Table 3 Panel A provides the results from estimating Eq. (1). The table shows the change in firms' propensity to announce a going-private transaction in the quarters between FIN 48 enactment and adoption, conditional on the level of tax aggressiveness. Results are shown using three different proxies for tax aggressiveness: *Tax Shelter Score* (columns 1-2), *BTD Factor* (columns 3-4), and *Cash Tax Diff* (columns 5-6). Throughout the analyses, the primary tax aggressiveness proxies are centered around zero such that the main effect on *FIN48* can be interpreted as the change in the propensity to announce a going-private transaction in the quarters between FIN 48 enactment and adoption for a firm at the median level of tax aggressiveness.

In column 1, the positive coefficient on *FIN48* (coef.= 0.270; t-stat.= 3.55) indicates that the median firm is more likely to announce a going-private transaction during the quarters between FIN 48 enactment and adoption as compared with the surrounding quarters. Moreover, the positive coefficient on *FIN48* × *Tax Shelter Score* (coef.= 0.464; t-stat.= 2.69) indicates a larger increase in going-private propensity for more tax aggressive firms, compared to less tax aggressive firms. Column 2 shows a similar result after controlling for firm characteristics, industry and year-quarter fixed effects. The magnitude of the coefficient indicates that on average, a one standard deviation increase in *Tax Shelter Score* leads to a 0.18 percentage point increase in the likelihood of a going-

private transaction during the quarters between FIN 48 enactment and adoption, representing a 50.4% increase in going-private propensity relative to the sample mean.[27]

The remaining columns of Table 3 Panel A show similar results after replacing the *Tax Shelter Score* proxy with *BTD Factor* (columns 3-4) and *Cash Tax Diff* (columns 5-6). For each proxy, the results indicate a larger increase in the likelihood of announcing a going-private transaction in the quarters between FIN 48 enactment and adoption for more tax aggressive firms compared to less tax aggressive firms. Economically, a one standard deviation increase in *BTD Factor* (*Cash Tax Diff*) leads to an increase in going-private propensity of 30.6% (27.3%) between FIN 48 enactment and adoption, relative to the sample mean.

4.2 Parallel trends before FIN 48 enactment and following FIN 48 adoption

To help rule out the possibility that the results in Table 3 Panel A reflect differential trends between tax aggressive and non-tax aggressive firms, I investigate any differences in the propensity to announce going-private transactions on a quarterly basis from 2005Q1-2008Q2. In Table 3 Panel B, I estimate a modified Eq. (1) in which *FIN48* is replaced with indicator variables for each calendar quarter. The interaction terms *2005Q1 × Tax Aggressive* through *2008Q2 × Tax Aggressive* are included to capture any differential trends in going-private propensity between tax aggressive and non-tax aggressive firms before FIN 48 enactment and after FIN 48 adoption.

Column 1 shows no statistically significant differences in going-private propensity for tax aggressive and non-tax aggressive firms in the quarters prior to FIN 48 enactment (i.e., 2005Q1-2006Q2), when employing *Tax Shelter Score* as the tax aggressiveness proxy.[28] Moreover, the

[27] Note that the standard deviation of *Tax Shelter Score* is 0.38 and the sample mean for *Go Private* is 0.35. Hence, the economic magnitude of the effect of a one standard deviation increase in *Tax Shelter Score* on *Go Private* between FIN 48 enactment and adoption can be computed as (0.464 × 0.38) / 0.35 = 50.4%

[28] I do not have a clear prediction regarding the *2006Q3 × Tax Aggressive* coefficient. Since FIN 48 was enacted on July 13, 2006, and the process of finding a buyer and negotiating a takeover price can be time-consuming, it is unclear whether the third quarter of 2006 will feature an increase in going-private announcements by tax aggressive firms.

coefficients for the quarters after FIN 48 adoption (i.e., 2007Q1-2008Q2) are largely insignificant as well, indicating a return to pre-FIN 48 going-private propensity among tax aggressive firms following the significantly positive coefficient on *2006Q4* × *Tax Shelter Score* (coef.= 0.642; t-stat.= 2.62).[29] Columns 2 and 3 show a similar pattern after replacing the *Tax Shelter Score* proxy with *BTD Factor* and *Cash Tax Diff*. The results across all three proxies indicate a significant increase in going-private announcements by tax aggressive firms between FIN 48 enactment and adoption, but suggest substantially parallel trends for tax aggressive and non-tax aggressive firms in the quarters prior to FIN 48 enactment and following FIN 48 adoption.

Figure 2 provides visual evidence of tax aggressive firms' propensity to go private in the quarters surrounding FIN 48 enactment and adoption. The figure plots the coefficients from estimating a modified Eq. (1) employing the *Tax Shelter Score* proxy in which *FIN48* is replaced with an indicator for each quarter from 2004Q3-2008Q2, and includes a 95% confidence interval calculated based on standard errors clustered at the firm level.[30] The coefficients for all quarters prior to the enactment of FIN 48 in 2006Q3 are statistically indistinguishable from zero. In contrast, the positive and significant coefficient in 2006Q4 represents a spike in the propensity among tax aggressive firms to announce going-private transactions just before FIN 48 becomes effective. Furthermore, the coefficients in the post-FIN 48 adoption period (2007Q1-2008Q2) revert to insignificance, indicating a return to pre-FIN 48 going-private likelihood among tax aggressive firms. Overall, the evidence in Table 3 and Figure 2 provides support for my main

[29] Note that although the sample includes non-December year-end firms, a majority of sample firms have December year-ends (approximately 66.6%). I exploit the timing differences in the first required FIN 48 disclosures for December and non-December year-end firms in additional analysis presented in Section 5.1.

[30] I expand the sample window to include two additional quarters before my regression sample to provide a broader examination of any pre-trends. Note that 2006Q2 has a coefficient of zero and no confidence interval because it serves as the benchmark period.

hypothesis, and offers reassurance that the main findings are not due to differential trends between tax aggressive and non-tax aggressive firms.

4.3 Cross-sectional analysis: Multinational firms and CIC firms

To strengthen my inference that tax aggressive firms go private in response to tax-based proprietary costs, I next examine two sources of heterogeneity in FIN 48's impact on firms. First, I examine the effect of FIN 48 on firms with primarily domestic operations versus those with significant foreign operations. The IRS will have difficulty using FIN 48 disclosures as a roadmap when a firm has significant foreign operations because reserves for uncertain tax positions in multiple jurisdictions are combined in the FIN 48 disclosure (e.g., Robinson and Schmidt, 2010). Thus, FIN 48 disclosures are relatively less informative to the IRS for firms with operations in multiple jurisdictions compared to domestic-only firms. Consequently, I expect that firms with significant foreign operations are less likely to respond to FIN 48 by going private.

To test my conjecture, I sort firms into terciles based on the proportion of total sales coming from foreign sources and designate firms in the bottom two terciles as primarily domestic (Domestic), and firms in the top tercile as multinationals (MNE).[31] I estimate Eq. (1) for both groups and present the results in Table 4 Panel A. Columns 1 and 2 show the results using the *Tax Shelter Score* proxy for Domestic and MNE firms, respectively. The coefficient on *FIN48* × *Tax Shelter Score* is significantly positive for Domestic firms (coef.= 0.639; t-stat.= 2.45), but insignificantly different from zero for MNE firms (coef.= -0.052; t-stat.= -0.16). An F-test shows that the difference between the two coefficients is statistically significant (*p*-value = 0.03). Columns 3-6 reveal a similar pattern after replacing *Tax Shelter Score* with *BTD Factor* and *Cash Tax Diff* as alternative proxies for tax aggressiveness (although the difference between coefficients

[31] In a validation test, I find the mean proportion of total sales arising from foreign sources is 1.5% for Domestic firms, and 50.4% for MNE firms.

is statistically insignificant when using the *Cash Tax Diff* proxy). These findings are consistent with domestic firms viewing the FIN 48 disclosures as potentially more costly because they provide a stronger signal to the IRS about uncertain tax positions within U.S. jurisdiction.

As a second test of heterogeneity in the effect of FIN 48 on tax aggressive firms, I examine the impact of belonging to the IRS's Coordinated Industry Case (CIC) program. Ayers et al. (2019) and Internal Revenue Manual 4.46.2.5 explain that certain firms are assigned to the CIC program where the probability of audit examination is 100 percent. Since CIC firms are already under continuous audit, FIN 48 disclosures are less likely to play a role in attracting unwanted IRS scrutiny, and thus CIC firms should be less likely to go private in response to FIN 48.[32]

To test my prediction, I estimate Eq. (1) separately for CIC and non-CIC firms, and present the results in Table 4 Panel B. Because CIC program assignment is confidential, I use the CIC prediction model from Ayers et al. (2019) and designate the 500 public firms with the highest scores as belonging to the CIC program.[33] Columns 1 and 2 show that the coefficient on *FIN48* × *Tax Shelter Score* is significantly positive for non-CIC firms (coef.= 0.480; t-stat.= 2.47), but insignificantly different from zero for CIC firms (coef.= -1.283; t-stat.= -0.93). An F-test finds that the difference between the two coefficients is statistically significant (*p*-value = 0.09). Columns 3-6 reveal a similar pattern for *BTD Factor* and *Cash Tax Diff* as alternative proxies, although the differences between the coefficients are not statistically significant at conventional levels.

The findings in Table 4 are consistent with FIN 48 imposing greater tax-based proprietary costs for firms with primarily domestic operations and firms that do not belong to the CIC program.

[32] Although the FIN 48 disclosures likely play a smaller role in attracting initial IRS attention to CIC firms, the disclosures may still lead to adverse tax outcomes for these firms because of the potential to undercut the firm's bargaining position in disputes with the tax authority (e.g., Spatt, 2007).

[33] Ayers et al. (2019) note that between 500 and 1,500 taxpayers are assigned to the CIC program in a given year. Since the CIC program can include both public and private firms, I estimate there are 500 public CIC firms. However, in untabulated analysis I find the results are qualitatively similar if I instead assume 1,000 or 1,500 public CIC firms. In addition, I find similar results when using asset size to identify CIC firms (e.g., Gleason and Mills, 2002).

Overall, these findings help to shed light on the heterogeneous effects of FIN 48 and provide support for my central hypothesis.

4.4 Types of going-private transactions between FIN 48 enactment and adoption

As explained in Section 3.2.1, my sample consists of firms going private through various methods, including private equity-led buyouts as well as buyouts by private third-party operating firms. In this section, I investigate whether the increase in going-private transactions among tax aggressive firms in response to FIN 48 enactment represents an increase in one or both transaction types. To do so, I estimate Eq. (1) while separately examining private equity-led buyouts (*Go Private - PE & Mgmt*) and buyouts by private operating firms (*Go Private - Operating*).

Table 5 Panel A displays the results examining the propensity to go private via transaction with a private equity buyer. Column 1 shows a positive and significant coefficient on *FIN48 × Tax Shelter Score* (coef.= 0.387; t-stat.= 2.83) indicating an increased propensity to go private via private equity buyer among tax aggressive firms in the quarters between FIN 48 enactment and adoption, compared with non-tax aggressive firms. Columns 2 and 3 present similar findings when employing the other primary proxies for tax aggressiveness, *BTD Factor* and *Cash Tax Diff*. Economically, a one standard deviation increase in *Tax Shelter Score* (*BTD Factor*, *Cash Tax Diff*) leads to a relative increase of 61.3% (41.7%, 37.5%) in the propensity to announce a going-private transaction via private equity buyer between FIN 48 enactment and adoption.

Table 5 Panel B presents the results examining the propensity to go private via acquisition by private operating firm. Columns 1, 2 and 3 all show statistically insignificant coefficients on *FIN48 × Tax Aggressive*, indicating no increase in going-private transactions among tax aggressive firms via buyouts by private operating firms in response to the enactment of FIN 48.

Taken together, the results in Table 5 Panels A and B suggest that the main findings in Table 3 are driven by an increase in private equity buyouts of tax aggressive targets in the quarters between FIN 48 enactment and adoption. This evidence dovetails with the discussion in Section 2.3 regarding the advantages of private equity buyouts for firms seeking to go private. In particular, private equity buyers offer the advantages of speed, certainty of deal completion, and a willingness to retain incumbent management. Overall, the findings shed light on the considerations of managers of tax aggressive firms that chose to go private in response to FIN 48.

