Journal of Public Economics 93 (2009) 126–141

Contents lists available at ScienceDirect

Journal of Public Economics

journal homepage: www.elsevier.com/locate/econbase

# What does tax aggressiveness signal? Evidence from stock price reactions to news about tax shelter involvement☆

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ARTICLE INFO

*Article history:*
Received 11 September 2007
Received in revised form 12 September 2008
Accepted 16 September 2008
Available online 23 September 2008

*JEL classification:*
H25
G30

*Keywords:*
Tax aggressiveness
Tax shelter
Market reaction

ABSTRACT

We study the stock price reaction to news about corporate tax aggressiveness. We find that, on average, a company's stock price declines when there is news about its involvement in tax shelters. We find some limited evidence for cross-sectional variation in the reaction. For example, the reaction is more negative for firms in the retail sector, suggesting that part of the reaction may be a consumer/taxpayer backlash. In addition, the reaction is less negative for firms that are viewed to be generally less tax aggressive, as proxied by the firm's cash effective tax rate. We interpret this as being consistent with the market reacting positively to evidence that a firm is trying to reduce taxes when their financial reports would lead one to believe the firm is not tax aggressive.



## 1. Introduction

Although prior literature reveals that there is significant variation in firms' effective tax rates (e.g., Dyreng et al., 2008) and anecdotal testimony suggests wide differences across firms in their appetite for tax risk, there is little hard evidence about the extent to which the variation in effective tax rates is caused by tax aggressiveness. Indeed, there has been little rigorous empirical analysis of the benefits and costs to corporations of being tax aggressive.

The primary benefit—reduced tax liability—is fairly straightforward. Of course, in order to maximize the value of the firm, shareholders would like to minimize corporate tax payments net of the private costs of doing so; in other words, they want the company to be *optimally* aggressive. Marketing efforts and reports from tax shelter promoters are consistent with firms competing on tax minimization.[1] Putting aside the costs, an aggressive tax strategy makes a company's shares more attractive. Moreover, new information suggesting that a firm is tax aggressive should be positive news to the market.

But there are costs. To the extent that tax aggressiveness is deemed by the Internal Revenue Service (IRS) and the tax courts to be noncompliance, it may be disallowed and subject to penalties. Because the objective is to minimize tax payments net of cost, including expected penalties, news about penalties per se and future cash flow outlays for back taxes or increased future taxes is almost certainly viewed negatively.

☆ We are grateful to Estelle Dauchy, Kyle Peterson, and Nemit Shroff for able and tireless research assistance. We appreciate comments on earlier drafts from Joseph Bankman, Dhammika Dharmapala, Ed Outslay, Terry Shevlin, and workshop participants at the National Bureau of Economic Research Financial Accounting and Tax Policy Conference, the Sidney Winter Lecture Series at the University of Iowa, and the Said Business School at Oxford University. We thank the American Tax Policy Institute and the National Bureau of Economic Research for funding.

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[1] For example, in a *Forbes* article on tax sheltering, a shelter promoter revealed that "A potential client once said that he would hire the firm if we could get their tax rate down, because it was higher than their competitors' and they were embarrassed" (Novack and Saunders, 1998, p. 198).

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doi:10.1016/j.jpubeco.2008.09.004

Furthermore, if a firm is identified as a tax shelter purchaser, the firm may bear reputational and political costs of being labeled a "poor corporate citizen." The mission statement of General Electric's tax department includes a part that states that tax strategies should not be harmful to the company's reputation. They include reputation as a tax risk category and describe the criteria for evaluating this type of risk for a particular strategy as the "Wall Street Journal Test" (e.g., would it look negative if the company were discussed on the front page of the *Wall Street Journal* for the strategy?).[2] Public statements attesting to firms' tax payments support this hypothesis. For example, after the release of a 2004 Citizens for Tax Justice (CTJ) study that identified SBC as a low taxpayer, the Vice President and Controller of SBC, John J. Stephens, asserted that "We carry an enormous tax burden for this country; for that not to be made clear seems very inappropriate" (Weisman, 2004, p. E02). In the letter to shareholders that opens the 2004 Wal-Mart Annual Report, Lee Scott, President and CEO, tells shareholders:

> I also will report that Wal-Mart paid $4 billion in U.S. federal income taxes in fiscal year 2004. To borrow a page from my friend Warren Buffett's annual report letter to the shareholders of Berkshire Hathaway, this means that if 446 other taxpayers paid the same amount as Wal-Mart, no other business or individual in the United States would have had to pay federal taxes last year (based on 2003 U.S. federal tax receipts of $1.782 trillion).

One might infer from these statements that at least some firms perceive a political cost to being labeled as tax aggressive.[3]

In addition, in some instances investors may interpret news about a firm's tax aggressiveness as evidence not only about a firm's behavior toward the IRS, but also about insiders' willingness to be aggressive with the investors as well (e.g., Desai et al., 2007). If shareholders suspect that managements who are aggressive with the IRS are also aggressive in, for example, reporting their accounting earnings, then the market may grow suspicious of the accuracy of the company's financial statements. To the extent that this happens, the market reaction to the news that a firm is tax aggressive could be negative.

In theory, then, news about tax aggressiveness could either boost or depress a firm's stock price. The tension is wonderfully illustrated by the response of Whirlpool's tax counsel, Robert Kenney, to the news that Whirlpool had the *highest* current effective tax rate on the list of firms named by the 1984 CTJ study: "It's a double edged sword. We owe it to our shareholders to take legitimate and legal means to keep down taxes" (Birnbaum and Murray, 1987, p. 12).

This paper attempts to sort out the multiple avenues by which news of corporate tax aggressiveness might affect the market value of corporations by investigating the market reaction to an initial press mention that a firm was involved in a corporate tax shelter.[4] We study these events both because tax shelters are under intense scrutiny, and because there is very little rigorous quantitative research on the firms that engage in tax sheltering.[5]

We construct our sample by searching press articles, announcements and newswires for the term "tax shelter" along with either "corporate" or "corporation", and then restricting the sample to cases where the news refers to some type of accusation or announcement in the press that the firm engaged in a tax shelter. We do this while fully recognizing that there is no universally-accepted definition of a tax shelter, and that some of the firms in our sample mentioned in the press as engaging in a tax shelter did not ever receive a Notice of Deficiency from the IRS regarding their participation in the mentioned shelter.[6]

We find that, on average, a company's stock price declines when there is news about its involvement in tax shelters. We also find some limited evidence regarding what explains the cross-sectional variation in the reaction. For example, the reaction is more negative for firms in the retail sector, suggesting that part of the reaction may be a consumer/taxpayer backlash. In addition, firms with relatively high disclosed cash effective tax rates have a less negative reaction, consistent with the market reacting positively to evidence that these firms were not as "tax-passive" as previously believed. We also investigate whether the governance structure of the firm affects the market reaction, and find a more complex relation than described in Desai and Dharmapala (in press). We note that some of these cross-sectional results are sensitive to the proxy used, for example, the measure a company's governance quality or its vulnerability to a public backlash regarding (lack of) corporate citizenship.

The paper proceeds as follows. Section 2 summarizes earlier research concerning the market reaction to corporate misdeeds. Section 3 discusses the potential sources for the market's response to tax noncompliance news and develops some hypotheses about what firm characteristics might affect the stock price reaction. Section 4 describes our research design and data, and Section 5 presents our empirical results. Section 6 examines the stock price reaction to a different kind of news about tax aggressiveness, and Section 7 concludes.

## 2. Related literature

### 2.1. The market response to corporate misdeeds

Earlier literature has analyzed the market price reaction to news regarding a wide range of corporate fraud, including non-tax-related fraud against the government. Notably, though, this literature generally ignores the possibility that shareholders might want the company to be optimally aggressive in their dealings with other companies and with the government.

[2] Taken from the presentation made by Rick D'Avino, VP and Senior Tax Counsel, GE Capital and NBC Universal, at the Tax Council Policy Institute Conference, February 2007. Bankman (2004) mentions negative publicity as a factor in explaining corporate demand for tax shelters, and notes that it may be good or bad.

[3] Throughout the paper we use the term tax aggressiveness in reference to the potential behavior of our tax shelter firm sample. For convenience in the paper we sometimes use the terms tax aggressiveness and tax sheltering interchangeably, although, we recognize that tax shelters are a subset of tax aggressive behaviors.

[4] The term "tax shelter" has no universally accepted definition, and can be used in a variety of ways depending on the context. Our use of the term refers to complex transactions used by corporations to obtain significant tax benefits probably never intended by the tax code; these transactions may not be illegal per se and their use, if detected, may trigger lengthy processes of IRS assessment and judicial appeal. Our empirical analysis refers to press uses of this term, and therefore relates to the interpretation given by the press outlets themselves. We intend to primarily capture "off-the-shelf" tax shelter strategies promoted by law, investment banking, and accounting firms. The Appendix contains a description of the shelters we include in our sample. We recognize that there are certainly other tax shelters in existence.

[5] For one exception, see Graham and Tucker (2006). Slemrod (2004) reviews the economic issues pertaining to corporate tax aggressiveness.

[6] A list of the tax shelter firms included in our sample is available from the authors.

For example, the idea that future fines and penalties constitute part of the market's response has been studied previously in the contexts of non-tax misdeeds by Karpoff and Lott (1993) and Bosch and Eckard (1991). That the resolution of a court case could have implications for future case-related income streams in terms of a decline in the firm's expected after-tax profits, assuming that the case-related activities will cease, be curtailed, or will be continued at a higher cost of concealment, is considered by Karpoff and Lott (1993). Bosch and Eckard (1991) address the possibility that news of one case of aggressiveness could raise concerns that the company's management is engaged in being aggressive with *everyone*, distinguishing two components. First, customers and suppliers might become wary of dealing with the firm, thereby increasing future transaction costs and perhaps causing customers and suppliers to deal with other companies (as in Klein and Leffler, 1981). Second, the case might signal that the firm could be engaging in other as yet unknown aggressive activity that could lead to prosecution and associated costs. In addition, it may signal that the dishonesty extends to the financial accounting statements—in other words management is lying to the shareholders (see Desai and Dharmapala, in press and Desai et al., 2007).[7] Bosch and Eckard also raise the possibility that news of aggressiveness, especially aggressiveness detected and potentially sanctioned, could be a signal of management incompetence—"assuming that smart managers wouldn't get caught" (Bosch and Eckard, 1991, p. 310)—or it could reveal that the managers misestimated the probability of being caught.

### 2.2. Event studies of corporate misdeeds unrelated to tax aggressiveness

There is a considerable literature that uses event-study methodology to examine the effects on stock market value of information revealed about corporate misdeeds. For example, Ellert (1975) examines the market price effect of 566 firms indicted in horizontal price fixing conspiracy cases between 1935 and 1971 and finds a statistically significant abnormal return of −1.1% in the indictment month. Strachan et al. (1983) look at 47 price fixing firms in the 1970s and report that these firms have statistically significant negative abnormal returns on the reporting date and on the day before of about −0.8% and −0.6%, respectively. Garbade et al. (1982) study daily returns to examine the impact of antitrust suits, including price fixing suits, on 34 firms between 1937 and 1974, and find an average sample-wide 6% decline in share price. In addition, Bosch and Eckard (1991) examine the stock price reaction to federal indictments for price fixing for 127 firms during the period 1962 to 1980, and find an average abnormal return of −1.08%; they estimate that only 13% of that can be attributed to various legal costs and argue that the remainder is due to the present value of lost monopoly profits. Karpoff and Lott (1993) study the stock price reaction to announcements during 1978 to 1987 concerning corporate fraud cases in which the damaged party does business with the accused firm.[8] They find that reports of regulation violations do not trigger significant abnormal returns, although reports of other frauds do. For example, they report that for initial press reports of corporate fraud against private parties, stock price declined by an average of 1.22%; for frauds against government agencies (non-tax), the loss in value is on average 1.67%; and for financial reporting frauds, the negative reaction was 4.66%. Finally, when investigating allegations of environmental violations, Karpoff et al. (1999) report that there is an average negative abnormal stock price reaction of 1.58% when the alleged violation is first announced and a negative 1.92% return when the firm is charged with or sued for a violation.

More recently, there have been studies that investigate the market reaction to news related to specific financial accounting misdeeds such as being accused of a violation of Generally Accepted Accounting Principles by the Securities and Exchange Commission (SEC) and of announcing a restatement of the financial statements of the firms.[9] For example, Dechow et al. (1996) provide evidence for a sample of 92 firms accused by the SEC of wrongdoing that, upon the announcement that the firm manipulated earnings, stock prices declined by an average of 8.8%. Consistent with these estimates, Palmrose et al. (2004) find negative average abnormal returns of about 9% over a 2-day announcement window; in addition, the abnormal return is more negative with indications of fraud, the larger the size of the adjustment, and for restatements attributed to the auditors. They also find that the reaction is greater, ceteris paribus, if no amount is given in the announcement. The authors hypothesize that the negative signal associated with fraud and auditor-initiated restatements is associated with an increase in investors' expected monitoring costs, while higher materiality is associated with the greater revisions of future performance expectations.

In sum, earlier literature has generally found (often large) negative stock market responses to corporate misdeeds, but has not investigated the market response to news about corporate tax aggressiveness.

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[7] In an attempt to see whether institutional investors think poorly of firms engaged in tax shelters (or tax-aggressive behavior), we searched the Web for articles that mentioned the California Public Employees' Retirement System (CalPERS) and tax shelters (or aggressiveness). We found several articles mentioning that CalPERS threatened to divest and block state purchases of stocks and bonds of U.S. companies that make use of foreign tax havens. Although one article quoted Philip Angelides, California Treasurer, as saying foreign tax shelters "…are just another way to game the system" (SFGate.com, July 25, 2002), other articles present CalPERS's concern as being about shareholder rights rather than the avoidance of tax. For example, on the CalSTRS (California State Teachers' Retirement System) Web site is an article about institutional investors taking out a full page ad in the *USA Today* calling for Ingersoll–Rand (which had moved its headquarters to Bermuda for tax reasons) to move back to the U.S. citing a "…substantial loss of shareholder rights that goes with off-shore incorporation" (http://www.calstrs.com/Newsroom.What's%20 New/callforvote.aspx). Further, a *Tax Briefs* article from Levin and Weiser, LLC (March 3, 2003) states that "CalPERS believes Bermuda incorporation makes it more difficult for Tyco shareholders to hold the company, its officers and directors legally accountable in the event of wrongdoing" (page 6).

[8] Karpoff and Lott (1993) distinguish four kinds of fraud, including frauds of governments, but these refer to cases in which the accused firm cheated or was accused of cheating on implicit or explicit contracts with a government agency, such as overcharging on military contracts. Tax evasion cases are not included, because the focus of the analysis are cases in which some or all of the costs of the fraud can be internalized by the firm through its repeated interactions with customers, suppliers, employees, and investors. One of the other three subcategories is financial reporting frauds, which includes cases where agents of the firm misrepresented or are accused of misrepresenting the firm's financial condition. Another is regulatory violations, such as failure to report currency transactions, in which it is not clear that the firm violated an implicit or explicit contract with an investor or stakeholder.

[9] Restatements do not necessarily involve an accusation of wrongdoing by the SEC. However, the firm restates because the prior financial statements were incorrect and thus the restatement constitutes an "explicit acknowledgement that existing financial statements do not conform to GAAP" (Palmrose et al., 2004).

### 2.3. Relevant empirical tax research

For reasons we elaborate on below, events related to tax aggressiveness share some, but not all, characteristics with the non-tax events discussed above. While there are no previous analyses of the stock market reaction to news of tax aggressiveness, there are several related studies. Desai and Dharmapala (in press) investigate how investors value managerial actions designed solely to minimize corporate tax obligations. They proceed by regressing, over a cross-section of companies, Tobin's $q$ (market value divided by the replacement cost of assets) on a proxy for tax avoidance, measured as an estimate of the book-tax differences of the firm less an estimate of the portion of the book-tax differences due to earnings management (i.e., the total accruals of the firm). They find that their proxy for tax avoidance is positively related to firm value for well-governed firms, but insignificantly related to firm value for poorly governed firms. The authors interpret their evidence as consistent with agency costs mitigating the benefits to shareholders of corporate tax avoidance. In other words, the managers' tax sheltering decisions are related to their ability to divert value, so that in poorly governed firms the tax sheltering signals a higher likelihood of managerial wealth diversion and thus on net adds no value. Note, though, that Desai and Dharmapala (in press) is not an event study. In contrast, the analysis we report below examines additional cross-sectional determinants beyond governance and does not rely on proxies of tax aggressiveness such as book-tax differences (which can be due to many factors). Instead, it uses the press mention of a firm in a tax shelter to examine the market's perception of the behavior.

There is also research examining the wealth effects of changes in the tax treatment of specific transactions or companies undertaking specific tax-favored transactions. Dhaliwal and Erickson (1998) investigate the market responses to court rulings about the amortization of intangible assets, a lower court's disallowance of the depreciation of certain intangible assets, followed by the Supreme Court's reversal of this decision. They find negative and positive price reactions, respectively, for firms not named in the case but with similar acquired intangibles. Although its research design is similar to ours in that it investigates market reactions to a type of tax news, its aim is to gauge whether the market impounds future cash flows from tax deductions (or, one could generalize, other tax law changes) into share price and does not address the conceptually distinct reputation effects of being called tax aggressive.

In addition, several studies examine the market response to a company announcing its intent to undergo a corporate "inversion" (e.g., Desai and Hines, 2002; Cloyd et al., 2002; and Seida and Wempe, 2004). This type of study is quite different than ours, as it concerns the news of a company decision, rather than an exogenous event related to company decisions. The market response to a (e.g., tax-related) company decision would be negative only if the market disagreed with the decision makers' assessment of its value. Our study of tax shelter news fits more closely with the studies of the stock price reaction to non-tax-related enforcement actions. The news generally concerns a government enforcement action or a simple press mention (without enforcement action) pertaining to *past*, although possibly also related ongoing, actions of the company. Because the event tested is not a firm action, one cannot presume that it is value-enhancing. No previous study has addressed this set of issues.

## 3. A simple model of the market reaction to news of tax aggressiveness

Many of these considerations can be illustrated in a simple model of the market valuation of the after-tax stream of income. Suppose that the share price depends on the expected after-tax income going to the shareholders, $I$,[10] which equals the true income of the firm, $Y$, minus income diverted from the shareholders by the managers, $D$, minus expected tax payments. We allow the amount diverted to be negatively related to the company's governance, represented by $G$.

Expected tax payments are proportional to taxable income, which is $Y$ minus the amount of sheltered income, $S$, and the probability that the sheltering will be detected and subject to a proportional penalty imposed at rate $f$ on improperly sheltered tax. The probability of detection and penalty may increase with the amount of sheltering done, so $p=p(S)$. With these assumptions, we have:

$$I = Y-(1-p(S))t(Y-S)-p(S)t(Y+fS)-D(G) = (1-t)Y + tS(1-p(S)(1+f))-D(G) \quad (1)$$

The shareholders prefer that $S$ and $D$ be chosen to maximize $I$, which would require that $D^*=0$ and $S^*=[1-p(1+f)]/[p'(1+f)]$, where $p'=dp/dS>0$. However, they are concerned that this will not be done, perhaps because the managers make decisions not to maximize $I$ but rather to maximize a managerial utility function $M(I, S, D(G))$. Various measures, such as incentive-based compensation, are instituted to induce the managers to maximize $I$ rather than $M(.)$, but these measures are imperfect, and we abstract here from their cost and effectiveness.

In this model, news about tax sheltering may have several distinct effects. First, it may change shareholders' views about the extent to which $D$ and $S$ are being chosen to maximize $I$. It may change shareholders' views about the effectiveness of the tax authority in policing tax shelters, so their perception of $p(.)$ changes. Finally, for some amount of sheltering, call it $S^d$, that the news reveals has been detected and penalized, the prospective tax savings from that shelter are lost and the probability of penalty goes from $p$ to one; because this is not an ongoing event, we attach a discount factor, $\delta$, to it.