4.5 FIN 48: Tax-based proprietary costs versus measurement and recognition

A potential concern with using the FIN 48 setting to draw inferences about the effects of tax-based proprietary costs is that the new guidance mandated changes not only in disclosures, but also in the measurement and recognition of liabilities related to tax uncertainty. Thus, at first glance it may seem plausible that firms chose to go private not because of tax-based proprietary costs, but rather because they anticipated that FIN 48 would cause them to report lower earnings or higher liabilities in their financial statements, potentially damaging their prospects (e.g., hindering their ability to raise capital). However, an important feature of FIN 48 is that it ultimately applied to both public and private firms.[34] Therefore, firms choosing to go private in response to FIN 48 would nevertheless have anticipated applying the new standard for measurement and recognition. Consequently, the primary benefit of going private in response to FIN 48 is to avoid publicly disclosing information that the tax authority can observe. This feature of the FIN 48 setting allows me to more confidently (albeit not perfectly) attribute my findings to tax-based proprietary costs.

[34] The FASB originally intended to make FIN 48 effective for public and private firms at essentially the same time (fiscal years beginning after Dec. 15, 2006 for public firms, fiscal years beginning on or after Jan. 1, 2007 for private firms). However, in February 2007 the Private Company Financial Reporting Committee (PCFRC) raised concerns regarding the effective date for private companies, and the FASB subsequently delayed the application of FIN 48 for private companies until fiscal years beginning after Dec. 15, 2008 (Stromsem 2009). However, at the time of my focus (late 2006 and early 2007), both public and private firms anticipated beginning compliance with FIN 48 in 2007.

5. Additional Analyses

5.1 Speed of response to FIN 48 by December FYE firms versus non-December FYE firms

To better attribute my primary findings to tax-based proprietary costs, I exploit the feature that the first required FIN 48 disclosures occurred earlier for some firms than for others. Since FIN 48 was effective for fiscal years beginning after December 15, 2006, firms with December fiscal year-ends (FYEs) were first required to make FIN 48 disclosures in financial filings for the quarter ended March 2007. In contrast, firms with non-December FYEs had a longer window in which to go private before complying with FIN 48. This feature is relevant to my setting because conducting a thorough search for prospective buyers and reaching an agreement can be a time-consuming process, as illustrated in the anecdote about Sabre Holdings. Since December FYE firms were under greater time pressure in responding to FIN 48, I expect these firms to exhibit an earlier increase in going-private propensity compared to non-December FYE firms.

To test my prediction, I separately examine firms with December and non-December ("Other") FYEs, and estimate a modified Eq. (1) in which *FIN48* is replaced with indicator variables partitioning the overall sample window into four sub-periods. The results are displayed in Table 6, with columns 1, 3, and 5 (2, 4, and 6) showing the results for firms with December (Other) FYEs. In column 1, the coefficient on *2006Q3-2006Q4* × *Tax Aggressive* is significantly positive (coef.= 0.502; t-stat.= 2.14) whereas the coefficient on *2007Q1-2007Q2* × *Tax Aggressive* is insignificantly different from zero (coef.= 0.066; t-stat.= 0.28), indicating a spike in going-private announcements by tax aggressive firms with December FYEs that subsides by early 2007. In column 2, the coefficient on *2006Q3-2006Q4* × *Tax Aggressive* is insignificant (coef.= -0.000; t-stat.= -0.00) whereas the coefficient on *2007Q1-2007Q2* × *Tax Aggressive* is significantly positive (coef.= 0.492; t-stat.= 1.76). This result indicates that, in contrast to firms with December

FYEs, tax aggressive firms with other FYEs do not exhibit an increase in going-private announcements until early 2007. Columns 3-6 reveal a similar pattern for the other tax aggressiveness proxies. These results are consistent with tax aggressive December FYE firms reacting quickly by preemptively going private before FIN 48 takes effect, whereas tax aggressive firms with non-December year-ends have less need to respond with such urgency.

The findings in Table 6 support my inference that firms are responding to the anticipated tax-based proprietary costs in FIN 48, and raise the bar for alternative explanations. Any alternative story (e.g., the findings are due to a private equity wave) would have to account not only for why tax aggressive firms are more likely to go private specifically in the quarters between FIN 48 enactment and adoption as compared to surrounding quarters, but also explain why the timing of going-private decisions are different for firms with December FYEs and firms with other FYEs.

5.2 IRS scrutiny of tax aggressive firms following FIN 48

An implicit assumption is that firms perceived that the FIN 48 disclosures would lead to increased governmental scrutiny of taxpayers with weaker underlying positions. Although this assumption seems reasonable based on anecdotal evidence around FIN 48 enactment, it is worth examining whether the FIN 48 disclosures did, in fact, effect changes in IRS scrutiny. To do so, I consider IRS downloads of tax aggressive firms' SEC 10-K and 10-Q filings from the EDGAR database from 2004-2008.[35] My prediction is that firms with more aggressive underlying tax positions experience greater increases in IRS scrutiny when FIN 48 disclosures become publicly available. To test this prediction, I estimate a modified Eq. (1) where the dependent variable is IRS downloads of a firm's 10-Ks and 10-Qs in each quarter, and *FIN48* is replaced with indicators for

[35] Note that Bozanic et al. (2017) find an overall increase in IRS downloads of firms' SEC filings following the introduction of FIN 48. My focus differs from theirs in that I specifically examine whether IRS downloads increase more for tax aggressive firms (as compared to less tax aggressive firms) following FIN 48 adoption.

calendar years from 2005-2008 (2004 serves as the base year), interacted with tax aggressiveness proxies. Table 7 presents the results of the estimation.

Column 1 shows that IRS downloads in years 2005-2006 were not statistically different for tax aggressive and non-tax aggressive firms, where tax aggressiveness is proxied by *Tax Shelter Score*. However, the coefficients on *Yr2007* × *Tax Shelter Score* and *Yr2008* × *Tax Shelter Score* are significantly positive (coef.= 0.089; t-stat.= 4.48 and coef.= 0.215; t-stat.= 11.70 for years 2007 and 2008, respectively), revealing a considerable increase in IRS downloads of tax aggressive firms' 10-Q and 10-K filings following FIN 48 adoption. Columns 2 and 3 show similar results when using *BTD Factor* and *Cash Tax Diff* as proxies for tax aggressiveness.

Figure 3 illustrates the change in IRS quarterly downloads of tax aggressive firms' 10-K and 10-Q filings from 2004-2008. The figure plots the coefficients from a modified Eq. (1) where *FIN48* is replaced by quarterly indicators.[36] Aside from the quarters with missing data, the coefficients are insignificantly different from zero from 2004Q1-2007Q1, revealing no difference between IRS downloads of tax aggressive and non-tax aggressive firms' SEC filings in the pre-FIN 48 era. Beginning in 2007, however, there is a dramatic rise in IRS downloads of tax aggressive firms' filings, and the increase continues into 2008 as firms file financial statements containing FIN 48 disclosures. Overall, the results in Table 7 and Figure 3 provide evidence of a substantial increase in IRS scrutiny of tax aggressive firms' financial statements as they implement the FIN 48 disclosures revealing the uncertainty of their underlying tax positions. These findings help to validate the assertion that FIN 48 disclosures provide information useful to the government in helping it identify which firms to target for investigation.

[36] Coefficients are omitted for the quarters 2005Q4-2006Q2 because the EDGAR log file datasets are sparsely populated during this time. Concurrent work by Stice-Lawrence (2020) examining SEC EDGAR downloads has also noted the existence of this gap, which the SEC has attributed to SEC traffic being routed to internal servers during some periods. (https://www.sec.gov/edgar-log-file-data-set-FAQs).

5.3 Robustness tests

5.3.1 Alternative tax aggressiveness proxies

Table 8 displays the results of estimating Eq. (1) using six alternative proxies for tax aggressiveness. The proxies include: industry-adjusted three-year GAAP and cash effective tax rates (*Adj. GAAP ETR 3 Yr* and *Adj. Cash ETR 3 Yr*) as pioneered by Balakrishnan et al. (2019); an estimate of predicted UTBs (*Predicted UTB*) as developed by Rego and Wilson (2012); and the three individual components of *BTD Factor – Total BTD, Abnormal BTD,* and *ETR Differential*.[37] Columns 1 and 2 show that firms with lower adjusted GAAP and Cash ETRs (i.e., more aggressive tax avoiders) exhibit larger increases in going-private propensity between FIN 48 enactment and adoption (coef.= -0.210; t-stat.= -4.05 and coef.= -0.150; t-stat.= -2.34, respectively). Similarly, column 3-6 show an increased propensity to go private between FIN 48 enactment and adoption among firms with higher predicted UTBs, and higher values for each individual component of *BTD Factor*. Taken together, the results support a robust relation between public firms' tax aggressiveness and going-private propensity between FIN 48 enactment and adoption, consistent with an effort to preempt FIN 48 disclosures and avoid tax-based proprietary costs.

5.3.2 Alternative windows around FIN 48

In untabulated analysis, I estimate Eq. (1) employing two alternative sample periods: including shorter windows prior to FIN 48 enactment and following FIN 48 adoption (i.e., 2005Q3-2007Q4); and excluding the post-FIN 48 adoption period entirely. In both cases, the results are similar to those in Table 3 Panel A. These findings provide reassurance that my inferences are not driven by the choice of baseline period.

[37] Note that while Balakrishnan et al. (2019) construct their proxies for tax aggressiveness as the industry's effective tax rate minus the firm's effective tax rate, I reverse the sign (i.e., the firm's effective tax rate minus the industry's tax rate) such that more aggressive tax avoiders have lower values for *Adj. GAAP ETR 3 Yr* and *Adj. Cash ETR 3 Yr*.

5.3.3 SOX 404 compliance among non-accelerated filers

An event that could potentially cloud my inferences relates to the SEC's decision to allow smaller public companies (non-accelerated filers) to delay compliance with Section 404 of the Sarbanes-Oxley Act of 2002 (SOX 404). The SEC repeatedly extended the SOX 404 compliance dates for these small firms, and at one point they were to begin complying in the first fiscal year ending on or after July 15, 2006. Ultimately the SEC pushed back SOX 404 compliance for non-accelerated filers to fiscal years ending after December 15, 2007 (Albuquerque and Zhu, 2019), but a potential concern for my inferences is whether firms decided to go private in the latter half of 2006 to avoid SOX 404 compliance rather than the FIN 48 disclosure requirements. Although this concern is only valid to the extent that there is overlap between my proxies for tax aggressiveness and firms' non-accelerated filer status, further investigation is warranted.

In this section I address the concern relating to SOX 404 compliance by estimating Eq. (1) after excluding firms with less than $75 million in market capitalization, which is the upper limit for public firms to qualify for non-accelerated filer status. The results (untabulated) show that the main inferences are unchanged after dropping firms eligible to qualify for non-accelerated filer status. This finding helps to mitigate concerns that my findings are driven by firms responding to SOX 404 compliance considerations rather than to the enactment of FIN 48.

5.3.4 Firm and time-varying industry fixed effects

In additional untabulated analysis, I estimate Eq. (1) after including firm fixed effects and industry-year-quarter fixed effects. In all cases, I find that the main inferences hold. In other words, I find that tax aggressive firms exhibit a larger increase in going-private propensity than non-tax aggressive firms in the quarters between FIN 48 enactment and adoption, even after controlling for unobservable firm-specific characteristics and time-varying industry shocks.

6. Secondary Setting: IPOs around FIN 48 and Schedule UTP

While the results to this point support the hypothesis that some tax aggressive firms responded to the tax-based proprietary costs engendered in FIN 48 by going private, I extend the analysis in two ways to broaden the findings and better understand their implications. First, I study whether FIN 48 discouraged some tax aggressive private firms from going public by observing the pre-IPO tax characteristics of IPO firms before and after FIN 48 enactment. Second, I study whether the subsequent introduction of IRS Schedule UTP, which all firms must file and informs the agency about uncertain tax positions, mitigates the impact of FIN 48 on public firms.

6.1 IPOs of tax aggressive firms following FIN 48

If tax-based proprietary costs from FIN 48 induced some public tax aggressive firms to go private, a natural question is whether those same costs discouraged private tax aggressive firms from going public. Empirically, the latter is a more difficult question to answer without access to private company data, because I cannot observe firms that would have gone public but opted to remain private due to FIN 48. However, I can indirectly test for this possibility by comparing the pre-IPO characteristics (specifically, the tax aggressiveness) of firms that go public before and after FIN 48 enactment. If FIN 48 indeed deterred some tax aggressive private firms from undertaking IPOs, I should observe an overall decline in the tax aggressiveness of private firms filing for IPOs following FIN 48 enactment.