Ignoring second-order terms, we can approximate the change in expected after-tax profits as follows:

$$\Delta I = (1-t)\Delta Y(V,G)-\Delta D(G)-(\Delta S)(S-S^*)t(p'+p/S)(1+f)-(\Delta p)tS(1+f)-\delta t(1-p)(1+f)S^d \quad (2)$$

The five terms of expression (2) each have a straightforward interpretation. The first term, $(1-t)\Delta Y(V, G)$, concerns any change in income, after tax, that may come from a consumer backlash against what might be seen as un-civic behavior, represented by $V$, or related to changed perceptions by business customers of the reliability of the business, which might depend on the governance

[10] Note that in this model, unlike in Shackelford et al. (2008), earnings reported on financial statements do not affect the share price for a given after-tax income.

of the firm, $G$. The second term, $-\Delta D(G)$, is the decline in expected after-tax income due to an increased perception of insider diversion. The third term, $-(\Delta S)(S-S^*)t(p'+p/S)(1+f)$, is the change in expected income that results from an increase in the perceived value of $S$. This term is negative if $S>S^*$ (i.e., if sheltering was perceived to be greater than optimal), but can be positive if $S<S^*$ (if the market had thought the corporation was insufficiently aggressive); it is zero if sheltering was previously thought to be optimal ($S=S^*$).[11] The fourth term of expression (2), $-(\Delta p)tS(1+f)$, results from an increased perception of the effectiveness of the tax authority in penalizing future tax shelter activity; this is always negative, and is larger when the amount of sheltering the firm does is larger. Finally, the last term, $-\delta t(1-p)(1+f)S^d$, is the loss from any news that some discrete amount of sheltering, $S^d$, will be penalized for sure when, before the news, there was a probability $p$ of this happening.

Depending on the character of the news and on the firm values of $V$ and $G$, the effect of the news on the relative values of $\Delta Y$, $\Delta D$, and $\Delta S$ will vary. Although we cannot separately identify each of these, we attempt to shed light on the nature of the stock market reaction by investigating cross-sectional differences in market reactions. First, we examine the cash effective tax rate (CASH ETR) from the firm's financial statements for the two years prior to the news that the firm was involved in a tax shelter as a proxy for the market's ex ante perceptions regarding the tax aggressiveness of the firm ($S-S^*$); this is calculated as the cash taxes paid summed over the two years divided by pre-tax income summed over the two years. Our hypothesis is that, the higher the CASH ETR, the less likely that the market would expect the firm to be sufficiently tax aggressive, and the more likely it is to take the tax shelter news as a positive signal of optimal aggressiveness. As a result, the higher the firm's CASH ETR, the more positive, or less negative, the reaction upon the news announcement.[12]

Second, we predict that firms in the retail industry that deal directly with consumers will have a more negative reaction than other firms. These firms may be more susceptible to being publicly perceived, and penalized, for being unconscionable or unpatriotic.

Finally, we hypothesize that poorly governed firms will have a more negative market reaction relative to well-governed firms, for at least two reasons. First, it could be that the market perceives that the well-governed firms are more likely to get away with the sheltering or more likely to be engaged in smaller or less risky shelters. Second, suspicions could be aroused that the poorly governed firms are not simply being aggressive with the IRS but they are aggressive towards everyone, including the shareholders, so that $\Delta D(G)$ is larger for more poorly governed firms.

## 4. Sample and research design

### 4.1. Sample selection

To obtain our sample of firms, we first do a broad search of all sources in the Factiva database. We use the search terms "tax shelter" and "corporate" or "corporation" to capture all articles or press releases that contain those terms. We conduct the search over the date range beginning January 1, 1990 and ending September 1, 2004 (the date we started the search process). From this search we obtain a beginning sample of 6293 articles, newswire releases, or other types of press mentions. We then had two research assistants read through the articles, retaining only those that contain the name of a company associated in some way with having a tax shelter. The types of articles discarded by this process pertain to the topic of tax shelters generally, without mentioning any particular company. The remaining sample of potential observations contain 824 articles. We exclude articles about corporate inversions, which have been studied separately, because we view these as a fundamental restructuring of a multinational corporation rather than as it engaging in a set of tax reducing transactions. We also exclude articles about transfer pricing, because these cases are not generally considered tax shelters although they are sometimes called such by the press.[13] We exclude articles about specific tax provisions and the companies that take advantage of them (legally), which the press referred to as a tax shelter activity, such as Foreign Sales Corporations and the Agricultural Land Tax provision. Finally, we exclude articles about taxes in other countries (e.g., the Petroleum Reserve Tax), articles about private companies, and non-income-tax "shelter" issues. After these exclusions, we retain a sample of 601 articles. Table 1 presents a summary of our sample selection process.

We then further reduce the sample by excluding multiple observations (408 articles) of the same firm-shelter, retaining only the first article about the firm-shelter. We exclude observations with missing data in the CRSP database (45 articles) and for various other reasons spelled out in Table 1. This leaves us with a sample of 108 articles, pertaining to 97 firms, some of which are engaged in multiple shelters.

We create four somewhat overlapping samples from these remaining 108 articles. The first sample, which is the one that we utilize for our main analyses, contains the first article for every shelter that a firm is in. The articles in this sample do not have to be in a major press source, but can be in any press article or release. In addition, if a firm is in two different shelters that firm will have two different articles (dates) included in the sample. This sample contains all 108 firm-shelter combinations. The second

[11] We use the cash effective tax rate rather than the current effective tax rate to avoid interpretation issues resulting from the recording of a tax contingency reserve (which "overstates" the financial accounting expense relative to the cash taxes actually paid). When a firm takes an aggressive tax position that they think might be disallowed in the future the firm is to record the related (potentially owed in the future) tax expense when determining its financial accounting earnings. The reserve for the possible future taxes is called the tax contingency reserve (and was also known as the tax cushion prior to recent regulatory changes). There was little disclosure of this amount, however, prior to the enactment of Financial Accounting Standards Board Interpretation Number 48, which occurred after our sample period ends. See Dyreng et al. (2008) for distributional statistics and data on cash effective tax rates.

[12] We use a tax rate calculated over the two years prior to the *news* of the shelter involvement rather than for a time period prior to actual shelter involvement (which is unknown to us). In principle, the latter could be positively associated with tax aggressiveness if high-tax-rate firms have a higher incentive to engage in tax shelters. The tax rate immediately preceding the news would reflect any effect on the tax rate from the shelter itself.

[13] All multinational corporations have to set transfer prices. The disputes arise, of course, because of how aggressive the firms are in their decision to set the price.

**Table 1**
Sample selection

| | Articles |
|---|---|
| Number of articles from a search of Factiva 1/1/1990–9/1/2004 | 6293 |
| Potentially valid articles summarized by RAs | 824 |
| Less: | |
| Articles about inversions | 39 |
| Articles about transfer pricing | 16 |
| Articles about foreign sales corporations (FSCs) | 12 |
| Articles about Petroleum Reserve Tax | 33 |
| Articles about Agricultural Land Tax Break | 6 |
| Articles about private companies or non-income tax "shelter" issues[a] | 117 |
| | 601 |
| Less: | |
| Subsequent articles about the same firm-shelter | 408 |
| Observations with missing data | 45 |
| Articles about sales leasebacks | 6 |
| Articles with a vague mention of shelter activity (e.g., Enronesq) | 10 |
| Articles with other news in the same article | 3 |
| Miscellaneous income tax but non-"shelter" observations[b] | 21 |
| Remaining observations for final sample | 108 |

[a]Non-income tax "shelter" issues include articles about issues such as foreign tax acts (e.g., Stamp Duty Reserve Tax), property tax, tracking stock tax issues, reinsurance, and Hong Kong aircraft leasing. In addition, articles about the sellers of the tax shelters (e.g., Merrill Lynch) are excluded.
[b]These articles include discussions of income tax issues but are not included in our sample. Examples of items not included are articles about Enron and WorldCom. We exclude these observations because there was so much other news in the market about those companies at the same time. We exclude two articles about U.S. divisions of foreign companies because there may be a different market reaction with respect to foreign companies. We exclude one observation about a firm's involvement in a synthetic fuel investment because the firm had very clearly described its activities in these investments in prior conference calls and earnings reports, one article about low-income housing credits, one article about Teresa Heinz Kerry investing in municipal bonds, one about a company's investment in aircraft lease bonds, two articles about companies lobbying on transfer pricing issues, three articles about investments in Monthly Income Preferred Shares (MIPS) and Feline Pride instruments, and three articles about a tax issue at National City Bank that was later corrected to be about City National Bank.

sample includes only the major press (defined as one of the major newswires (Dow Jones, AP, or Reuters), the *Wall Street Journal*, or the *Washington Post*)[14] articles of the firm-shelter combinations in the first sample. Thus, this group is a subset of the first sample and contains 72 firm-shelter observations. The third sample covers both major press sources and non-major press sources, but excludes firms that discussed the shelter in their financial statements prior to the date of the first press mention because this would lessen the amount of "news" in the press article. To obtain the firms that discussed the shelter in their SEC filings, we searched the 10-K filings of each of the shelter firms for two years prior to the date of the press article. We found 15 firms whose 10-Ks made such a mention and thus are excluded from this third subsample ($N=93$). Finally, we create a subsample that starts with the full sample and then excludes observations where the firm had other earnings news during our event window. To collect these data, we gather earnings announcement dates and 10-K, 8-K, and 10-Q filing dates for our sample firms. If any of these announcements or filings occurred during the 3-day event window of the press article we exclude that observation from this subsample. This is an attempt to isolate more precisely the market reaction to be only in response to the news article ($N=76$).[15]

### 4.2. Event date and univariate statistical tests

We use an event-study methodology to test the market reaction to news that a firm has engaged in tax aggressive behavior. We examine the 3-day window centered on the day of the press mention. We include the day prior to the release to capture any effect of news available to the market before the story and the day after to provide time for the market to react.

We use a market adjusted model based on a value-weighted index (with dividends) to estimate abnormal returns; this model subtracts the CRSP market index return from a company's daily return to obtain the market adjusted abnormal return (AR) for each day and company. The daily abnormal returns are then summed to calculate the cumulative abnormal return (CAR) for a given time period. We report four measures of statistical significance. The first is the unadjusted $t$-statistic using the standard deviation of the sample CARs. The second is the statistic described in Patell (1976), $t_{\text{patell}}$, which estimates a separate standard error for each security-event and assumes cross-sectional independence. Third, we report $t_{\text{var}}$, which compensates for the possible variance increase during the event period; to the extent the event period is associated with increased uncertainty (i.e., greater return variability), the use of historical or post-event time-series variability might understate the true variability of the event period abnormal performance (Kothari and Warner, 2004). Finally, we report the results from a non-parametric generalized sign test. The

[14] We note that Factiva does not include full text of the *New York Times*. While we have one article from a *Times* abstract (which is included in Factiva), this same story was covered by the *Wall Street Journal*.
[15] We estimate our regressions over subsamples of the major-press-only sample as well (e.g., a subsample that excludes firms with other earnings news in the same event window.)

**Table 2**
Descriptive statistics

| Panel A: All firm-shelters | | | | | | |
|---|---|---|---|---|---|---|
| | *N* | Mean | S.D. | Minimum | Median | Maximum |
| CAR | 108 | −0.005 | 0.038 | −0.130 | −0.004 | 0.203 |
| CASH ETR | 108 | 0.281 | 0.137 | 0.0 | 0.304 | 0.5 |
| MISSING CASH ETR | 108 | 0.296 | 0.459 | 0 | 0 | 1 |
| MISSING CASH ETR *ETR | 108 | 0.097 | 0.153 | 0 | 0 | 0.5 |
| LOSS | 108 | 0.065 | 0.247 | 0 | 0 | 1 |
| RETAIL | 108 | 0.157 | 0.366 | 0 | 0 | 1 |
| ADVERTISING | 108 | 0.015 | 0.027 | 0 | 0 | 0.123 |
| HIGH ADVERTISING | 108 | 0.185 | 0.390 | 0 | 0 | 1 |
| GOV SCORE | 108 | 9.222 | 3.654 | 0 | 10 | 15 |
| ENTRENCH SCORE (normalized) | 108 | 0.341 | 0.232 | 0 | 0.333 | 0.667 |
| NON-ENTRENCH SCORE (normalized) | 108 | 0.377 | 0.167 | 0 | 0.389 | 0.611 |
| MISSING ENTRENCH SCORE | 108 | 0.111 | 0.316 | 0 | 0 | 1 |
| Panel B: All firm-shelters, major news source only | | | | | | |
| | *N* | Mean | S.D. | Minimum | Median | Maximum |
| CAR | 72 | −0.012 | 0.035 | −0.130 | −0.007 | 0.060 |
| CASH ETR | 72 | 0.269 | 0.139 | 0 | 0.287 | 0.5 |
| MISSING CASH ETR | 72 | 0.264 | 0.444 | 0 | 0 | 1 |
| MISSING CASH ETR *ETR | 72 | 0.830 | 0.144 | 0 | 0 | 0.5 |
| LOSS | 72 | 0.083 | 0.278 | 0 | 0 | 1 |
| RETAIL | 72 | 0.167 | 0.375 | 0 | 0 | 1 |
| ADVERTISING | 72 | 0.015 | 0.027 | 0 | 0 | 0.123 |
| HIGH ADVERTISING | 72 | 0.194 | 0.398 | 0 | 0 | 1 |
| GOV SCORE | 72 | 8.986 | 3.851 | 0 | 9.5 | 15 |
| ENTRENCH SCORE (normalized) | 72 | 0.313 | 0.231 | 0 | 0.333 | 0.667 |
| NON-ENTRENCH SCORE (normalized) | 72 | 0.372 | 0.173 | 0 | 0.389 | 0.611 |
| MISSING ENTRENCH SCORE | 72 | 0.125 | 0.333 | 0 | 0 | 1 |

Notes to Table 2: CARs are the cumulative abnormal returns calculated over a 3-day window centered on the date of the news and calculated using market adjusted returns (i.e., taking the raw return for the firm less the CRSP value-weighted index return for the same day). CASH ETR is computed by taking the sum of cash taxes paid over two years prior to the news of the shelter and dividing by the sum of worldwide pre-tax book income over the two years prior to the news of the shelter. If the denominator of this ratio is a loss we reset the CASH ETR variable to zero. If the data are not available for two years prior to news of the shelter, we use only the prior year data to compute the CASH ETR. We use the ratio of the sum and not the average of the ratios in order to minimize the number of loss observations and the effect of extreme 1-year CASH ETRs. If the firm does not disclose cash taxes paid we replace the numerator with current tax expense and when that is not available we replace the numerator with total tax expense. We then create a separate indicator variable (MISSING CASH ETR) and set that indicator equal to one for firms where this substitution has been made and zero otherwise. We include this indicator variable and the indicator interacted with ETR, which is the replaced value of CASH ETR described above (i.e., the use of current tax expense and/or tax expense as the numerator because cash taxes paid is not available). CASH ETR (and ETR) is reset to zero for a minimum, and .5 for a maximum to eliminate the effect of outliers. LOSS is an indicator set to one for firms with negative pre-tax book income in the calculation of CASH ETR, and zero otherwise. RETAIL is an indicator variable set equal to one for firms in the retail industry and zero otherwise. ADVERTISING is a continuous variable of advertising expense scaled by current year sales. HIGH ADVERTISING is an indicator variable set to one for firms that have a greater than median (for sample firms that disclose advertising expense) ratio of advertising expense to sales and zero otherwise. GOV SCORE is the continuous governance score from Gompers et al. (2003) as available on WRDS. ENTRENCH SCORE is a continuous variable of the six provisions Bebchuk et al. (2005) determine are most closely related to management entrenchment and governance problems (this measure is normalized). NON-ENTRENCH SCORE represents the remaining 18 provisions of the Gompers' score not included in the ENTRENCH SCORE (this measure is normalized). MISSING ENTRENCH SCORE is an indicator variable set to one for firms where the GOV SCORE and/or the ENTRENCH SCORE are not available. In addition, when GOV SCORE and/or ENTRENCH SCORE are missing we replace their missing value with zero. The sample of all firm-shelters (the 108 observations) includes the news of shelter involvement in all news sources available on Factiva and the sample of the major news source only (the 72 observations) includes only news in *The Wall Street Journal*, *The Washington Post*, or the major newswires (AP Online, Dow Jones News Wire, or Reuters).

null hypothesis for this test is that the fraction of positive returns is the same in the event period as in the estimation period. We label this statistic $Z_{sign}$.

## 5. Results

### 5.1. Descriptive statistics

Table 2 presents simple descriptive statistics of the variables we use in our tests. Panel A presents the data for the full sample and Panel B presents the data for the articles in major press sources only. For the main sample of all firm-shelters the average CAR is −0.0053, and for the sample of firms where the press mention was in a major news source the average CAR is −0.0120.

As mentioned, we measure the CASH ETR as the firm's average cash effective tax rate (cash taxes paid (Compustat data #317)/ total pre-tax book income (data #170)) over the two years prior to the press mention. Even though these firms are tax shelter firms, the cash effective tax rates are not strikingly low relative to the U.S. statutory tax rate of 35%.[16] Because this measure is not

[16] One possible explanation is that high-rate firms are those that shelter.

computable for all firms, we replace this measure with a substitute under two conditions. First, if this measure is not computable because the firm has a negative pre-tax book income, we include an indicator variable labeled LOSS set to one for these firms, and zero otherwise. For these loss firms, we set the CASH ETR continuous variable to zero. Second, if the firm does not disclose cash taxes paid we replace the numerator of the CASH ETR with current tax expense (data #16–data #50) or if current tax expense is not available, we replace the numerator with total taxes (data #16) (which then makes this variable a traditional financial accounting ETR). In these cases we then include a separate indicator (MISSING CASH ETR) set equal to one for firms where cash taxes paid are not available, and zero otherwise. We then interact this indicator variable with the CASH ETR variable (which we relabel in the interaction to be ETR because these firms do not have a true CASH ETR), to be sure the relation with the CAR is not different for the ETR (i.e., the replaced CASH ETR) variable. Finally, in order to limit the influence of measurement error due to outliers, we reset any values of CASH ETR (and ETR) greater than 0.5 to 0.5, and any values less than zero to zero.

To investigate whether there is a differential CAR for firms in the retail industry we set an indicator variable (RETAIL) equal to one for firms in the retail industry (NAICS codes 44–45) and zero otherwise. Approximately 16% of the full sample and 17% of the sample of major press articles are firms in the retail industry. We also examine the firms' advertising expense (data #45) as a fraction of sales (data #12) as another proxy for being in the consumer spotlight. Many firms do not disclose advertising expense and where missing, we reset the missing to zero. We then create an indicator variable which is set to one when the ratio of the firm's advertising expense to sales is greater than the sample median (of firms with nonmissing advertising expense) and zero otherwise.

Finally, we measure governance (GOV SCORE) using the Gompers et al. (2003) index of shareholder rights that ranges from 0 to 24, where a high value indicates low quality governance. In addition, we parse this measure into two separate indicators. The first is what we call the ENTRENCH SCORE. This index was devised by Bebchuk et al. (2005) to focus on the subset of provisions that are most important for firm governance—those indicating manager entrenchment. Bebchuk et al. (2005) document evidence consistent with the provisions they identify as being the most related (negatively) to firm value and returns. The entrenchment provisions belong to two categories: constitutional limitations on shareholders' voting power and takeover readiness provisions. Specifically, the following six components of the Gompers et al. (2003) index are included in the ENTRENCH SCORE: (1) staggered boards (one if staggered board is present), (2) limits to amend by-laws, (3) and (4) supermajority requirements for mergers and charter amendments, (5) poison pills and (6) golden parachutes. We include a variable measuring the presence of the other 18 provisions and refer to it as NON-ENTRENCH SCORE. These provisions include fair price provisions and business combination statutes, blank check preferred stock, limits on power to call a special meeting and to act by written consent, and liability and indemnification provisions. As in Bebchuk et al. (2005) both the ENTRENCH SCORE (0–6) and the NON-ENTRENCH SCORE (0–18) count all provisions equally, giving one point for each of the provisions the firm has.[17] We include each measure as a continuous variable, normalized to range from zero to one.