To test my conjecture, I collect data on IPO filings from SDC Platinum and Jay Ritter's website. Starting with all U.S. IPO filings made during 2004-2009, I follow Dambra et al.'s (2015) selection criteria and exclude financial industries, shell companies, limited partnerships, unit offerings, and IPOs raising less than $5 million. I further exclude observations missing Compustat data needed to construct the tax aggressiveness proxies and controls for the year ended prior to

IPO filing. These restrictions yield a sample of 665 IPO filings made from Jan 1, 2004 to Dec. 31, 2009. Using this sample, I estimate the following linear probability model:

$$Tax\ Aggressive_i = \alpha + \beta_1 Post\text{-}FIN48_i + \beta_k Controls_i + \alpha_{ind} + \epsilon_i \quad (2)$$

In the equation above, *i* indexes individual IPO filings. The dependent variable, *Tax Aggressive*, represents the IPO firm's tax aggressiveness prior to IPO filing, proxied by modified versions of *Tax Shelter Score*, *BTD Factor*, and *Cash Tax Diff*.[38] *Post-FIN48* is an indicator that takes a value of one if the IPO filing is made on or after July 1, 2006, and zero otherwise, and *Controls* represents a subset of control variables from Eq. (1). My prediction is that $\beta_1 < 0$, denoting that IPO filers after FIN 48 enactment exhibit lower tax aggressiveness, compared to IPO filers prior to FIN 48. The results from estimating Eq. (2) are presented in Table 9 Panel C.

Column 1 shows a significantly negative coefficient on *Post-FIN48* (coef.= -0.033; t-stat.= -2.19), denoting that firms filing for IPOs after FIN 48 enactment exhibit lower tax sheltering compared to pre-FIN 48 IPO firms. Columns 2-3 show similar results for $BTD\ Factor_{IPO}$ and $Cash\ Tax\ Diff_{IPO}$. The findings in Table 9 Panel C indicate that IPO filers after FIN 48 enactment were less tax aggressive than those filing for IPOs prior to FIN 48. One possible implication of these findings is that FIN 48 imposed a selection effect on firms choosing to undertake IPOs, screening out the most tax aggressive private firms.

6.2 IPOs of tax aggressive firms following Schedule UTP

As a second extension, I examine whether the introduction of Schedule UTP by the IRS beginning in 2010 mitigated the impact of FIN 48 on public firms. Schedule UTP required firms to privately report information to the IRS that previously would only have been available in firms' public financial statements. Consistent with the IRS viewing public FIN 48 disclosures and private

[38] Due to limitations of the data from IPO prospectuses, I employ modified versions of the tax aggressiveness proxies and a subset of the control variables from Eq. (1). Details of variable construction are provided in Appendix A.

Schedule UTP disclosures as substitutes, Bozanic et al. (2017) find that IRS downloads of firms' public financial statements drop off considerably once the agency begins collecting tax returns containing Schedule UTP information. In effect, the advent of Schedule UTP reduced the tax-based proprietary costs to making public FIN 48 disclosures, because the IRS obtains similar information regardless of whether the firm is public or private. Consequently, I predict an increase in tax aggressiveness among private firms filing for IPOs after the introduction of Schedule UTP.

To test my conjecture, I extend my sample of IPO filings through 2013, yielding a total sample of 1,071 IPO filings. Using this extended sample, I estimate the following model:

$$Tax\ Aggressive_i = \alpha + \beta_1 Post\text{-}FIN48_i + \beta_2 Post\text{-}Sch.UTP_i + \beta_k Controls_i + \alpha_{ind} + \epsilon_i \quad (3)$$

Eq. (3) is identical to Eq. (2) but for the addition of *Post-Sch. UTP*, an indicator equal to one if the IPO filing is made on or after Jan. 1, 2010 (Jan. 1, 2012) for firms with greater than $100 million ($50 million) in total assets at the time of filing, and zero otherwise.[39] In contrast to my prediction for β_1, I predict that $\beta_2 > 0$, denoting that firms filing for IPOs after the introduction of Sch. UTP exhibit greater tax aggressiveness than those filing for IPOs immediately following FIN 48 (but prior to Sch. UTP). The results from estimating Eq. (3) are presented in Table 9 Panel D.

Column 1 shows a significantly negative coefficient on *Post-FIN48* (coef.= -0.020; t-stat.= -2.10), and a significantly positive coefficient on *Post-Sch. UTP* (coef.= -0.059; t-stat.= 3.17). These findings indicate that after the introduction of Schedule UTP, private firms filing for IPOs exhibited greater tax aggressiveness than those filing for IPOs immediately after FIN 48 (but prior to Schedule UTP). Columns 2-3 reveal similar results for *BTD Factor*$_{IPO}$ and *Cash Tax Diff*$_{IPO}$. Overall, the findings in Table 9 Panel D are consistent with Schedule UTP relaxing the tax-based proprietary costs imposed on tax aggressive public firms by FIN 48.

[39] In 2010 and 2011, Schedule UTP was required for firms with assets over $100 million. In 2012 and 2013, Schedule UTP requirements were extended to cover firms with assets over $50 million (e.g., Williams and Williams, 2021).

Overall, the results for IPOs are consistent with tax-based proprietary costs discouraging tax aggressive private firms from going public. The implication dovetails nicely with my main findings that public tax aggressive firms were incentivized to go private in response to anticipated tax-based proprietary costs arising from the FIN 48 disclosure requirements. Taken together, the two sets of analyses provide complementary evidence in multiple settings that tax-based proprietary costs play a meaningful role in the decision to operate as a publicly listed firm.

7. Conclusion

This study investigates whether tax-based proprietary costs discourage firms from listing publicly. In the main analysis, I investigate whether the enactment of a disclosure mandate (FIN 48) that had the effect of revealing the weakness of public taxpayers' underlying tax positions to the government drove some firms to go private. Employing a difference-in-differences methodology and using the surrounding quarters as a benchmark, I find that tax aggressive firms exhibit an increased propensity to go private in the quarters between FIN 48 enactment and adoption, compared to non-tax aggressive firms. Supporting tests provide evidence that this response can be attributed to tax-based proprietary costs of public disclosure. In a secondary analysis, I find evidence consistent with tax-based proprietary costs arising from FIN 48 deterring tax aggressive private firms from undertaking IPOs. Moreover, the introduction of IRS Schedule UTP, which had the effect of mitigating tax-based proprietary costs for public firms, is associated with an increase in IPO filings by tax aggressive private firms.

My findings contribute to three streams of literature. First, I extend the literature on tax-based proprietary costs. Whereas most prior work has focused on whether firms strategically alter their financial reporting and/or disclosures in response to tax-based proprietary costs, I show evidence of an important real effect arising from the relationship between taxpayers' public

disclosures and government. Second, I contribute to the literature examining the decision to operate as a public or private firm. Given the general downward trend in the number of U.S. publicly listed firms in recent years, it is important to understand whether tax-based proprietary costs represent a disincentive to listing publicly. Finally, I add to the literature on the real effects of mandatory disclosure regulation. Leuz and Wysocki (2016) and Dyreng and Maydew (2018) voice the need for more evidence on the real and indirect effects of disclosure regulation on corporate behavior. This study provides evidence of a significant consequence arising from interactions between the regulation of public firm disclosures and tax authorities.

References

Aghamolla, C., and R. Thakor. 2021. Do mandatory disclosure requirements for private firms increase the propensity of going public? *Journal of Accounting Research*, forthcoming.

Ai., C., and E. Norton. 2003. Interaction terms in logit and probit models. *Economics Letters* 80 (1): 123-129.

Albuquerque, A., and J. Zhu. 2019. Has Section 404 of the Sarbanes-Oxley Act discouraged corporate investment? New evidence from a natural experiment. *Management Science* 65 (7): 3423-2446.

Ayers, B. C., J. K. Seidman, and E. M. Towery. 2019. Tax reporting behavior under audit certainty. *Contemporary Accounting Research* 36 (1): 326-358.

Balakrishnan, K., J. Blouin, and W. Guay. 2019. Tax aggressiveness and corporate transparency. *The Accounting Review* 94 (1): 45-69.

Bernard, D., D. Burgstahler, and D. Kaya. 2018. Size management by European private firms to minimize proprietary costs of disclosure. *Journal of Accounting and Economics* 66 (1): 94-122.

Bharath, S., and A. Dittmar. 2010. Why do firms use private equity to opt out of public markets? *Review of Financial Studies* 23 (5): 1771-1818.

Blouin, J., C. Gleason, L. Mills, and S. Sikes. 2007. What can we learn about uncertain tax benefits from FIN 48? *National Tax Journal* 60 (3): 521-535.

Blouin, J., C. Gleason, L. Mills, and S. Sikes. 2010. Pre-empting disclosure? Firms' decisions prior to FIN No. 48. *The Accounting Review* 85 (3): 791-815.

Bozanic, Z, J. Hoopes, J. Thornock, and B. Williams. 2017. IRS attention. *Journal of Accounting Research* 55 (1), 79-114.

Dambra, M., L. Field, and M. Gustafson. 2015. The JOBS Act and IPO volume: Evidence that disclosure costs affect the IPO decision. *Journal of Financial Economics* 116 (1): 121-143.

Deng., Z., F. Gaertner, D. Lynch, and L. Steele. 2021. Proprietary costs and the reporting of segment-level tax expense. *Journal of the American Taxation Association* 43 (1): 1-26.

Denis, D. 1992. Corporate investment decisions and corporate control: Evidence from going-private transactions. *Financial Management* 21 (3): 80-94.

Desai, M., and D. Dharmapala. 2006. Corporate tax avoidance and high-powered incentives. *Journal of Financial Economics* 79 (1): 145-179.

Dobridge, C., R. Lester, and A. Whitten. 2021. IPOs and corporate tax planning. Working paper.

Doidge, C., A., Karolyi, and R. Stulz. 2017. The U.S. listing gap. *Journal of Financial Economics* 123 (3): 464-487.

Drake, M. S., D. T. Roulstone, and J. R. Thornock. 2015. The determinants and consequences of information acquisition via EDGAR. *Contemporary Accounting Research* 32 (3): 1128-1161.

Dyreng, S., J. Hoopes, and J. Wilde. 2016. Public pressure and corporate tax behavior. *Journal of Accounting Research* 54 (1): 147-186.

Dyreng, S., and E. Maydew. 2018. Virtual issue on tax research. *Journal of Accounting Research*. https://doi.org/10.2139/ssrn.3068168.

Engel, E., R. Hayes, and X. Wang. 2007. The Sarbanes-Oxley Act and firms' going-private decisions. *Journal of Accounting and Economics* 44 (1-2): 116-145.

Fidrmuc, J., P. Roosenboom, R. Paap, and T. Teunissen. 2012. One size does not fit all: Selling firms to private equity versus strategic acquirers. *Journal of Corporate Finance* 18: 828-848.

Financial Accounting Standards Board (FASB). 1975. *Accounting for Contingencies*. Statement of Financial Accounting Standards (SFAS) No. 5. Norwalk, CT: FASB.

Financial Accounting Standards Board (FASB). 2006a. *Accounting for Uncertainty in Income Taxes: An Interpretation of FASB Statement No. 109*. FASB Interpretation No. 48. Norwalk, CT: FASB.

Financial Accounting Standards Board (FASB). 2006b. Minutes of the May 10, 2006 Board Meeting – Uncertain Tax Positions: Disclosure and Sweep Issues. May 16. Norwalk, CT: FASB.

Frank, M., L. Lynch, and S. Rego. 2009. Tax reporting aggressiveness and its relation to aggressive financial reporting. *The Accounting Review* 84 (2): 467-496.

Gleason, C., and L. Mills. 2002. Materiality and contingent tax liability reporting. *The Accounting Review* 77 (2): 317-342.

Greene, W. 2010. Testing hypotheses about interaction terms in nonlinear models. Economics Letters 107 (2): 291-296.

Gupta, S., L. Mills, and E. Towery. 2014. The effect of mandatory financial statement disclosures on tax reporting and collections: The case of FIN 48 and multistate tax avoidance. *Journal of the American Taxation Association* 36 (2): 203-229.

Hanlon, M., R. Verdi, and B. Yost. 2021. CEO tax effects on acquisition structure and value. *The Accounting Review* 96 (2): 333-363.

Hanlon, M., and S. Heitzman. 2010. A review of tax research. *Journal of Accounting and Economics* 50 (2-3): 127-178.

Henry, E., N. Massel, and E. Towery. 2016. Increased tax disclosures and corporate tax avoidance. *National Tax Journal* 69 (4): 809-830.

Henry, E., and R. Sansing. 2018. Corporate tax avoidance: Data truncation and loss firms. *Review of Accounting Studies* 23 (3): 1042-1070.

Hope, O.K., M. Ma, and W. Thomas. 2013. Tax avoidance and geographic earnings disclosure. *Journal of Accounting and Economics* 56 (2-3): 170-189.