Table 2 reveals that the average governance score for our sample of firms is around 9 which is similar to the average governance score in Desai and Dharmapala (in press) (average governance score of 9.265). They examine a larger sample of firms in which only a very small portion are accused of participating in tax shelters. Thus, it seems that, on average, firms accused of participating in tax shelters are not more poorly governed than other firms. The average ENTRENCH SCORE for our sample is around two (not normalized), which is similar to that in Bebchuk et al. (2005) where the mean varied from 2.30 to 2.82. There are some firms for which we cannot obtain GOV SCORE and/or an ENTRENCH SCORE. In this case we set the governance variables equal to zero; we create an indicator variable (MISSING ENTRENCH SCORE) which is set to one for these firms and zero otherwise.[18]

### 5.2. Overall and by-category averages

Table 3 reports the results of the tests conducted to address the hypotheses posed above. The top row of Panel A reveals that, for the sample of observations which includes the first shelter news for each firm-shelter from all press sources ($N=108$), the mean CAR is −0.53%, but this estimate falls just short of being significantly different from zero at standard levels of confidence. If, however, we measure the abnormal returns for the sample including only major press mentions (and not mentions in smaller papers or news sources), the average CAR is −1.20%, which is significantly different from zero for each of the *t*-tests we utilize. Thus, the simplest and most straightforward event-study methodology suggests that, on average, the market reacts negatively to news that a firm is in a tax shelter.[19]

The remaining panels of Table 3 report on the CAR by subcategories of firms. Panels B1 and B2 divide the observations into those with a CASH ETR at or above the sample median and those with observations below the sample median. Panel B1 presents the results for the entire sample of 108 observations. The firms with a CASH ETR below the median have an average CAR of −1.32%, which is significantly different from zero at conventional levels. The firms with a CASH ETR at or above the median value is −0.06%, which is not significantly different from zero; notably, the difference between the two returns is significant (*p*-value of 0.0525, one-tailed). Thus, there is some support for the hypothesis that firms with a higher CASH ETR will have a relatively less negative (i.e., more positive) reaction to news about tax aggressiveness. In Panel B2 we present the results for the subsample of 72 observations

[17] See Bebchuk et al. (2005) for the reasoning for including the six provisions in the ENTRENCH SCORE and the other 18 in the NON-ENTRENCH SCORE. The governance provisions are available on WRDS from the RiskMetrics (previously IIRC) database. The ENTRENCH SCORE is available on a Web page provided in the Bebchuk et al. (2005) paper. Note that we include the governance scores for the year nearest to the year of the news article and that there is not necessarily an ENTRENCH SCORE available for every firm that has a GOV SCORE.

[18] We conduct tests excluding these firms from the sample in the regression analyses as well.

[19] The AR day-by-day for the full sample is a return of −0.41% on day −1, a return of −0.02% on day 0, and a return of −0.09% on day +1.

**Table 3**
Cumulative abnormal returns

Panel A: Cumulative abnormal returns presented by subsample

| | # obs | Mean CAR (%) | Pos/Neg | t | $t_{patell}$ | $t_{var}$ | $Z_{sign}$ |
|---|---|---|---|---|---|---|---|
| Sample 1: All firm-shelters, first press mention | 108 | −0.53 | 47/61 | −1.422 | −1.578 | −1.578 | −1.222 |
| Sample 2: All firm-shelters, major press mention only | 72 | −1.20 | 29/43 | −2.872*** | −2.655*** | −2.545** | −1.583 |
| Sample 3: First firm-shelter, excluding firms with prior financial statement mention | 93 | −0.60 | 40/53 | −1.474 | −1.704* | −1.697* | −1.174 |
| Sample 4: First firm-shelter, excluding firms with earnings announcements or SEC filings in event window | 76 | −0.94 | 30/46 | −2.385** | −2.271** | −2.339** | −1.689* |

Panel B1: Cumulative abnormal returns for the first press mention subsample—above median CASH ETR and below median CASH ETR

| | # obs | Mean CAR (%) | Pos/Neg | t | $t_{patell}$ | $t_{var}$ | $Z_{sign}$ |
|---|---|---|---|---|---|---|---|
| CASH ETR above median | 54 | −0.06 | 28/26 | −0.098 | 0.220 | 0.202 | 0.237 |
| CASH ETR below median | 47 | −1.32 | 16/31 | −2.718*** | −2.862*** | −3.224*** | −2.081** |
| No CASH ETR (loss in denominator—*LOSS* firms) | 7 | 1.17 | 3/4 | 1.155 | 0.609 | 1.158 | −0.068 |
| Total sample | 108 | | | | | | |

Panel B2: Cumulative abnormal returns for the first press mention major news source subsample—above median CASH ETR and below median CASH ETR

| | # obs | Mean CAR (%) | Pos/Neg | t | $t_{patell}$ | $t_{var}$ | $Z_{sign}$ |
|---|---|---|---|---|---|---|---|
| CASH ETR above median | 33 | −1.24 | 15/18 | −1.947 | −1.355 | −1.153 | −0.638 |
| CASH ETR below median | 33 | −1.53 | 12/21 | −2.502*** | −2.807*** | −2.976*** | −1.476 |
| No CASH ETR (loss in denominator—*LOSS* firms) | | 0.85 | 2/4 | 0.746 | 0.563 | 0.978 | −0.530 |
| Total sample | 72 | | | | | | |

Panel C1: Cumulative abnormal returns for the first press mention subsample—retail industry compared to non-retail industries

| | # obs | Mean CAR (%) | Pos/Neg | t | $t_{patell}$ | $t_{var}$ | $Z_{sign}$ |
|---|---|---|---|---|---|---|---|
| RETAIL | 17 | −2.60 | 7/10 | −2.082** | −2.369** | −1.956* | −0.647 |
| Non RETAIL | | −0.14 | 40/51 | −0.384 | −0.695 | −0.737 | −1.052 |
| Total sample | 108 | | | | | | |

Panel C2: Cumulative abnormal returns for the first press mention major news source subsample—retail industry compared to non-retail industries

| | # obs | Mean CAR (%) | Pos/Neg | t | $t_{patell}$ | $t_{var}$ | $Z_{sign}$ |
|---|---|---|---|---|---|---|---|
| RETAIL | 12 | −4.13 | 4/8 | −2.729*** | −3.205*** | −2.590*** | −1.136 |
| Non RETAIL | | −0.62 | 25/35 | −1.693 | −1.475 | −1.527 | −1.227 |
| Total sample | 72 | | | | | | |

Panel D1: Cumulative abnormal returns for the first press mention subsample by governance group where governance is defined using the entrenchment portion of the Gompers et al. (2003) score from Bebchuk et al. (2005)

| | # obs | Mean CAR (%) | Pos/Neg | t | $t_{patell}$ | $t_{var}$ | $Z_{sign}$ |
|---|---|---|---|---|---|---|---|
| Well-governed–low entrenchment score | 49 | −0.30 | 23/26 | −0.698 | −0.432 | −0.477 | −0.343 |
| Poorly governed–high entrenchment score | 48 | −0.54 | 19/29 | −0.805 | −1.148 | −1.078 | −1.395 |
| No governance or entrenchment index | | −1.48 | 5/6 | −1.383 | −1.635 | −1.457 | −0.191 |
| Total sample | 108 | | | | | | |

Panel D2: Cumulative abnormal returns for the first press mention subsample by governance group where governance is defined using the portion of the Gompers et al. (2003) score that is not part of the entrenchment score from Bebchuk et al. (2005)

| | # obs | Mean CAR (%) | Pos/Neg | t | $t_{patell}$ | $t_{var}$ | $Z_{sign}$ |
|---|---|---|---|---|---|---|---|
| Well-governed–low non-entrenchment governance score | 45 | 0.36 | 23/22 | 0.541 | 0.469 | 0.449 | 0.257 |
| Poorly governed–high non-entrenchment governance score | 51 | −1.06 | 19/32 | −2.322*** | −1.908* | −2.077** | −1.799* |
| No governance or entrenchment index | | −1.57 | 5/7 | −1.604 | −1.708* | −1.597 | −0.456 |
| Total sample | 108 | | | | | | |

Notes to Table 3: CARs are the cumulative abnormal returns calculated over a 3-day window centered on the date of the news and calculated using market adjusted returns (i.e., taking the raw return for the firm less the CRSP value-weighted index return for the same day). We classify firms as having an above median CASH ETR if their average CASH ETR (data#317/data#170) over the two years prior to the news is above the sample median of this measure. If the firm has negative total pre-tax book income (data #170) over the two years we code the firm as a LOSS firm. We classify firms as RETAIL if they are in the retail sector (NAICS codes 44–45). We classify firms as well-governed if their ENTRENCH SCORE or NON-ENTRENCH SCORE is below the sample median and poorly governed if those scores are above the sample median. The sample of all firm-shelters (the 108 observations) includes the news of shelter involvement in all news sources available on Factiva and the sample of the major news source (the 72 observations) includes only news in *The Wall Street Journal*, *The Washington Post*, or the major newswires (AP Online, Dow Jones News Wire, or Reuters). Significance levels are as follows: *** indicates significance at .01, ** at .05, and * at .10, two-tailed.

where the press mention is in a major press source. The returns are −1.53% for the low CASH ETR group and statistically significantly negative, and −1.24% for the high CASH ETR group but not statistically significant; the difference between these is not statistically significant (*p*-value of 0.3730, one-tailed).

Panels C1 and C2, show the sample divided into retail and non-retail firms. We find that the abnormal return for the retail firms averages −2.60%, compared to −0.14% for the non-retail firms (the difference is significantly different from zero). For the subsample of major press mentions, the results are even starker: the abnormal return for the retail firms averages −4.13%, compared to −0.62%

for the non-retail firms. Thus, the point estimates and statistical levels are consistent with the hypothesis that the possibility of a negative consumer reaction to an indication of "bad" corporate citizenship makes retail firms relatively more vulnerable to news of their tax aggressiveness. However, we recognize that the interpretation of these results is subject to the concern that engagement in tax shelters is endogenous. Thus, for example, it is possible that retail firms are less likely to pursue tax shelters but, if they do so, the expected benefit would be higher than otherwise in order to offset the higher expected cost. It is also possible that the type of shelters that retail firms engage in—and that become newsworthy—is systematically different than the type of shelters that make the news in other sectors. These results should be interpreted with these caveats in mind.

Panels D1 and D2 concern corporate governance. Using the ENTRENCH SCORE (Panel D1), the mean CARs for the well-governed and poorly governed firms (split at sample medians for this table) are −0.30% and −0.54%, respectively. Neither return is statistically significant from zero (and the difference between the returns is insignificant). When we use the NON-ENTRENCH SCORE (Panel D2), the mean CARs for the well-governed and poorly governed firms (again split at sample medians) are 0.36% and −1.06%, respectively. The abnormal returns for the observations of relatively poorly governed companies are at least marginally significant, for each of the three test statistics and also using the non-parametric sign test; the returns for the well-governed firms are not significant using any test (the difference between the two returns is significant at 0.075, two-tailed). These results are broadly consistent with the hypothesis that relatively poorly governed firms will have a more negative response to the news about tax aggressiveness; however, this only holds using the NON-ENTRENCH SCORE.[20]

### 5.3. Cross-sectional analysis of excess returns

To further examine our hypotheses, and in particular to investigate the partial relationship between firm characteristics and the stock price reaction to tax shelter news, we next investigate the cross-sectional relation between firm characteristics and the event window returns. The regression results are presented in Table 4, for the all-firm-shelter sample in Panel A and for the sample limited to only major press sources in Panel B. We present several specifications, but focus our attention first on Column (1) of Panel A. The estimated coefficient on *CASH ETR* is, as our reasoning suggests, positive and significant. The estimate of 0.055 suggests that a one standard deviation (equal to 0.137) lower value of CASH ETR is associated with a 0.75% lower value of the CAR surrounding a tax shelter news release.[21] We hypothesized that firms in the retail sector might be more negatively impacted by news of a tax shelter involvement because of the possibility of a consumer reaction to perceptions of not being a good corporate "citizen." This hypothesis is also supported by the data. The estimated coefficient on the indicator variable for being in the retail sector is −0.028 and significantly different from zero, suggesting that the market reaction is 2.8% lower for a retail firm compared to non-retail firms.[22,23]

We next turn to analyzing the corporate governance variables. The prediction is that well-governed firms will have a less negative reaction, consistent with Desai and Dharmapala (in press). Because the governance scores are constructed such that a higher number means more poorly governed, one would expect a negative relation if our hypothesis is correct. The data in Table 4 suggest that there is in fact a significantly negative relation between the NON-ENTRENCH SCORE and the abnormal returns; but, surprisingly, there is a significantly *positive* relation between the ENTRENCH SCORE and the abnormal returns. Both are highly significant. If the ENTRENCH SCORE is the score more representative of governance then one would expect this variable to be significantly negative and the NON-ENTRENCH SCORE to be insignificant. We can only offer an ex-post rationalization on these results. Bebchuk et al. (2005) document that increases in the ENTRENCH SCORE, but not the NON-ENTRENCH SCORE, are monotonically associated with economically significant reductions in firm valuation Thus, the market seems to have already impounded the former, but not the latter, set of indicators of poor governance into share prices. It is plausible that when the market learns of tax shelter activity for the firms with a high NON-ENTRENCH SCORE it reacts negatively because the news confirms

[20] We also investigate institutional holdings as an alternative measure of governance based on the idea that institutional investors monitor managerial performance more than individual owners, thus providing improved governance at the firm (similar to Desai and Dharmapala (in press)). We measure institutional holdings using data from Thomson Financial (Spectrum) by computing the fraction of total shares outstanding that are held by institutions (banks, insurance companies, mutual fund parent companies, pensions, endowments, and professional investment advisors). In the returns analysis, we find that firms with greater than the median (in our sample) institutional holdings have an abnormal return over the event window of −0.96% (−1.39% in the major press mention sample), and firms with less than the median institutional holdings have a return of 0.07% (−0.80% in the major press mention sample). For the full sample and the major press sample, the difference between the two groups is insignificant at conventional levels. Thus, it seems that firms with high institutional holdings do not have a significantly different market reaction upon revelation of the news of tax sheltering, which is apparently inconsistent with the monitoring story.

[21] We note that the point estimate of the coefficient on CASH ETR is higher for firms where we replaced the numerator of CASH ETR with something other than cash taxes paid (i.e., when we replaced the cash taxes paid with a tax expense amount from the income statement). However, this difference is not statistically significant.

[22] Because there is anecdotal evidence that firms engaged in the Corporate Owned Life Insurance (COLI) type of shelter are more likely to be retail firms, it is possible that the coefficient on the RETAIL variable is negative because the events refer to COLI shelter firms, not because they are in the retail industry. To investigate this possibility we include an indicator variable set equal to one for firms in the COLI tax shelter in addition to all the other variables in the column (1) specification. The coefficient on the RETAIL variable remains negative and significantly different from zero for both the full sample and the major press subsample. The coefficient on the COLI variable is positive, but insignificant.

[23] We also tried substituting a measure of brand value for our RETAIL variable in order to capture a broader proxy of the vulnerability of companies to public perceptions of corporate citizenship. We set an indicator variable equal to one if the firm was listed as having one of the top 100 brand names as ranked in *Business Week* magazine in any of the years from 2001 to 2005 (the only years for which we could obtain the data). *Business Week* obtains the rankings from Interbrand, which ranks brands based upon the estimated amount the brand is likely to earn the firm in the future. Out of our 108 firms in the tax shelter sample, only 10 are on the *Business Week* brand list; out of our 72-observation sample of major press mentions, only 7 are included on the *Business Week* list in any of the years 2001 to 2005. When we include this indicator variable in the place of the RETAIL indicator (in the regression model in Table 4 column (1)) the coefficient is −0.004 in the full sample and 0.009 in the sample including only major press mentions, however, neither coefficient is significantly different from zero.

**Table 4**
Regression analysis

| Panel A: All firm-shelters | | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Constant | 0.026 * | 0.025 * | 0.028 * | 0.015 | 0.014 |
| | (0.015) | (0.015) | (0.016) | (0.014) | (0.017) |
| CASH ETR | 0.055 * | 0.054 * | 0.053 | 0.100 *** | 0.055 |
| | (0.031) | (0.032) | (0.036) | (0.028) | (0.037) |
| MISSING CASH ETR | −0.088 | −0.088 | −0.105 | −0.078 | −0.049 |
| | (0.069) | (0.069) | (0.070) | (0.069) | (0.063) |
| MISSING CASH ETR *ETR | 0.281 | 0.284 | 0.325 | 0.248 | 0.159 |
| | (0.221) | (0.225) | (0.224) | (0.222) | (0.193) |
| LOSS | 0.039 ** | 0.039 ** | 0.041 ** | 0.052 *** | 0.043 |
| | (0.016) | (0.016) | (0.019) | (0.018) | (0.018) |
| RETAIL | −0.028 ** | −0.028 ** | −0.033 ** | −0.032 ** | −0.019 |
| | (0.013) | (0.013) | (0.015) | (0.014) | (0.014) |
| HIGH ADVERTISING | | 0.001 | | | |
| | | (0.010) | | | |
| ENTRENCH SCORE | 0.048 ** | 0.049 ** | 0.048 ** | 0.053 ** | 0.031 |
| | (0.021) | (0.022) | (0.022) | (0.023) | (0.022) |
| NON-ENTRENCH SCORE | −0.150 *** | −0.151 *** | −0.150 *** | −0.161 *** | −0.119 |
| | (0.402) | (0.040) | (0.041) | (0.044) | (0.042) |
| MISSING ENTRENCH SCORE | −0.048 *** | −0.048 *** | | −0.055 *** | −0.040 |
| | (0.017) | (0.017) | | (0.018) | (0.018) |
| Observations | 108 | 108 | 96 | 93 | 76 |
| *R*-squared | 0.291 | 0.291 | 0.334 | 0.369 | 0.211 |

| Panel B: Only major news sources | | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Constant | 0.042 ** | 0.042 *** | 0.048 *** | 0.032 ** | 0.036 ** |
| | (0.016) | (0.016) | (0.016) | (0.016) | (0.017) |
| CASH ETR | 0.047 | 0.048 | 0.04 | 0.098 *** | 0.033 |
| | (0.037) | (0.038) | (0.038) | (0.032) | (0.042) |
| LOSS | −0.018 | −0.015 | −0.037 | −0.01 | −0.043 |
| | (0.038) | (0.035) | (0.034) | (0.038) | (0.062) |
| MISSING CASH ETR | 0.071 | 0.055 | 0.123 | 0.029 | 0.159 |
| | (0.113) | (0.108) | (0.102) | (0.111) | (0.199) |
| MISSING CASH ETR * ETR | 0.027 * | 0.026 * | 0.025 | 0.036 ** | 0.027 |
| | (0.014) | (0.015) | (0.016) | (0.016) | (0.017) |
| RETAIL | −0.043 *** | −0.043 *** | −0.054 *** | −0.046 *** | −0.038 *** |
| | (0.014) | (0.014) | (0.014) | (0.014) | (0.015) |
| HIGH ADVERTISING | | −0.006 | | | |
| | | (0.012) | | | |
| ENTRENCH SCORE | 0.049 ** | 0.046 ** | 0.050 ** | 0.050 ** | 0.036 |
| | (0.021) | (0.022) | (0.021) | (0.021) | (0.026) |
| NON-ENTRENCH SCORE | −0.189 *** | −0.185 *** | −0.195 *** | −0.192 *** | −0.169 *** |
| | (0.046) | (0.047) | (0.045) | (0.047) | (0.056) |
| MISSING ENTRENCH SCORE | −0.058 *** | −0.058 *** | | −0.066 *** | −0.048 ** |
| | (0.021) | (0.021) | | (0.022) | (0.023) |
| Observations | 72 | 72 | 63 | 66 | 48 |
| *R*-squared | 0.327 | 0.332 | 0.436 | 0.389 | 0.337 |

Notes to Table 4: Standard errors are in parentheses. The sample and the variables are as defined in Tables 2 and 3. The sample in column (1) is the full sample of all first press mentions of the firm-shelter. The sample in column (2) is the same as column (1), the difference is the inclusion of the advertising indicator variable as a regressor. The sample in column (3) excludes observations for which there is no governance score. The sample in column (4) excludes observations where the shelter was mentioned in the firm's financial statements prior to the press article. The sample in column (5) excludes observations where there was some type of financial accounting news during the event window (e.g., earnings announcement, the filing of a 10-K, 10-Q, or 8-K). Significance levels are as follows: *** indicates significance at .01, ** at .05, and * at .10, two-tailed.
Dependent variable: cumulative abnormal returns.

suspicions of poor governance that previously were not thought to be value-decreasing. On the other hand, the market price of firms for which the ENTRENCH SCORE is high already reflects a reduction in value related to the poor governance provisions, and thus investors do not react negatively. To be sure, the estimated positive coefficient for the ENTRENCH SCORE variable remains a puzzle, and suggests that these governance measures may be correlated with other unmeasured characteristics of the firm that affect the market valuations of news of tax shelter involvement. We discuss this possibility in the next section.[24]

[24] When we include the measure of institutional holdings in the regression (analogous to column (1) in Table 4) as a proxy for governance (an indicator variable set equal to one for below the median institutional holdings), the coefficient on that variable is positive (0.01) in both samples—meaning firms with less institutional holdings have a higher return—but is insignificant at conventional levels.