Hribar, P., and D. Collins. 2002. Errors in estimating accruals: Implications for empirical research. *Journal of Accounting Research* 40 (1): 105-134.

Jenter, D., and K. Lewellen. 2015. CEO preferences and acquisitions. *Journal of Finance* 70 (6): 2813-2852.

Kamar, E., P. Karaca-Mandic, and E. Talley. 2008. Going-private decisions and the Sarbanes-Oxley Act of 2002: A cross-country analysis. *Journal of Law, Economics, & Organization*

25 (1): 107-133.

Keyte, J., and K. Schwartz. 2016. Private equity and antitrust: A new landscape. *Antitrust* 31 (1): 21-27.

Kim, J., Y. Li, and L. Zhang. 2011. Corporate tax avoidance and stock price crash risk: Firm-level analysis. *Journal of Financial Economics* 100 (3): 639-662.

Lehn, K., and A. Poulsen. 1989. Free cash flow and stockholder gains in going private transactions. *Journal of Finance* 44 (3): 771-787.

Leuz, C., A. Triantis, and T. Wang. 2008. Why do firms go dark? Causes and economic consequences of voluntary SEC deregistrations. *Journal of Accounting and Economics* 45 (2-3): 181-208.

Leuz, C., and P. Wysocki. 2016. The economics of disclosure and financial reporting regulation: Evidence and suggestions for future research. *Journal of Accounting Research* 54 (2): 525-622.

Lisowsky, P., L. Robinson, and A. Schmidt. 2013. Do publicly disclosed tax reserves tell us about privately disclosed tax shelter activity? *Journal of Accounting Research* 51 (3): 583-629.

Mehran, H., and S. Peristiani. 2010. Financial visibility and the decision to go private. *Review of Financial Studies* 23 (2): 519-547.

Mills, L. 1998. Book-tax differences and Internal Revenue Service adjustments. *Journal of Accounting Research* 36 (2): 343-356.

Mills, L., L. Robinson, and R. Sansing. 2010. FIN 48 and tax compliance. *The Accounting Review* 85 (5): 1721-1742.

Pagano, M., F. Panetta, and L. Zingales. 1998. Why do companies go public? An empirical analysis. *Journal of Finance* 53 (1): 27-64.

Rego, S., and R. Wilson. 2012. Equity risk incentives and corporate tax aggressiveness. *Journal of Accounting Research* 50 (3): 775-810.

Robinson, L., and A. Schmidt. 2013. Firm and investor responses to uncertain tax benefit disclosure requirements. *Journal of the American Taxation Association* 35 (2): 85-120.

Ryans, J. 2017. Using the EDGAR log file data set. Working Paper, London Business School.

Sabre Holdings Corporation. 2007. *United States Securities and Exchange Commission Schedule 14A proxy statement pursuant to Section 14(a) of the Securities and Exchange Act of 1934 (February 21)*. Available at: https://www.sec.gov/Archives/edgar/data/1020265/000119312507036118/ddefm14a.htm.

Spatt, C. 2007. Chief Economist and Director of the Office of Economic Analysis speech: The economics of FIN 48: Accounting for uncertainty in income taxes. March 8. Washington, D.C.: SEC.

Stice-Lawrence, L. 2020. Regulatory spillover and monitoring frictions at the SEC. Working paper, University of Southern California.

Stromsem, W. 2009. Private companies and FIN 48. *The Tax Adviser*. Febuary 1.

Verrecchia, R. 1983. Discretionary disclosure. *Journal of Accounting and Economics* 5: 179-194.

Willens, R. 2006. Accounting for "uncertainty" in income taxes. Lehman Brothers Equity Research Report. *Accounting & Tax Policy* (July 17).

Williams, B., and B. Williams. 2021. Real effects of financial reporting on innovation: Evidence from tax law and accounting standards. *The Accounting Review*, forthcoming.

Wilson, R. 2009. An examination of corporate tax shelter participants. *The Accounting Review* 84 (3): 969-999.

Appendix A
Variable definitions

This table provides a detailed description of the procedures used to compute each variable used in the analyses. The data are obtained through Compustat, CRSP, SDC Platinum, Thomson Reuters, and SEC filings from EDGAR. Founding dates for IPO firms are taken from Jay Ritter's website: https://site.warrington.ufl.edu/ritter/ipo-data/. All continuous variables are winsorized at the 1st and 99th percentiles.

Primary dependent variables:

Variable	Definition
Go Private	Indicator variable equal to one if a public announcement is made during the quarter that the firm is going to be acquired by a private acquirer, and zero otherwise. Acquirers are classified as private according to SDC Platinum, and transactions due to bankruptcy or debt restructuring of the target firm are excluded. In addition, the firm must subsequently delist according to CRSP and file a Form 15 or 25 with the SEC in order for *Go Private* to be equal to one. Multiplied by 100 to ease interpretation of the coefficients.
Go Private - PE & Mgmt	Indicator variable equal to one if *Go Private* is equal to one and either a) one or more private equity investment firms are involved in the transaction, or b) the target firm's management is involved in the buyout, and zero otherwise. The determination of private equity or management involvement in the deal is made based on the synopsis provided in SDC Platinum, or by manual inspection of the relevant SEC filings, if SDC does not contain information on the details of the transaction. Multiplied by 100 to ease interpretation of the coefficients.
Go Private - Operating	Indicator variable equal to one if *Go Private* is equal to one and the acquirer is a third party private operating firm. The determination of whether the acquirer is a private operating firm is made based on the synopsis provided in SDC Platinum, or by manual inspection of the relevant SEC filings, if SDC does not contain information on the details of the transaction. Multiplied by 100 to ease interpretation of the coefficients.
Log(IRS 10-K/Q Downloads)	Natural log of one plus the number of times during a quarter that an individual with an IRS IP address downloaded a 10-K or 10-Q filing from EDGAR for the firm. The procedure to obtain IRS downloads is described in Bozanic et al. (2017).

Appendix A (continued)

Primary tax aggressiveness variables:

Variable	Definition
Tax Shelter Score	The firm's estimated sheltering probability, based on Wilson's (2009) model: $$PredictedValue = -4.86 + 5.20 \times BTD + 4.08 \times \lvert DAP \rvert - 1.41 \times LEV + 0.76 \times AT + 3.51 \times ROA + 1.72 \times FOREIGN\ INCOME + 2.43 \times R\&D.$$ where BTD is the total book-tax difference, as defined below; $\lvert DAP \rvert$ is the absolute value of discretionary accruals from the performance-adjusted modified cross-sectional Jones model; LEV is long-term debt divided by total assets; AT is the natural log of total assets; ROA is the firm's pre-tax income divided by total assets; $FOREIGN\ INCOME$ is an indicator variable set equal to one for firm-year observations reporting foreign income, and zero otherwise; and $R\&D$ is R&D expense divided by lagged total assets. Each firm-year's $PredictedValue$ estimate is used to calculate the predicted probability of tax sheltering ($Tax\ Shelter\ Score$) as follows: $$Tax\ Shelter\ Score = \frac{e^{(PredictedValue)}}{(1+e^{(PredictedValue)})}.$$
BTD Factor	Extracted using factor analysis from the following three book-tax difference measures: *BTD*: Total book-tax difference, computed as pre-tax income less taxable income scaled by lagged total assets. Taxable income is computed as the sum of current federal tax expense and current foreign tax expense divided by the statutory tax rate, less the change in net operating loss carryforwards. If current federal tax expense is missing, total current tax expense is computed as total income tax expense less deferred tax expense, state income tax expense, and other income tax expense. *Abnormal BTD*: Desai and Dharmapala (2006) residual book-tax difference, computed as the residual from the following firm fixed effects regression: $BTD_{i,t} = \beta_1 TACC_{i,t} + \mu_i + \epsilon_{i,t}$, where *BTD* is the total book-tax difference and *TACC* is total accruals measured using the cash flow method of Hribar and Collins (2002). Both variables are scaled by lagged total assets and are winsorized at the 1% and 99% levels for regression purposes. *ETR Differential*: Based on Frank et al. (2009) and computed as $BI - \left(\frac{CFTE+CFOR}{STR}\right) - (\frac{DTE}{STR})$, scaled by lagged total assets. *BI* is pre-tax book income; *CFTE* is current federal tax expense; *CFOR* is current foreign tax expense; *DTE* is deferred tax expense; and *STR* is the statutory corporate tax rate.
Cash Tax Diff	Following Henry and Sansing (2018), the difference between cash taxes paid and the product of pretax income and the statutory tax rate, scaled by the lagged market value of assets. The market value of assets is calculated as the sum of the firm's book value of assets and market value of equity, less the firm's book value of equity. Multiplied by negative one such that higher values of *Cash Tax Diff* reflect more aggressive tax avoidance.

Appendix A (continued)

Additional tax aggressiveness variables:

Variable	Definition
Adj. Cash ETR 3-Yr	The firm's 3-year cash ETR less the average 3-year cash ETR for firms in the same Fama-French 48 industry and size quintile (based on total assets), where size and industry are sorted independently. The 3-year cash ETR is the sum of cash paid for taxes over the past three years, divided by the sum of pre-tax income over the past three years.
Adj. GAAP ETR 3-Yr	The firm's 3-year GAAP ETR less the average 3-year GAAP ETR for firms in the same Fama-French 48 industry and size quintile (based on total assets), where size and industry are sorted independently. The 3-year GAAP ETR is the sum of total tax expense over the past three years, divided by the sum of pre-tax income over the past three years.
Predicted UTB	Predicted unrecognized tax benefits, based on the Rego and Wilson (2012) model: $PredictedUTB = -0.004 + 0.011 \times PTROA + 0.001 \times SIZE + 0.010 \times FOR\_SALE + 0.092 \times R\&D - 0.002 \times DISC\_ACC + 0.003 \times LEV + 0.014 \times SG\&A - 0.018 \times SALES\_GR.$ where *PTROA* is pretax income divided by lagged total assets; *SIZE* is the natural log of total assets; *FOR_SALE* the sum of foreign sales from Compustat's segment database divided by total sales, set to zero if no foreign segment sales are reported; *R&D* is R&D expense divided by lagged total assets; *DISC_ACC* is the value of discretionary accruals from the performance-adjusted modified cross-sectional Jones model; *LEV* is the sum of long-term debt and short-term debt divided by total assets; *SG&A* is selling, general, and administrative expense divided by lagged total assets; and *SALES_GR* is the average change in sales over the prior two years, where the change in sales in year *t* is computed as the difference between sales in year *t* and sales in year *t*-1 divided by sales in year *t*-1.
Total BTD	Total book-tax difference, computed as pre-tax income less taxable income scaled by lagged total assets. Taxable income is computed as the sum of current federal tax expense and current foreign tax expense divided by the statutory tax rate, less the change in net operating loss carryforwards. If current federal tax expense is missing, total current tax expense is computed as total income tax expense less deferred tax expense, state income tax expense, and other income tax expense.
Abnormal BTD	Desai and Dharmapala (2006) residual book-tax difference, computed as the residual from the following firm fixed effects regression: $BTD_{i,t} = \beta_1 TACC_{i,t} + \mu_i + \epsilon_{i,t}$, where *BTD* is the total book-tax difference and *TACC* is total accruals measured using the cash flow method of Hribar and Collins (2002). Both variables are scaled by lagged total assets and are winsorized at the 1% and 99% levels for regression purposes.
ETR Differential	Based on Frank et al. (2009) and computed as $BI - \left(\frac{CFTE+CFOR}{STR}\right) - \left(\frac{DTE}{STR}\right)$, scaled by lagged total assets. *BI* is pre-tax book income; *CFTE* is current federal tax expense; *CFOR* is current foreign tax expense; *DTE* is deferred tax expense; and *STR* is the statutory corporate tax rate.

Appendix A (continued)

Primary control variables:

Variable	Definition
FIN 48	Indicator variable equal to one for the calendar quarters between FIN 48 enactment and adoption, and zero otherwise. For firms with December fiscal year-ends, it is set equal to one for the two calendar quarters 2006Q3-Q4. For firms with fiscal years ending in January through May, it is set equal to one for the three calendar quarters 2006Q3-2007Q1. For firms with fiscal years ending in June through November, it is set equal to one for the four calendar quarters 2006Q3-2007Q2.
Size	Natural log of one plus the firm's book value of assets at the end of the prior fiscal year.
BTM	Ratio of the book value of common equity to the market value of equity at the end of the prior fiscal year.
ROA	Ratio of income before extraordinary items to total assets for the prior fiscal year.
Leverage	Ratio of long-term debt to the market value of equity at the end of the prior fiscal year.
Liquidity	Ratio of current assets to the market value of equity at the end of the prior fiscal year.
NOL	Product of the firm's net operating loss and the maximum federal corporate tax rate (35 percent throughout the sample period), deflated by the market value of equity at the end of the prior fiscal year.
Firm Age	Natural log of one plus the firm's age in years at the end of the prior fiscal year, measured as the number of years the company has stock price data on CRSP.
Ret 1 Yr	The firm's cumulative monthly returns over the prior fiscal year, adjusted for the value-weighted market index.
Inst Own	Percentage of outstanding common stock owned by institutional investors at the end of the prior fiscal year.
Analyst Coverage	Natural log of one plus the number of analyst forecasts for the firm over the prior fiscal year.
Market Attention	Natural log of one plus the total number of all SEC forms on EDGAR downloaded for a firm in the current quarter. The number of EDGAR downloads is estimated using the methodology in Drake et al. (2015), and described in Ryans (2017). Data are obtained from James Ryans' website: http://www.jamesryans.com/.

Appendix A (continued)

IPO variables:

Variable	Definition
$Tax\ Shelter\ Score_{IPO}$	The firm's estimated sheltering probability, based on Wilson's (2009) model: $$PredictedValue = -4.30 + 6.63 \times BTD - 1.72 \times LEV + 0.66 \times AT + 2.26 \times ROA + 1.62 \times FOREIGN\ INCOME + 1.56 \times R\&D.$$ where BTD is the total book-tax difference, as defined below; LEV is long-term debt divided by total assets; AT is the natural log of total assets; ROA is the firm's pre-tax income divided by total assets; $FOREIGN\ INCOME$ is an indicator variable set equal to one for firm-year observations reporting foreign income, and zero otherwise; and $R\&D$ is R&D expense divided by total assets. Values are taken from the IPO prospectus. Each IPO firm's $PredictedValue$ estimate is used to calculate the predicted probability of tax sheltering ($Tax\ Shelter\ Score_{IPO}$) as follows: $$Tax\ Shelter\ Score_{IPO} = \frac{e^{(PredictedValue)}}{(1+e^{(PredictedValue)})}.$$
$BTD\ Factor_{IPO}$	Extracted using factor analysis from the following three book-tax difference measures: *BTD*: Total book-tax difference, computed as pre-tax income less taxable income scaled by total assets. Taxable income is computed as the sum of current federal tax expense and current foreign tax expense divided by the statutory tax rate. If current federal tax expense is missing, total current tax expense is computed as total income tax expense less deferred tax expense, state income tax expense, and other income tax expense. *Abnormal BTD*: Desai and Dharmapala (2006) residual book-tax difference, computed as the residual from the following firm fixed effects regression: $BTD_{i,t} = \beta_1 TACC_{i,t} + \mu_i + \epsilon_{i,t}$, where *BTD* is the total book-tax difference and *TACC* is total accruals measured using the cash flow method of Hribar and Collins (2002). Both variables are scaled by total assets and are winsorized at the 1% and 99% levels for regression purposes. *ETR Differential*: Based on Frank et al. (2009) and computed as $BI - \left(\frac{CFTE+CFOR}{STR}\right) - (\frac{DTE}{STR})$, scaled by total assets. *BI* is pre-tax book income; *CFTE* is current federal tax expense; *CFOR* is current foreign tax expense; *DTE* is deferred tax expense; and *STR* is the statutory corporate tax rate.
$Cash\ Tax\ Diff_{IPO}$	Modified version of the Henry and Sansing (2018) measure, constructed as the difference between cash taxes paid and the product of pretax income and the statutory tax rate, scaled by total assets, as reported in the IPO prospectus. Multiplied by negative one such that higher values of *Cash Tax Diff*$_{IPO}$ reflect more aggressive tax avoidance.
Post-FIN 48	Indicator variable equal to one for IPO filing dates occurring on or after July 1, 2006.
Post-Sch. UTP	Indicator variable equal to one for IPO filing dates occurring on or after January 1, 2010 (January 1, 2012) for firms over $100 million ($50 million) in total assets.
$Size_{IPO}$	Natural log of one plus the firm's book value of assets as reported in the IPO prospectus.
ROA_{IPO}	Ratio of income before extraordinary items to total assets, from IPO prospectus.
$Leverage_{IPO}$	Ratio of long-term debt to total assets, from IPO prospectus. Missing values set equal to zero.
$Liquidity_{IPO}$	Ratio of current assets to total assets, from IPO prospectus. Missing values set equal to zero.
NOL_{IPO}	The product of the firm's net operating loss and the maximum federal corporate tax rate (35 percent throughout the sample period), deflated by total assets as reported in the IPO prospectus. Missing values are set equal to zero.
$Firm\ Age_{IPO}$	The natural log of one plus the firm's age in years at the time of the IPO filing, measured beginning from the founding date as provided on Jay Ritter's website: https://site.warrington.ufl.edu/ritter/ipo-data/.

Appendix B: Example of a going-private transaction between FIN 48 enactment and adoption

On December 12, 2006, Sabre Holdings Corporation ("Sabre"), a travel technology company, publicly announced its intention to execute a take-private transaction via acquisition by two private equity firms: Texas Pacific Group ("TPG") and Silver Lake Partners ("Silver Lake"). Prior to the transaction, Sabre appeared to be a relatively aggressive tax planner, with values for each of *Tax Shelter Score*, *BTD Factor*, and *Cash Tax Diff* in the top quartile of firms. The deal was consummated on March 30, 2007, one day before the close of the first fiscal quarter for which the FIN 48 disclosure requirements were to take effect.

Key events in Sabre's going-private timeline are listed, including excerpts from the "Background of the Merger" section of Sabre's DEFM 14A SEC filing.

Early July 2006: Management begins a "re-examination of strategic options available to the Company". Discusses with the board and advisors Goldman Sachs and Morgan Stanley "the attractiveness…of potential strategic options ranging from remaining a stand-alone public company to various potential change of control scenarios."

August 1, 2006: Management discusses the status of the private equity environment and considers its "potential valuations in various strategic transactions, including an acquisition by private equity firms in a transaction often referred to as a take-private transaction." The board authorizes management and financial advisors to "identify qualified private equity firms that might participate in a transaction to take the Company private."

September 15, 2006: The board instructs management and financial advisors to "begin formal dialogue with a select group of private equity firms as part of an exploratory sale process…the board considered that a transaction with private equity firms likely would present a significantly lower risk of delay or failure to consummate an announced transaction when compared to any reasonably likely strategic business combination."

Sep. 18 – Oct. 9, 2006: Financial advisors Goldman Sachs and Morgan Stanley place calls to selected private equity firms, including TPG and Silver Lake. Management sends the selected private equity firms a letter describing the exploratory sale process, and providing them with preliminary information about the company.

Early October 2006: Company Z contacts management and proposes discussions between Company Z and Sabre. Management discusses the proposal with the board and advisors, including a "consideration of the relative risks and merits of a combination with Company Z as compared to a possible take-private transaction that would not present any potentially significant regulatory or other non-consummation risk or delay." The board instructs management to "inform Company Z that the board was focused on avoiding substantial non-consummation risk."

Oct. 16 – Nov. 1, 2006: Management holds preliminary discussions with each of the prospective acquirer private equity firms and receives initial acquisition proposals from each.

November 7, 2006: The board meets to consider the initial proposals and discuss whether to proceed with the second phase of the exploratory sale process. The board directs management to focus on pursuing a private equity transaction, "in light of the valuations indicated by the initial bids, the relatively high level of deal certainty and relatively short time required for closing indicated in the bids…"

Nov. 16 – Dec. 4, 2006: Management distributes the proposed definitive merger documentation to the participant private equity groups, and answers diligence questions from the firms participating in the exploratory sale process.

December 8, 2006: Sabre receives bids from two private equity groups: (i) TPG and Silver Lake, and (ii) Firm Y.

December 10, 2006: The board convenes to discuss the bids received from TPG and Silver Lake and from Firm Y, as well as the "importance of proceeding quickly with the private equity groups in a competitive process to obtain the best deal terms and to minimize the risks associated with delay." Management and advisors are directed to "proceed as expeditiously as possible to negotiate final terms with each of the TPG and Silver Lake group and Firm Y."

December 11-12, 2006: The board votes unanimously to approve the merger agreement with TPG and Silver Lake. A press release is issued announcing the execution of the merger agreement.

March 30, 2007: The take-private transaction is consummated.

Figure 1
Research design timeline around FIN 48 enactment and adoption for firms with December FYEs

The figure below illustrates the timing of certain key events around the enactment and adoption of FIN 48, and the implementation of those events in the primary research design. On May 10, 2006, the FASB agreed to draft the final interpretation, and added the requirement to disclose a tabular reconciliation of beginning and ending balances of unrecognized tax benefits. On July 13, 2006, the FASB issued the final version of FIN 48, to be made effective for fiscal years beginning after December 15, 2006. Thus, public firms' 2007 first quarter financial statements were the first public disclosures required to contain the new FIN 48 tax information. For firms with December fiscal year-ends, *FIN 48* = 1 for the two calendar quarters 2006 Q3-Q4, and *FIN 48* = 0 for the neighboring six calendar quarter windows (2005Q1-2006Q2 and 2007Q1-2008Q2). For firms with fiscal year-ends in the first half of the year (January through May), *FIN 48* = 1 for the three calendar quarters 2006Q3-2007Q1, whereas for firms with fiscal year-ends in the second half of the year (June through November), *FIN 48* = 1 for the four calendar quarters 2006Q3-2007Q2.

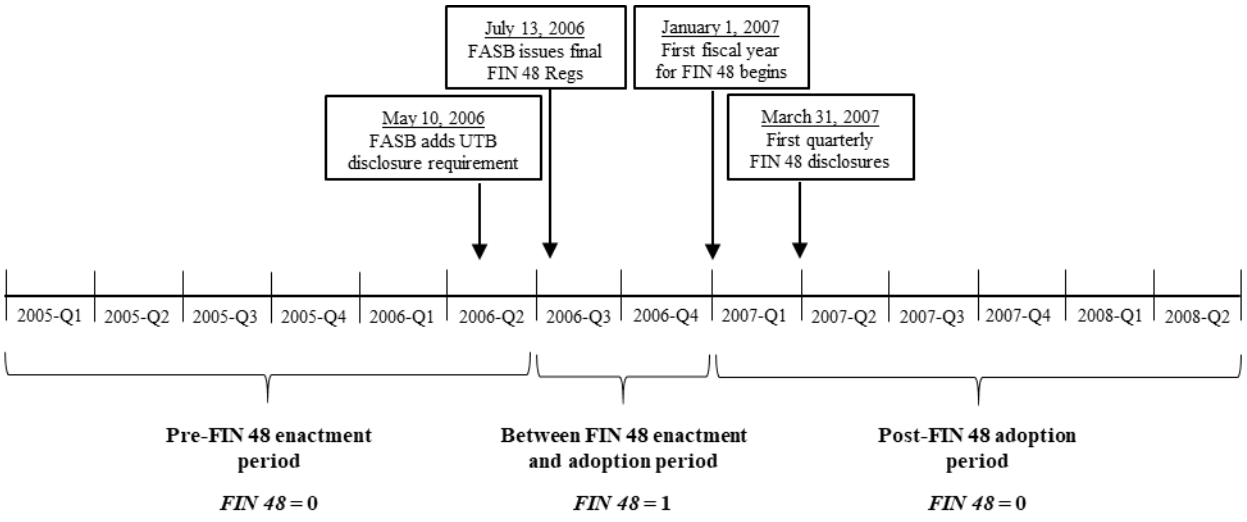

Figure 2
Tax aggressive firms' propensity to go private by quarter

This figure provides a visual representation of the effect of a firm's tax aggressiveness on the propensity to announce a going-private transaction in each quarter during the four-year period 2004Q3 to 2008Q2. The x-axis represents time by calendar quarter and the y-axis represents the effect of tax aggressiveness (using the *Tax Shelter Score* proxy) on the propensity to go private during any given quarter. A version of Eq. (1) is estimated but the *FIN48* indicator variable is replaced by separate indicator variables for each quarter from 2004Q3 to 2008Q2. The coefficients are plotted along with a 95% confidence interval, calculated based on standard errors clustered at the firm level. Note that 2006Q2 has a coefficient of zero and no confidence interval because it serves as the benchmark period. The coefficients capture the effect of a firm's tax aggressiveness on its propensity to announce a going-private transaction on a quarter-by-quarter basis.