The remaining columns in Panel A yield very similar results. In column (2) we include the indicator variable HIGH ADVERTISING as another proxy for the potential for consumer backlash. We find that the coefficient on this variable is essentially zero. Because so few firms (only 40 out of the 108) disclose advertising expense, however, it is difficult to infer much from this result.

In column (3) we exclude firms for which we could not obtain a governance score just to be sure that the availability of the governance variable is not correlated with some other factor that is altering the results. This does not seem to be the case, however, as the results are essentially unchanged after the deletion of these firms.

In column (4) we exclude observations where we find any evidence of prior financial statement disclosure of the particular shelter mentioned in the article. Prior discussion in the financial statements (prior two years of 10-Ks filed with the SEC) of the shelter would pre-empt the press article and likely reduce the market reaction. The data suggest that the inferences are unchanged (indeed, some results are stronger) for this subsample of firms.

Finally, in column (5) we exclude observations for which there is some other filing news during the event window. To obtain this subsample, we search the SEC Web page and collect the dates of the filings of all 8-Ks, 10-Qs, and 10-Ks for the firms. We also collect the earnings release dates for all the firms. If any of these events occurred during our event window we exclude the observation in column (5). The results are unchanged except that ENTRENCH SCORE is no longer significantly positive.

In Panel B of Table 4, we conduct the same analysis using only the news events reported in major press sources. The results are very similar to those in Panel A. The main exception being that the significance level of the CASH ETR variable is diminished. However, the point estimates are not that much lower (0.055 in Panel A versus 0.047 for Panel B (Column (1))) and in Column (4) of Panel B the coefficient remains very significant. Thus, in general the major press source results are consistent with our overall sample results.

All in all, the multivariate regression analyses are broadly consistent with the hypotheses this paper proposes. News about tax shelter involvement on average affects a firm's stock price negatively. The impact, though, varies depending on the type of firm, being worse for firms in the retail sector, and with a low cash effective tax rate. We find somewhat mixed and surprising evidence with regard to governance, suggesting that how the quality of corporate governance affects the stock price reaction to this kind of news is more complicated than had heretofore been realized.

It is worth noting that the pattern of estimated coefficients implies that, for certain kinds of firms, we expect that the release of news of involvement in a tax shelter will cause the stock price to *increase*. This would more likely be the case for non-retail companies with high effective tax rates that are well-governed by one measure (NON-ENTRENCH). This conclusion is consistent with the fact that 44% of the abnormal return observations (47 out of 108 cases) are positive.[25]

### 5.4. Caveats and limitations

There are several additional caveats and limitations to our tests and results. The first is that we cannot reliably decipher when, if ever, a firm recorded the tax savings from shelter involvement in its financial statements. When firms take an aggressive position on a tax return, they may record the tax benefit (tax savings) in the financial statements in a way that would increase financial accounting earnings after tax; alternatively, the firm may, if they believe the position may not be sustained, simultaneously record a financial accounting reserve and thus not reflect the tax savings in the current period's earnings. Because we cannot identify which firms recorded the tax savings, any observed negative market reaction could reflect that the firm booked the tax savings previously and now owes the taxes, requiring the firm to *reveal* that it made less after tax than it reported to shareholders.[26,27] Conceivably the price will adjust downward to reflect the lower amount of earnings. Although we use press articles about the shelters that often do not mention any effect on earnings, we cannot be certain that the potential earnings impact (rather than, or in addition to, the information that the firm is tax aggressive) is not affecting our results. However, we think it is unlikely that the market has information on whether the firm recorded the tax savings and thus, any market reaction due to this would be based on its perception of whether the firm booked the tax savings. Both the actual and certainly the perceived recording of the tax savings are not measurable, however, which is a potential limitation of the study.[28]

Second, and related to the above, firm governance and how the firms account for the tax savings could be correlated. For example, it could be that firms with relatively poor governance book the tax savings (increasing after-tax earnings) in the year the shelter is utilized and firms with relatively good governance do not book the tax savings (by recording a contingency reserve) until the tax year has passed through IRS audit. While we have no evidence that this is the case and cannot test it reliably (because, as mentioned above, we do not have data on if or when the tax savings were recorded for all the firms in our sample), it is a correlation that could potentially affect the interpretation of our analyses of how governance affects the stock price reaction to tax shelter news. In the presence of such a correlation, the more negative reaction observed for the more poorly governed firms (NON-

[25] As a sensitivity test, we conduct the entire analysis for the tax shelter sample using the market model to compute cumulative abnormal returns rather than the market adjusted model. The inferences of the analysis are very similar no matter which method of computing abnormal returns is used. Thus, our results (or lack thereof) do not appear to be due to the method of computing the abnormal returns.

[26] This mechanism is distinct from the impact on after-tax cash flows. See Shackelford et al. (2008).

[27] During our sample period, when firms took an aggressive tax position that they thought might be disallowed in the future the firm was supposed to record the related (saved) tax expense when determining its financial accounting earnings in order to prevent overstating the accounting earnings. The reserve for the saved taxes was called the tax contingency reserve (and was also known as the tax cushion prior to recent regulatory scrutiny). See Gleason and Mills (2002) for a discussion of how little was disclosed about the tax contingency reserve.

[28] We thank Joe Bankman for his mention of this issue, which he refers to as the “giveback hypothesis.”

ENTRENCH SCORE) in our results could, in part, be attributable to the firm having in effect overstated prior earnings due to claimed tax savings that the firm cannot realize.

Third, we recognize that our results are not necessarily generalizable. For example, the market's perception of tax aggressiveness may change over time, so shelters in the future may receive a more or less severe reaction than we document in this study. The changing regulatory landscape in recent years—including the enactment and implementation of the Sarbanes–Oxley Act, the issuance of the Financial Accounting Standards Board Interpretation Number 48 (which provides guidance on the accounting for tax contingencies), the new M-3 disclosure rules, and the required disclosures of listed transactions—will likely change both whether firms engage in tax shelters and how the market reacts to news that firms have engaged in them.

Finally, it is worth reiterating that if the market learns about the shelter in advance of the news, or if the market can estimate which firms are tax aggressive or engaging in tax shelters prior to the release of the news, then we should not expect a reaction (other than to news about penalties and loss of the use of the shelter) on the day the shelter involvement or news of tax aggressiveness is released in the press. We recognize that, as is the case with any short-window event study, we cannot be certain we are actually capturing the "event" that contains the news. We test the subsample of firms for which the firm had not discussed the shelter in prior financial statements, and indeed find stronger cross-sectional results. Of course, we cannot be entirely sure that the news has spread by other means that we have not detected. For example, it is possible that in some cases the market knows the firm is involved in the tax shelter or perhaps is even in court before the story is picked up by the press.[29] There also could be trading by insiders before the information becomes public in any meaningful sense. We test the market reaction to the first announcement in the press; but, if the information about the shelter was already in the market, then we have understated (or more generally misstated) the effect.[30]

## 6. Market response to a different kind of news about tax aggressiveness

One challenge of studying news about companies' involvement in tax shelters is that it is difficult to disentangle the reputation effect of the firm being tax aggressive from the market effect of the potential future costs of losing the shelter and incurring legal costs. To help disentangle these distinct mechanisms of response, we also analyze the market reaction to a different kind of tax news: the release of studies by Citizens for Tax Justice in 1984, 2000, and 2004 that featured calculations of the current effective tax rates of over 200 firms. Each of these studies highlights the fact that many large, profitable, U.S. companies pay very little tax. Certainly the headlines in news stories after the studies were released stressed this angle: "128 Big Firms Paid No Federal Income Taxes," (Los Angeles Herald Examiner, October 6, 1984) and "41 Big Firms Pay No Tax, Study Says," (Reuters News Service, October 21, 2000). Indeed, the 2004 CTJ report begins as follows:

> Following the tragic events of September 11, 2001, Americans joined together in grief and solidarity to support each other and our country. Corporate America also rallied to a cause, but it wasn't in support of our nation. On the contrary, it was tax avoidance (p. 1).

If ever companies are accused of being poor corporate citizens with regard to their taxpaying behavior, it is in these studies. These reports do not link any of the firms to illegal activity, though, and thus should not have the confounding effects of expected legal costs or expected loss from not being able to use their tax avoidance methods in the future. The research design trade-off is that it is also possible that being labeled as paying relatively low taxes by the CTJ does not invoke the same notion of "cheating" as involvement in a tax shelter, and thus the reputation effect is arguably lower.

Each CTJ study computes firm current effective tax rates (the CTJ uses current tax expense in the numerator) and then groups firms based on these computed current effective tax rates into categories such as firms that "paid no taxes." We perform similar event study tests as those described above for our shelter sample, centered on the day of the press coverage, which is the day after the study is released. The sample over which we estimate the regression is the grouping of firms the CTJ claims to have paid no tax in a year, or had a lower tax rate than the "average American family."[31] We consolidate the firms from all of the three studies into our sample. Our sample of firms is 193 observations.

In unreported results, the average CAR is −0.10% (and not significantly different from zero). Notably, the average CASH ETR of the CTJ low-tax firms is quite a bit lower than for the shelter firms. This makes sense because the CTJ has determined that they have paid very little in taxes over the time periods of the studies. When we estimate a regression similar to that in Table 4 for this CTJ

[29] A conference discussant alerted us to Colgate's tax shelter case. Using a search similar to ours, the first article the discussant could find was a May, 1996 *Wall Street Journal* article about testimony brought up in the court case. The case was well known in most tax circles well before the article, however, because it was already in court. We checked our sample and noted that our search picked up an article dated August 17, 1990, also from the *Wall Street Journal*. Thus, we include an article prior to the case going to court and prior to at least that information being so publicly available prior to our event date. Nevertheless, the general point is certainly valid. We believe the press article methodology we employ may often result in our recording an earlier date than would a methodology based on court filings (because many of our events are prior to the case going to court) or disclosures in financial statements. However, it is still possible that the news is in the market before our event date, weakening the power of our tests.

[30] Our results could be understated if firms whose auditor was previously accused of selling aggressive shelters experienced the majority of the market reaction upon the release of the news about the auditor. We investigate whether there is any difference in the market reaction to our press news for firms audited by KPMG, the firm with the most visible legal issues over tax shelters, as compared to other auditors to see if there is evidence that this is the case. We find that the market reaction for the KPMG firms is no different than for the non-KPMG firms. Thus, it does not appear that the stock price reaction of firms audited by KPMG is completely negated by any prior news about their auditor.

[31] More details of the CTJ analysis can be obtained from the authors.

sample (untabulated), the data reveal no significant cross-sectional variation for the variables CASH ETR, RETAIL, or any of the governance metrics. As cautioned above, one explanation is that being categorized as a low-tax payer by Citizens for Tax Justice arguably does not raise the same kind of suspicions regarding ubiquitous double dealing as involvement in a tax shelter case might, and thus the market response to loss of reputation or fear of shareholder expropriation is likely to be muted.[32] Another explanation is that because the CTJ base their computations at least in part on firm disclosures that are already publicly available, the release of the study is not really "news" about the firms' tax behaviors. Overall, the market reaction to the CTJ studies is notably more muted than its reaction to firm involvement in tax shelters.

## 7. Conclusions

In order to maximize the value of the firm, shareholders would like to minimize corporate tax payments net of the private costs of doing so; in other words they want the company to be optimally aggressive. There has been little rigorous empirical analysis of the benefits and costs to corporations of being tax aggressive. In this paper, we attempt to fill this void, at least in part, by investigating the market reaction to an initial press mention that a firm was involved in a corporate tax shelter.

We find that, on average, a company's stock price declines when there is news about its involvement in tax shelters. We also uncover some evidence of cross-sectional variation in the returns. For example, the stock price decline is more negative for firms in the retail sector, suggesting that part of the reaction may be a consumer/taxpayer backlash. The reaction seems to be less negative for firms with a higher cash effective tax rate, consistent with the market interpreting the news as a positive signal of tax aggressiveness. In terms of governance, we find that provisions not related to management entrenchment are negatively related to the market reaction.

## Appendix A

Our sample consists of different types of tax shelters. We briefly describe each type of shelter below.

The first shelter involves the use of corporate owned life insurance (COLI). This shelter involves the purchase of life insurance policies on many employees of the company—not just key-man policies but policies on even very low level employees (e.g., checkers in grocery stores and Wal-Mart). The firm then immediately borrows against these policies, deducting the interest on these loans (which are usually loans from the life insurance company). Following this, the firm retains the proceeds in the event of the employee's death even if that person no longer works for the company. Many times the employee did not know the insurance policy existed. In our sample of 108 news events, 32 pertain to COLI.

The second type of tax shelter in our sample is one where the firm transfers its intangible assets (e.g., a brand name) to a corporation organized in a state that does not have an income tax. The firm (more specifically its various entities for tax purposes) pays the other corporation for the use of the intangible. The firm then deducts these payments on its returns in taxable states, reducing income subject to state tax. The other entity reports the income but, because it does not have Nexus in a state with an income tax, there is no state income tax due on this income, thus providing an income tax shelter from state taxes. Toys "R" Us is the most widely known example of this type of shelter—they transferred Geoffrey the Giraffe as the intangible asset. In our sample of 108 observations, there are 16 observations associated with this type of shelter.

The third type of shelter in our sample is known as the Step-Down Preferred Stock tax shelter (or Fast-Pay Preferred). Under this shelter, preferred stock issues were sold to tax-exempt investors such as pension funds. This is a complex vehicle that effectively allows a company to issue equity and deduct interest and principal payments. The company engaging in the shelter creates a real estate investment trust (REIT) in partnership with a pension fund (which is tax-exempt). The company provides the real estate and receives common stock; the pension fund provides cash and receives preferred stock. The REIT then lends the company funds secured by its real estate holdings. When the company repays the loan, the cash goes to pay the dividends and some of the principal on the pension fund's preferred stock. Both the dividend and principal payments are deductible as interest. In our sample of 108 observations, there are 12 observations associated with this type of shelter.

The fourth type of shelter in our sample is known as the Lease-In Lease-Out tax shelter or the Sale-In Lease-Out tax shelter (LILO or SILO). Although there are several methods by which this can be arranged, the concept behind this shelter is for a tax-exempt municipality to "sell" depreciation tax deductions to a U.S. corporation. Generally, a U.S. corporation will lease or buy a real asset such as a power plant, a stadium, a subway system, etc. from a tax-exempt municipality (U.S. or foreign) and then sublease the property back to the same tax-exempt party. The corporation will generally prepay its lease obligation (if a LILO). The U.S. company engaging in the shelter then obtains the accelerated depreciation deductions on its tax return (but expenses the depreciation more slowly and over a longer time period for financial accounting purposes or only records rental expense for financial accounting purposes). In our sample of 108 observations, 9 observations are associated with this type of shelter.

[32] We note, though, that there is a higher percentage of firms where the CASH ETR is missing in this sample, most likely because the sample years are earlier and firms were not required to disclose cash flow statements during the first of the three studies (prior to 1988). As before, we replace cash taxes paid in the measure of the ETR with current tax expense or total tax expense and include in the regression an interaction term of MISSING CASH ETR and ETR (the replaced values for CASH ETR). This is done in order to determine if the replaced variable has a different relation than the variable computed with cash taxes paid in the numerator.

The fifth type of shelter in our sample is known as the Contested Liability Acceleration Strategy tax shelter (also known as CLAS). This shelter was devised and marketed by KPMG, and the IRS has said that it generated at least $1.7 billion in tax savings for more than two dozen companies.[33] The idea behind this shelter was to accelerate the timing of tax settlements of lawsuits and other claims. Deductions generally are not allowed for such liabilities until the claimants are paid, but one exception under the tax code involves the transfer of money and/or other property to a contested liability trust before the claims are resolved. Thus, a company engaging in this shelter strategy would establish a trust with itself as the beneficiary and then transfer noncash assets to the trust. The value of these items transferred (generally stock or an intercompany note) is supposed to represent the amount the company is expected to pay to resolve the claims it is still contesting. By moving these noncash items to the trust, the company can take the deductions earlier than otherwise allowed, reducing taxable income. In our sample of 108 observations, 8 observations are associated with this type of shelter.

Another type of shelter in our sample is known as the Contingent Payment Installment Sale tax shelter. Generally, the goal of this shelter is to produce paper capital losses that can be used against real capital gains the U.S. corporation has generated from some other source. There are alternative methods to employ this strategy, but a typical deal may work as follows. Three parties form a partnership to acquire a fixed-income security that does not trade publicly. The U.S. corporation seeking to engage in the tax shelter will put up approximately 9% of the funds, a tax-exempt (usually a foreign) entity will fund 90%, and another third party financier will put up the final 1%. The partnership will then sell the security in an installment sale, receiving most of the proceeds immediately and the remainder (contingent on the security's value at that time) in the third year. The partnership will show a large (paper) gain in the first year, most of which will be allocable to the tax-exempt party. Then, in the second year of the partnership's life, the tax-exempt party will exit the partnership being bought out by the U.S. corporation. The partnership will then show (paper) losses in the second and third years, most of which will be allocable to the U.S. tax sheltering corporation, thus offsetting the capital gain the company generated from other sources. In our sample of 108 observations, 8 observations are associated with this type of shelter.

The seventh type of tax shelter in our sample is known as the Regulated Investment Trust tax shelter. This strategy was established to take advantage of a federal law that governs mutual funds. The U.S. company (usually a bank) registers a subsidiary with the SEC as a "regulated investment company" under the Investment Company Act of 1940. The bank then transfers some of their loan portfolios and other assets into the funds, and uses the interest and other income they generate to pay themselves dividends. Most of the tax benefits are state tax benefits in states such as California, which exempts money transferred between subsidiaries and corporate parents. We note, though, that the *Wall Street Journal* reported that, "…one bank fund, NBT Investment Co., said in an SEC filing that it was optimistic that its structure 'will be sufficient to relieve it from all or substantially all *federal and* state income taxes'" (Simpson, 2003, italics added). In our sample of 108 observations, 6 observations are related to this type of tax shelter.

Another type of tax shelter is the Offshore Intellectual Property Haven tax shelter. Under this strategy, firms transfer patents on intellectual property to a subsidiary established in a tax haven (generally somewhere like Bermuda or another low-tax jurisdiction). Then royalties from sales of the products made outside the United States flow to the Bermuda subsidiary and can stay there tax-free until the U.S. parent company decides to repatriate these funds back to the United States at which time the repatriated earnings would be taxed. Our sample of 108 observations includes 5 observations related to this shelter.

Our sample includes other tax shelters (12 firms in our sample) for which there are very few (usually only 1) observations. These other shelters include Cross Border Dividend Capture (e.g., Compaq's tax shelter involving ADRs), tax shelters involving sham partnerships, Money Market Principal Strips, subsidiary sales that generated double losses or were labeled reorganizations in order to obtain intracompany dividend treatment, and others.

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[33] See *The Wall Street Journal*, June 16, 2004, "KPMG Shelter Shaved $1.7 Billion Off Taxes of 29 Large Companies."

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