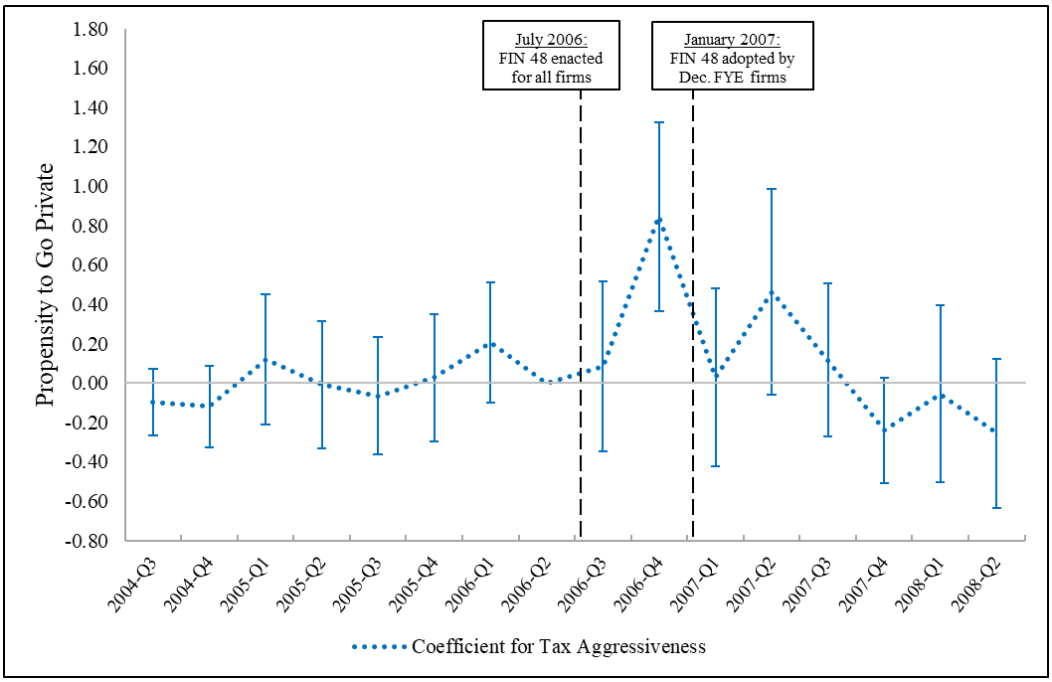

Figure 3
IRS scrutiny of tax aggressive firms by quarter

This figure provides a visual representation of quarterly IRS downloads of tax aggressive firms' 10-K and 10-Q filings with the SEC during the five-year period 2004Q1 to 2008Q4. Note that quarters 2005Q4-2006Q2 are omitted because the EDGAR log file datasets are sparsely populated for most days during this time period (e.g., Stice-Lawrence 2020). The x-axis represents time by calendar quarter and the y-axis represents the relation between a firm's tax aggressiveness (using the *Tax Shelter Score* proxy) and IRS downloads during each quarter. A version of Eq. (1) is estimated but the *FIN48* indicator variable is replaced by separate indicator variables for each calendar quarter from 2004Q1-2008Q4. The coefficients are plotted along with a 95% confidence interval, calculated based on standard errors clustered at the firm level. Note that 2006Q3 has a coefficient of zero and no confidence interval because it serves as the benchmark period. The coefficients capture the effect of a firm's tax aggressiveness on IRS downloads of firms' SEC filings on a quarter-by-quarter basis.

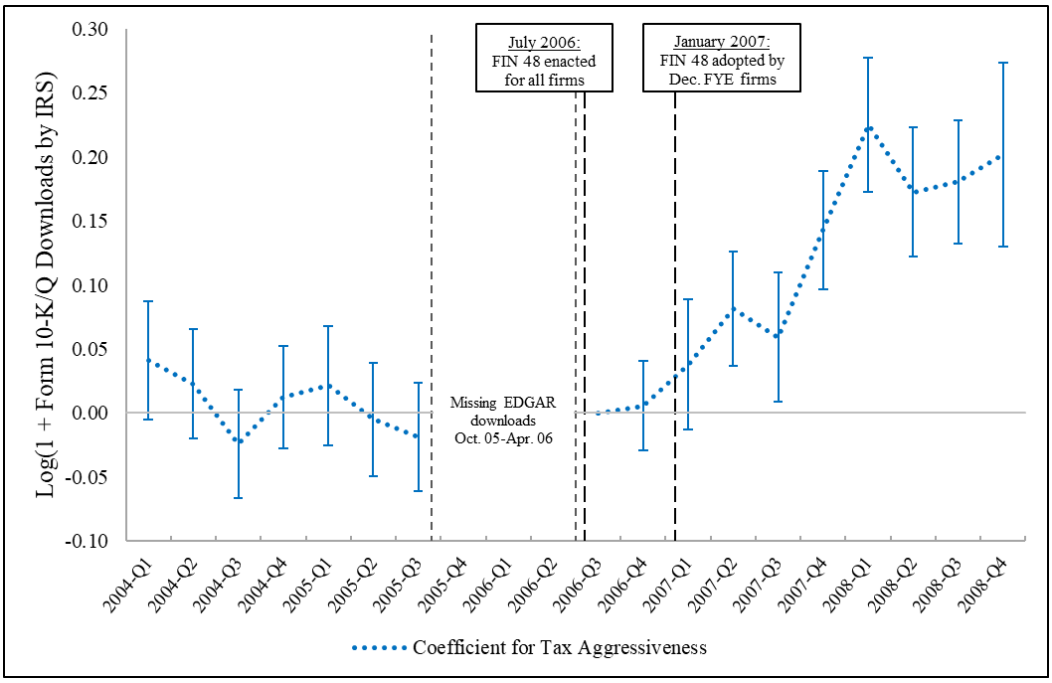

Table 1
Sample selection

Panel A: Going-private sample

Description	No. of obs dropped	No. of obs remaining
Acquisitions of U.S. public targets announced from Jan. 1, 2005 to Jun. 30, 2008		961
Exclude deals with non-private acquirers	(643)	318
Exclude deals unable to match target to CRSP delisting file	(6)	312
Exclude deals with SIC codes 4900-4999 and 6000-6999 (financial and utilities firms)	(61)	251
Exclude deals due to bankrupcty or debt restructuring of the target	(8)	243
Exclude deals with missing data required for key variable construction	(30)	213
Exclude deals announced after FIN 48 enactment but completed after first FIN 48 disclosures	(3)	210
Final number of going-private transactions		**210**

Panel B: Firm-quarter sample

Description	No. of obs dropped	No. of obs remaining
Calendar firm-quarters based on Compustat from Jan. 1, 2005 to Jun. 30, 2008		114,146
Exclude firm-quarters with SIC codes 4900-4999 and 6000-6999 (financial and utilities firms)	(24,961)	89,185
Exclude firm-quarters with missing values for key variable construction	(28,689)	60,496
Final number of calendar firm-quarters		**60,496**

Table 2
Descriptive statistics

This table presents descriptive information for the sample and variables of interest. Panel A reflects the firm-quarters with the necessary data for the going-private tests during the calendar quarters 2005Q1 to 2008Q2. Panel B lists the total number of going-private transactions by the quarter in which they are announced, as well as the quarterly number of announced going-private transactions by transaction type (private equity and management-involved buyouts versus third party private operating firm acquirers). Panel C presents mean values of the variables of interest for three different groups of firms: firms that announce a going-private transaction during the quarters between FIN 48 enactment and adoption (column 1); firms that announce a going-private transaction outside of the period between FIN 48 enactment and adoption (column 2); and firms that do not announce a going-private transaction during the sample period (column 3). Details of variable construction are contained in Appendix A.

Panel A: Firm-quarter descriptive statistics

Variables	**N**	**Mean**	**SD**	**P25**	**P50**	**P75**
Dependent variables:						
*Go Private**	60,496	0.35	5.88	0.00	0.00	0.00
*Go Private - PE & Mgmt**	60,496	0.24	4.84	0.00	0.00	0.00
*Go Private - Operating**	60,496	0.11	3.35	0.00	0.00	0.00
Tax aggressiveness proxies:						
Tax Shelter Score †	60,496	0.47	0.38	0.06	0.48	0.87
BTD Factor †	60,496	0.24	0.31	0.22	0.34	0.40
Cash Tax Diff †	60,496	-0.02	0.06	-0.03	0.00	0.01
Adj. GAAP ETR 3 Yr	59,160	-0.01	0.80	-0.14	0.01	0.10
Adj. Cash ETR 3 Yr	59,160	-0.02	0.55	-0.16	0.01	0.09
Predicted UTB	56,506	0.01	0.06	0.00	0.01	0.02
Total BTD	60,496	-0.22	0.54	-0.21	-0.01	0.04
Abnormal BTD	60,496	0.00	0.45	-0.09	0.09	0.23
ETR Differential	60,496	-0.13	0.31	-0.13	0.00	0.02
Other variables:						
FIN 48	60,496	0.18	0.39	0.00	0.00	0.00
Size	60,496	5.12	2.23	3.44	5.09	6.70
BTM	60,496	0.22	1.50	0.18	0.36	0.61
ROA	60,496	-0.14	0.50	-0.13	0.02	0.07
Leverage	60,496	0.35	0.96	0.00	0.05	0.27
Liquidity	60,496	0.67	1.18	0.18	0.35	0.67
NOL	60,496	0.30	1.17	0.00	0.00	0.09
Firm Age	60,496	2.46	0.83	2.11	2.47	2.96
Ret 1 Yr	60,496	0.01	0.42	-0.18	-0.01	0.18
Inst Own	60,496	0.42	0.34	0.03	0.41	0.73
Analyst Coverage	60,496	1.12	1.01	0.00	1.10	1.95
Market Attention	60,496	4.91	2.10	4.32	5.59	6.28

* The values of *Go Private*, *Go Private - PE & Mgmt*, and *Go Private - Operating* are multiplied by 100 to ease interpretation of the coefficients when used in regressions.
† The *Tax Shelter Score*, *BTD Factor*, and *Cash Tax Diff* variables are unadjusted in the table above, but when used as independent variables in regressions they are centered around zero to facilitate interpretation.

Table 2 (continued)

Panel B: Number of going-private transactions announced by quarter and type

	Go Private		*Go Private - PE & Mgmt*		*Go Private - Operating*	
Quarter	**Num**	**Pct**	**Num**	**Pct**	**Num**	**Pct**
2005 Q1	10	4.7%	5	3.4%	5	7.4%
2005 Q2	11	5.2%	7	4.8%	4	5.9%
2005 Q3	14	6.6%	9	6.2%	5	7.4%
2005 Q4	14	6.6%	10	6.9%	4	5.9%
2006 Q1	12	5.6%	10	6.9%	2	2.9%
2006 Q2	19	8.9%	8	5.5%	11	16.2%
2006 Q3	24	11.3%	20	13.8%	4	5.9%
2006 Q4	21	9.9%	16	11.0%	5	7.4%
2007 Q1	21	9.9%	13	9.0%	8	11.8%
2007 Q2	21	9.9%	15	10.3%	6	8.8%
2007 Q3	10	4.7%	10	6.9%	0	0.0%
2007 Q4	11	5.2%	6	4.1%	5	7.4%
2008 Q1	14	6.6%	9	6.2%	5	7.4%
2008 Q2	11	5.2%	7	4.8%	4	5.9%
Total	**213**	**100%**	**145**	**100%**	**68**	**100%**

* The above table includes all going-private transactions announced by quarter. In the regression analysis, three transactions announced during 2006Q3-Q4 are excluded because they are completed after the firm's initial filings containing FIN 48 information.

Panel C: Comparison of firm means by group

	(1)	(2)	(3)		
Firm group:	Go Private *FIN 48* = 1	Go Private *FIN 48* = 0	Never Go Private	(1) - (3)	(1) - (2)
Variables	**Mean**	**Mean**	**Mean**	**Difference**	**Difference**
Tax Shelter Score †	0.61	0.50	0.47	0.14***	0.11**
BTD Factor †	0.37	0.34	0.24	0.13***	0.03**
Cash Tax Diff †	0.00	-0.01	-0.02	0.02**	0.01*
Size	5.88	5.64	5.12	0.76***	0.24
BTM	0.56	0.32	0.22	0.34*	0.24
ROA	0.03	-0.02	-0.14	0.17***	0.05**
Leverage	0.24	0.55	0.35	-0.11	-0.31*
Liquidity	0.69	0.75	0.67	0.02	-0.06
NOL	0.23	0.34	0.30	-0.07	-0.11
Firm Age	2.66	2.52	2.46	0.20*	0.14
Ret 1 Yr	-0.06	0.00	0.01	-0.07	-0.06
Inst Own	0.42	0.41	0.42	0.00	0.01
Analyst Coverage	1.39	1.27	1.12	0.27**	0.12
Market Attention	6.30	5.45	4.91	1.39***	0.85**
No. of observations	**62**	**148**	**60,286**		

† The *Tax Shelter Score*, *BTD Factor*, and *Cash Tax Diff* variables are unadjusted in the table above, but when used as independent variables in regressions they are centered around zero to facilitate interpretation.

Table 3
Tax aggressive firms' propensity to go private around FIN 48 enactment

This table presents results examining the propensity of tax aggressive firms to announce a going-private transaction around the enactment of FIN 48. The sample consists of firm-quarter observations during calendar quarters 2005Q1 to 2008Q2. The dependent variable equals one if the firm announces a going-private transaction during the quarter (multiplied by 100 to ease interpretation of the coefficients), and zero otherwise. Panel B includes indicator variables for each quarter from 2005Q1 to 2008Q2 interacted with the tax aggressiveness proxies. Columns 1-2 (3-4, 5-6) show the results using *Tax Shelter Score* (*BTD Factor*, *Cash Tax Diff*) as the tax aggressiveness proxy, measured as of the fiscal year-end prior to FIN 48 enactment. All variables are defined in Appendix A. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by firm. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Panel A: Following FIN 48 enactment but prior to adoption

Dependent variable:		*Go Private*					
Tax aggressiveness proxy:	Pr. sign	*Tax Shelter Score*		*BTD Factor*		*Cash Tax Diff*	
FIN 48		0.270***	0.552**	0.304***	0.579**	0.295***	0.575**
		(3.55)	(2.27)	(3.58)	(2.36)	(3.59)	(2.35)
FIN 48 × Tax Aggressive	+	0.464***	0.457***	0.346***	0.319**	1.593***	1.487***
		(2.69)	(2.65)	(2.65)	(2.43)	(2.86)	(2.66)
Tax Aggressive		0.060	-0.060	0.275***	0.108*	1.096***	0.580**
		(1.08)	(-0.67)	(5.62)	(1.72)	(5.43)	(2.27)
Size			-0.010		-0.012		-0.009
			(-0.67)		(-0.89)		(-0.71)
BTM			0.045**		0.045**		0.046**
			(2.18)		(2.16)		(2.22)
ROA			0.131***		0.088***		0.087***
			(4.40)		(3.09)		(3.09)
Leverage			0.032		0.031		0.031
			(0.84)		(0.80)		(0.81)
Liquidity			0.012		0.009		0.014
			(0.48)		(0.37)		(0.58)
NOL			0.031		0.035		0.036
			(1.08)		(1.19)		(1.19)
Firm Age			0.039		0.035		0.034
			(1.43)		(1.26)		(1.23)
Ret 1 Yr			-0.023		-0.022		-0.021
			(-0.39)		(-0.37)		(-0.36)
Inst Own			-0.413***		-0.416***		-0.420***
			(-2.78)		(-2.82)		(-2.85)
Analyst Coverage			0.112**		0.113**		0.112**
			(2.29)		(2.31)		(2.30)
Market Attention			0.091***		0.092***		0.092***
			(4.20)		(4.22)		(4.23)
Year-Qtr FE		No	Yes	No	Yes	No	Yes
Industry FE (SIC 2-digit)		No	Yes	No	Yes	No	Yes
S.E. clustered by firm		Yes	Yes	Yes	Yes	Yes	Yes
No. of observations		60,496	60,496	60,496	60,496	60,496	60,496
No. of events		210	210	210	210	210	210
R-Squared		0.05%	0.39%	0.07%	0.39%	0.05%	0.39%

Table 3 (continued)

Panel B: Parallel trends before FIN 48 enactment

Dependent variable:		*Go Private*		
Tax aggressiveness proxy:	Pr. sign	*Tax Shelter Score*	*BTD Factor*	*Cash Tax Diff*
2005 Q1 × Tax Aggressive		0.068	-0.023	0.230
		(0.36)	(-0.33)	(0.40)
2005 Q2 × Tax Aggressive		-0.059	-0.127	0.163
		(-0.32)	(-1.02)	(0.38)
2005 Q3 × Tax Aggressive		-0.118	0.167	0.578
		(-0.69)	(1.23)	(1.00)
2005 Q4 × Tax Aggressive		-0.026	-0.012	0.005
		(-0.14)	(-0.09)	(0.01)
2006 Q1 × Tax Aggressive		0.137	0.112	0.903
		(0.83)	(1.10)	(1.56)
2006 Q2 × Tax Aggressive		-0.125	0.046	0.929
		(-0.55)	(0.53)	(1.35)
2006 Q3 × Tax Aggressive	+/0	0.014	0.253*	1.580*
		(0.06)	(1.70)	(1.85)
2006 Q4 × Tax Aggressive	+	0.642***	0.341**	1.665***
		(2.62)	(2.28)	(2.60)
2007 Q1 × Tax Aggressive		-0.024	0.184*	0.873
		(-0.10)	(1.70)	(1.29)
2007 Q2 × Tax Aggressive		0.413	0.170	0.267
		(1.42)	(1.59)	(0.24)
2007 Q3 × Tax Aggressive		0.065	0.137	0.342
		(0.30)	(1.03)	(0.64)
2007 Q4 × Tax Aggressive		-0.291*	-0.054	-0.133
		(-1.93)	(-0.69)	(-0.21)
2008 Q1 × Tax Aggressive		-0.106	0.214	-2.643
		(-0.44)	(1.31)	(-1.47)
2008 Q2 × Tax Aggressive		-0.307	0.101	-1.080
		(-1.44)	(0.83)	(-0.90)
Controls		Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes
Industry FE (SIC 2-digit)		Yes	Yes	Yes
S.E. clustered by firm		Yes	Yes	Yes
No. of observations		60,496	60,496	60,496
No. of events		210	210	210
R-Squared		0.38%	0.42%	0.37%

Table 4
Heterogeneity in the effect of FIN 48 on tax aggressive firms' propensity to go private

This table presents results of two cross-sectional tests examining the propensity of tax aggressive firms to announce a going-private transaction around the enactment of FIN 48. In Panel A, firms are sorted into terciles based on the proportion of total sales coming from foreign sources, where firms in the bottom two terciles are designated as domestic firms (Domestic), and firms in the top tercile are designated as multinational firms (MNE). In Panel B, firms are designated as belonging to the IRS CIC program if they are among the 500 firms with the highest CIC prediction score (CIC), otherwise they are designated as not belonging to the CIC program (Non-CIC). In both panels, the sample consists of firm-quarter observations during calendar quarters 2005Q1 to 2008Q2. The dependent variable equals one if the firm announces a going-private transaction during the quarter (multiplied by 100 to ease interpretation of the coefficients), and zero otherwise. Columns 1-2 (3-4, 5-6) show the results using *Tax Shelter Score* (*BTD Factor*, *Cash Tax Diff*) as the tax aggressiveness proxy, measured as of the fiscal year-end prior to FIN 48 enactment. All variables are defined in Appendix A. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by firm. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Panel A: Domestic versus multinational firms

Dependent variable:		*Go Private*					
Tax aggressiveness proxy:		*Tax Shelter Score*		*BTD Factor*		*Cash Tax Diff*	
Firm type:	Pr. sign	Domestic	MNE	Domestic	MNE	Domestic	MNE
FIN 48 × *Tax Aggressive*	+,0	0.639**	-0.052	0.357**	-0.133	1.509**	0.348
		(2.45)	(-0.16)	(2.38)	(-0.30)	(2.47)	(0.18)
p-value for difference in coefficients		0.03		0.10		0.25	
FIN 48 main effect		Yes	Yes	Yes	Yes	Yes	Yes
Tax Aggressive main effect		Yes	Yes	Yes	Yes	Yes	Yes
Controls		Yes	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes	Yes	Yes
Industry FE (SIC 2-digit)		Yes	Yes	Yes	Yes	Yes	Yes
S.E. clustered by firm		Yes	Yes	Yes	Yes	Yes	Yes
No. of observations		40,331	20,165	40,331	20,165	40,331	20,165
No. of events		158	52	158	52	158	52
R-Squared		0.50%	0.57%	0.49%	0.56%	0.49%	0.57%

Panel B: Non-CIC versus CIC firms

Dependent variable:		*Go Private*					
Tax aggressiveness proxy:		*Tax Shelter Score*		*BTD Factor*		*Cash Tax Diff*	
Firm type:	Pr. sign	Non-CIC	CIC	Non-CIC	CIC	Non-CIC	CIC
FIN 48 × *Tax Aggressive*	+,0	0.480**	-1.283	0.308**	-1.043	1.474**	-2.923
		(2.47)	(-0.93)	(2.27)	(-0.75)	(2.56)	(-0.38)
p-value for difference in coefficients		0.09		0.14		0.15	
FIN 48 main effect		Yes	Yes	Yes	Yes	Yes	Yes
Tax Aggressive main effect		Yes	Yes	Yes	Yes	Yes	Yes
Controls		Yes	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes	Yes	Yes
Industry FE (SIC 2-digit)		Yes	Yes	Yes	Yes	Yes	Yes
S.E. clustered by firm		Yes	Yes	Yes	Yes	Yes	Yes
No. of observations		54,791	5,705	54,791	5,705	54,791	5,705
No. of events		194	16	194	16	194	16
R-Squared		0.43%	2.22%	0.43%	2.20%	0.43%	2.20%

Table 5
Tax aggressive firms' propensity to go private around FIN 48 enactment: Transaction types

This table presents results examining the propensity of tax aggressive firms to announce a going-private transaction around the enactment of FIN 48, by transaction type. In Panel A, the dependent variable equals one if the firm announces a going-private transaction involving a private equity buyer during the quarter (multiplied by 100 to ease interpretation of the coefficients), and zero otherwise. In Panel B, the dependent variable equals one if the firm announces a going-private transaction via acquisition by a third party private operating firm during the quarter (multiplied by 100 to ease interpretation of the coefficients), and zero otherwise. The sample consists of firm-quarter observations during calendar quarters 2005Q1 to 2008Q2. Column 1 (2, 3) shows the results using *Tax Shelter Score* (*BTD Factor*, *Cash Tax Diff*) as the tax aggressiveness proxy, measured as of the fiscal year-end prior to FIN 48 enactment. All variables are defined in Appendix A. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by firm. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Panel A: Private equity and management-involved buyouts

Dependent variable:		*Go Private - PE & Mgmt*		
Tax aggressiveness proxy:	Pr. sign	*Tax Shelter Score*	*BTD Factor*	*Cash Tax Diff*
FIN 48 × *Tax Aggressive*	+	0.387***	0.323***	1.499***
		(2.83)	(3.60)	(3.48)
FIN 48 main effect		Yes	Yes	Yes
Tax Aggressive proxy main effect		Yes	Yes	Yes
Controls		Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes
Industry FE (SIC 2-digit)		Yes	Yes	Yes
S.E. clustered by firm		Yes	Yes	Yes
No. of observations		60,496	60,496	60,496
No. of events		142	142	142
R-Squared		0.45%	0.44%	0.44%

Panel B: Third party operating firms

Dependent variable:		*Go Private - Operating*		
Tax aggressiveness proxy:	Pr. sign	*Tax Shelter Score*	*BTD Factor*	*Cash Tax Diff*
FIN 48 × *Tax Aggressive*	+/0	0.069	-0.005	-0.013
		(0.80)	(-0.06)	(-0.04)
FIN 48 main effect		Yes	Yes	Yes
Tax Aggressive proxy main effect		Yes	Yes	Yes
Controls		Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes
Industry FE (SIC 2-digit)		Yes	Yes	Yes
S.E. clustered by firm		Yes	Yes	Yes
No. of observations		60,496	60,496	60,496
No. of events		68	68	68
R-Squared		0.18%	0.19%	0.19%

Table 6
Speed of response to FIN 48 by firms with December FYEs versus firms with other FYEs

This table presents results examining the propensity of tax aggressive firms to announce a going-private transaction around the enactment of FIN 48 for firms with December fiscal year-ends and firms with non-December (Other) fiscal year-ends. The sample consists of firm-quarter observations during calendar quarters 2005Q1 to 2008Q2. The dependent variable equals one if the firm announces a going-private transaction during the quarter (multiplied by 100 to ease interpretation of the coefficients), and zero otherwise. The variable *2005Q1 - 2006Q2* (*2006Q3 - 2006Q4, 2007Q1 - 2007Q2, 2007Q3 - 2008Q2*) is an indicator variable equal to one for calendar quarters 2005Q1 to 2006Q2 (2006Q3-Q4, 2007Q1-Q2, 2007Q3-2008Q2), and zero otherwise. Columns 1-2 (3-4, 5-6) show the results using *Tax Shelter Score* (*BTD Factor*, *Cash Tax Diff*) as the tax aggressiveness proxy, measured as of the fiscal year-end prior to FIN 48 enactment. Columns 1, 3, and 5 (2, 4, and 6) show the results for firms with December (non-December, or 'Other') fiscal year-ends. All variables are defined in Appendix A. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by firm. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Dependent variable:		*Go Private*					
Tax aggressiveness proxy:		*Tax Shelter Score*		*BTD Factor*		*Cash Tax Diff*	
Fiscal year-end:	Pr. sign	December	Other	December	Other	December	Other
2005Q1 - 2006Q2 × Tax Aggressive		-0.099	0.172	0.055	-0.089	0.790*	1.031*
		(-0.89)	(1.12)	(0.61)	(-0.75)	(1.88)	(1.88)
2006Q3 - 2006Q4 × Tax Aggressive	+,0	0.502**	-0.000	0.415***	0.020	2.468***	0.811
		(2.14)	(-0.00)	(4.01)	(0.15)	(3.29)	(1.18)
2007Q1 - 2007Q2 × Tax Aggressive	0,+	0.066	0.492*	0.136	0.329**	1.252	1.979**
		(0.28)	(1.76)	(1.09)	(2.33)	(1.55)	(2.02)
2007Q3 - 2008Q2 × Tax Aggressive		-0.063	-0.319	-0.009	0.008	-0.232	0.320
		(-0.41)	(-1.24)	(-0.06)	(0.07)	(-0.64)	(0.47)
Controls		Yes	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes	Yes	Yes
Industry FE (SIC 2-digit)		Yes	Yes	Yes	Yes	Yes	Yes
S.E. clustered by firm		Yes	Yes	Yes	Yes	Yes	Yes
No. of observations		40,316	20,180	40,316	20,180	40,316	20,180
No. of events		143	67	143	67	143	67
R-Squared		0.49%	0.60%	0.54%	0.65%	0.48%	0.58%

Table 7
IRS scrutiny of tax aggressive firms following FIN 48 adoption

This table presents results examining IRS downloads of tax aggressive firms' 10-K and 10-Q filings around the enactment of FIN 48. The sample consists of calendar firm-quarter observations from 2004Q1 to 2008Q4. The dependent variable is the natural log of one plus the number of downloads of a firm's 10-K and 10-Q filings during a quarter by the IRS. *Yr 2005* (*Yr 2006*, *Yr 2007*, *Yr 2008*) is an indicator variable equal to one if the quarter falls in calendar year 2005 (2006, 2007, 2008), and zero otherwise. Column 1 (2, 3) shows the results using *Tax Shelter Score* (*BTD Factor*, *Cash Tax Diff*) as the tax aggressiveness proxy, measured as of the fiscal year-end prior to FIN 48 enactment. All variables are defined in Appendix A. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by firm and year-quarter. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Dependent variable:		*Log(IRS 10-K/Q Downloads)*		
Tax aggressiveness proxy:	Pr. sign	*Tax Shelter Score*	*BTD Factor*	*Cash Tax Diff*
Yr 2005 × Tax Aggressive	0	-0.045	-0.024	-0.075
		(-1.08)	(-1.05)	(-0.74)
Yr 2006 × Tax Aggressive	0	-0.064	-0.029	-0.104
		(-1.56)	(-1.18)	(-1.00)
Yr 2007 × Tax Aggressive	+	0.089***	0.056***	0.231***
		(4.48)	(4.78)	(3.53)
Yr 2008 × Tax Aggressive	+	0.215***	0.128***	0.592***
		(11.70)	(10.75)	(10.39)
Tax Aggressive		-0.012	-0.030*	-0.177**
		(-0.51)	(-1.96)	(-2.23)
Size		0.037***	0.040***	0.040***
		(8.22)	(8.16)	(8.08)
BTM		-0.002*	-0.002	-0.002*
		(-1.77)	(-1.60)	(-1.87)
ROA		-0.019***	-0.016***	-0.014***
		(-4.45)	(-3.74)	(-3.33)
Leverage		-0.010***	-0.010***	-0.010***
		(-4.32)	(-4.28)	(-4.33)
Liquidity		0.000	0.001	0.000
		(0.17)	(0.37)	(0.20)
NOL		0.002**	0.002*	0.001
		(2.30)	(1.87)	(1.40)
Firm Age		0.036***	0.037***	0.036***
		(7.17)	(7.24)	(7.15)
Ret 1 Yr		-0.002	-0.001	-0.001
		(-0.79)	(-0.42)	(-0.24)
Inst Own		-0.049***	-0.046***	-0.045***
		(-4.69)	(-4.48)	(-4.33)
Analyst Coverage		0.024***	0.024***	0.024***
		(4.95)	(4.87)	(4.81)
Market Attention		0.029***	0.029***	0.029***
		(8.86)	(8.76)	(8.74)
Year-Qtr FE		Yes	Yes	Yes
Industry FE (SIC 2-digit)		Yes	Yes	Yes
S.E. clustered by firm and year-qtr		Yes	Yes	Yes
No. of observations		86,095	86,095	86,095
R-Squared		19.02%	18.21%	18.15%

Table 8
Tax aggressive firms' propensity to go private around FIN 48 enactment: Alternative tax aggressiveness proxies

This table presents results examining the robustness of tax aggressive firms' propensity to announce a going-private transaction around the enactment of FIN 48 to the use of alternative tax aggressiveness proxies. The sample consists of firm-quarter observations during calendar quarters 2005Q1 to 2008Q2. The dependent variable equals one if the firm announces a going-private transaction during the quarter (multiplied by 100 to ease interpretation of the coefficients), and zero otherwise. The tax aggressiveness proxies are measured as of the fiscal year-end prior to FIN 48 enactment. All variables are defined in Appendix A. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by firm. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Dependent variable:	Pr. sign	*Go Private*					
FIN 48 × *Adj. GAAP ETR 3 Yr*	-	-0.225*** (-4.10)					
FIN 48 × *Adj. Cash ETR 3 Yr*	-		-0.157*** (-2.61)				
FIN 48 × *Predicted UTB*	+			0.575* (1.85)			
FIN 48 × *Total BTD*	+				0.223*** (2.90)		
FIN 48 × *Abnormal BTD*	+					0.154** (2.12)	
FIN 48 × *ETR Differential*	+						0.492*** (3.75)
FIN 48 main effect		Yes	Yes	Yes	Yes	Yes	Yes
Tax aggressiveness proxy main effect		Yes	Yes	Yes	Yes	Yes	Yes
Controls		Yes	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE		Yes	Yes	Yes	Yes	Yes	Yes
Industry FE (SIC 2-digit)		Yes	Yes	Yes	Yes	Yes	Yes
S.E. clustered by firm		Yes	Yes	Yes	Yes	Yes	Yes
No. of observations		59,160	59,160	56,506	60,496	60,496	60,496
No. of events		209	209	209	210	210	210
R-Squared		0.39%	0.39%	0.38%	0.39%	0.38%	0.39%

Table 9
The tax aggressiveness of IPO firms after FIN 48 and Schedule UTP disclosures

This table presents the descriptive statistics and results for the effects of FIN 48 and Schedule UTP disclosures on the pre-IPO tax aggressiveness of IPO firms. Panel A contains descriptive statistics for the sample of IPO filings containing the necessary data for years 2004 to 2013. Panel B shows the number of IPO filings by year and under each disclosure regime. Panel C presents the effects of the FIN 48 disclosure regime on the tax aggressiveness of IPO filers using a sample from 2004-2009. Panel D presents the effects of the FIN 48 and Schedule UTP disclosure regimes on the tax aggressiveness of IPO filers using a sample from 2004-2013. All variables are defined in Appendix A. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by firm. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Panel A: Descriptive statistics for IPO filings sample

Variables	**N**	**Mean**	**SD**	**P25**	**P50**	**P75**
Tax aggressiveness proxies:						
Tax Shelter Score $_{IPO}$	1,071	0.26	0.28	0.01	0.15	0.44
BTD Factor $_{IPO}$	1,071	0.02	0.89	-0.13	0.35	0.45
Cash Tax Diff $_{IPO}$	712	-0.06	0.22	-0.05	-0.01	0.01
Other variables:						
Post-FIN 48	1,071	0.64	0.48	0.00	1.00	1.00
Post-Sch. UTP	1,071	0.20	0.40	0.00	0.00	0.00
Size $_{IPO}$	1,071	4.58	1.87	3.32	4.32	5.81
ROA $_{IPO}$	1,071	-0.39	1.22	-0.37	-0.03	0.04
Leverage $_{IPO}$	1,071	0.28	0.38	0.00	0.13	0.46
Liquidity $_{IPO}$	1,071	0.56	0.30	0.29	0.56	0.85
NOL $_{IPO}$	1,071	0.28	0.94	0.00	0.00	0.07
Firm Age $_{IPO}$	1,071	1.79	1.24	0.25	2.02	2.59

Panel B: Number of IPO filings by year and disclosure regime

Quarter	All IPO filings	IPO filings when: *Post-FIN48* = 0 *Post-Sch. UTP* = 0	IPO filings when: *Post-FIN48* = 1 *Post-Sch. UTP* = 0	IPO filings when: *Post-FIN48* = 1 *Post-Sch. UTP* = 1
2004	173	173	0	0
2005	141	141	0	0
2006	138	71	67	0
2007	122	0	122	0
2008	47	0	47	0
2009	44	0	44	0
2010	92	0	43	49
2011	110	0	63	47
2012	63	0	26	37
2013	141	0	57	84
Total	**1,071**	**385**	**469**	**217**

Table 9 (continued)

Panel C: Tax aggressiveness of IPO firms after FIN 48 disclosures

Dependent variable:	Pr. sign	*Tax Shelter Score* $_{IPO}$	*BTD Factor* $_{IPO}$	*Cash Tax Diff* $_{IPO}$
Post-FIN 48	-	-0.033**	-0.044**	-0.014*
		(-2.19)	(-2.03)	(-1.90)
Size $_{IPO}$		0.102***	0.046***	0.009***
		(9.75)	(4.54)	(2.87)
ROA $_{IPO}$		-0.002	0.610***	0.122***
		(-0.14)	(10.48)	(7.46)
Leverage $_{IPO}$		-0.133***	-0.085**	-0.015
		(-3.48)	(-2.17)	(-1.64)
Liquidity $_{IPO}$		0.068**	-0.217***	-0.035
		(2.19)	(-5.67)	(-1.61)
NOL $_{IPO}$		-0.024*	-0.089**	-0.029
		(-1.88)	(-2.49)	(-1.36)
Firm Age $_{IPO}$		0.003	0.017*	0.005*
		(0.67)	(1.68)	(1.78)
Industry FE (SIC 2-digit)		Yes	Yes	Yes
S.E. clustered by firm		Yes	Yes	Yes
No. of observations		665	665	438
No. of IPO filings		665	665	438
R-Squared		48.81%	82.30%	75.27%

Table 9 (continued)

Panel D: Tax aggressiveness of IPO firms after FIN 48 and Schedule UTP disclosures

Dependent variable:	Pr. sign	*Tax Shelter Score* $_{IPO}$	*BTD Factor* $_{IPO}$	*Cash Tax Diff* $_{IPO}$
Post-FIN 48	-	-0.020**	-0.056**	-0.014***
		(-2.10)	(-2.29)	(-2.64)
Post-Sch. UTP	+	0.059***	0.045*	0.007*
		(3.17)	(1.78)	(1.76)
Size $_{IPO}$		0.105***	0.055***	0.006***
		(13.74)	(3.59)	(3.56)
ROA $_{IPO}$		-0.011	0.543***	0.260***
		(-0.93)	(11.91)	(19.41)
Leverage $_{IPO}$		-0.127***	-0.056*	-0.030**
		(-3.08)	(-1.78)	(-2.12)
Liquidity $_{IPO}$		0.077***	-0.181***	-0.026**
		(2.87)	(-2.74)	(-2.06)
NOL $_{IPO}$		0.010*	-0.013	0.009
		(1.65)	(-0.46)	(0.54)
Firm Age $_{IPO}$		0.004	0.017***	0.001
		(0.89)	(2.60)	(0.46)
Industry FE (SIC 2-digit)		Yes	Yes	Yes
S.E. clustered by firm		Yes	Yes	Yes
No. of observations		1,071	1,071	712
No. of IPO filings		1,071	1,071	712
R-Squared		51.82%	82.95%	95.43%